Dear Colleagues:

I cordially invite you to attend SOT’s 50th Annual Meeting, March 6–10, 2011, at the Walter E. Washington Convention Center in Washington, D.C. Visit the 50th Anniversary Web site for special hosting opportunities, events, and activities.

The SOT Annual Meeting is the forum to showcase toxicology’s novel discoveries. For the science of toxicology, this 5-day event is the culmination of a year’s worth of achievements in research and education.

The Annual Meeting also affords attendees the opportunity to learn about the latest scientific achievements from a myriad of experts in the field of toxicology. The SOT thematic program provides participants with a unique opportunity to deepen their knowledge in topical areas and interact with leaders in their respective disciplines. Opportunities abound for members to meet other scientists they have never met and to network with friends and colleagues. The Annual Meeting also offers a chance to pause and pay tribute to those scientists who have distinguished themselves in their field of expertise and are the recipients of the Society’s most prestigious awards. Finally, SOT attendees can take advantage of the ToxExpo™, which is the world’s largest exposition of its kind, offering a comprehensive marketplace for product information and cutting-edge technology in one place.

The SOT Annual Meeting is the premier event that the Society hosts every year to meet the needs of the entire toxicology community. More importantly, the Annual Meeting goes a long way toward fulfilling the SOT strategy of building for the future of toxicology, highlighting the significant scientific achievements, and broadening the awareness of these accomplishments and their potential impact.

I urge you to join us for this event. Help us to make the 50th SOT Annual Meeting an event to remember.

Sincerely,

Michael P. Holsapple, Ph.D., ATS
2010–2011 SOT President

Walter E. Washington Convention Center

Awards Ceremony
Sunday, March 6
5:15 PM–6:30 PM
Room 207

25-Year (or More) Member Reception
Sunday, March 6
6:30 PM–7:30 PM
Room 103

50th Anniversary Member Celebration Meeting
(SOT Members Only; Full, Associate, Postdoctoral, and Student Members Invited)
Tuesday, March 8
4:30 PM–6:00 PM
Room 207

Celebration Event
(Ticket Required)
Tuesday, March 8
6:30 PM–9:30 PM
Grand Ballroom

The above events take place in the Walter E. Washington Convention Center.
A page reference follows the session information.

**Sunday, March 6**

**CE TARGET AREAS**

Course titles related to each theme are color coded in the listing below.

**Cardiovascular Toxicology**
This topic provides an overview of cardiovascular function at the gross and cellular level. It includes descriptions of cellular biochemistry and the impact of toxicants on system components or functions and presents methods and techniques to measure toxicity.

**Epigenetic Mechanisms**
This topic describes the field of epigenetic mechanisms and reviews fundamental cellular biochemistry. Roles of epigenetic mechanisms in cellular differentiation, aging, disease, therapeutic gene regulation, and toxicity may be presented.

**Systems Biology**
This topic describes and demonstrates the systems biology approach to the study of chemical mode of action and toxicity. It describes the interdisciplinary nature of the field and provides examples of how a multi-faceted systems biology approach can yield powerful results that both predict and describe the relationship between chemical exposure and cellular/systemic response.

**7:00 AM–7:45 AM**

**SUNRISE CONTINUING EDUCATION COURSE**

1. Biodegradable Materials for Tissue Engineering: Applications and Safety Assessment (p89)

**8:15 AM–12:00 NOON**

**MORNING CONTINUING EDUCATION COURSES**

2. Best Practices for Developing, Characterizing, and Applying Physiologically Based Pharmacokinetic Models in Risk Assessment (p89)
3. Current Nonclinical Strategies and Methods for Evaluating Drug-Induced Cardiovascular Toxicity (p90)
4. Dealing with the Data Deluge: A Live Data Discovery and Analysis Course (Note: Participants are asked to bring their own computer with Internet access) (p90)
5. Epigenetics in Toxicology: Introduction, Mechanistic Understanding, and Applications in Safety Assessment (p91)
6. Protecting Human Health: Use of Toxicological and Epidemiological Data in Determining Safe Levels for Human Exposure (p91)
7. Drug Hypersensitivity Reactions: Risk Assessment and Management (p92)
8. Toxicology and Risk Assessment of Chemical Mixtures (p92)

**1:15 PM–5:00 PM**

**AFTERNOON CONTINUING EDUCATION COURSES**

9. Applications of Computational Systems Biology for Toxicology (p93)
10. Evaluating Toxicity of Engineered Nanomaterials: Issues with Conventional Toxicology Approaches (p93)
11. New Technologies and Approaches in Genetic Toxicology and Their Expanding Role in General Toxicology and Safety Assessment (p94)
12. Practical How-To and Pitfalls Associated with Current Epigenetic Studies (p94)
13. Quantitative In Vitro to In Vivo Extrapolation: The Essential Element of In Vitro Assay-Based Risk Assessment (p95)
14. Stem Cell Utility in Toxicology Screening (p95)
15. The Biology and Toxicology of the Peri- and Post-Natal Development (p96)
Monday, March 7

8:00 AM–9:00 AM
PLENARY OPENING LECTURE

NIH Vision, Lecturer: Francis S. Collins, National Institute of Health (p116)

9:15 AM–12:00 NOON
SYMPOSIUM SESSIONS

Emerging Issues at the Intersection of Reproductive and Mixtures Toxicology (p116)
Environmental Oxidative Pollutant-Induced Pulmonary Toxicity (p117)
High Content Imaging: Applications in Toxicology and Toxicity Testing (p118)
Ribotoxic Stress: Mechanisms and Models for Human Disease (p118)

WORKSHOP SESSIONS

Disease Prevention: The Next 50 Years (p119)
New Approaches for Integrating Toxicological and Epidemiological Data to Better Inform Risk Assessment (p120)

PLATFORM SESSIONS

Nanotoxicology—Carbon Nanotubes and Carbon Nanoparticles (p120)
New Insights into Male Reproductive Toxicology (p121)
Use of Embryonic Stem Cells in Toxicology (p122)

9:30 AM–12:30 PM
POSTER SESSIONS

Bioinformatic Profiling and Computational Pathway Prediction (p126)
Carcinogenesis I (p133)
Cardiovascular Toxicology (p131)
Cell Signaling and Gene Regulation (p147)
DNA Replication and Repair (p125)
Epigenetic Mechanisms (p124)
Genotoxicity (p142)
Hypersensitivity: Methods and Mechanisms (p123)
Inflammatory Mediators in Disease Pathogenesis (p136)
Metals I (p137)
Metals II (p139)
Neurodegenerative Diseases (p129)
Receptor and Receptor-Mediated Toxicity (p144)

12:15 PM–1:05 PM
MERIT AWARD LECTURE

Neurotoxicology Goes Global: Scientific Collaboration and Mentorship, Lecturer: Michael Aschner (p153)

1:00 PM–2:00 PM
TOXEXPLO™ TIME! (NEW)

POSTER SESSIONS

Acetaminophen Hepatotoxicity (p155)
Animal Models in Toxicological Research (p160)
Animal Models in Toxicology (p162)
Biological Modeling: Computational Approaches, Mixtures, Multiroute and Lifestage Applications (p175)
Children’s Health/Juvenile Toxicology (p168)
Drug Induced Liver Injury (p153)
Immunotoxicity: Methods and Evaluation (p175)
Inhalation and Cardiopulmonary Toxicology (p164)
Kidney (p178)
Mechanisms of Immunotoxicity (p172)
Pharmaceutical Safety Assessment: Therapeutic Agents (p181)
Risk Assessment: Computational Approaches, Analyses, and Applications (p157)
Skin (p169)

2:00 PM–4:45 PM
SYMPOSIUM SESSIONS

Epigenetics, Metals, and Cancer (p184)
Human Variability in Susceptibility to Environmental Toxicants (p185)
Toxicological Considerations in the Gulf of Mexico Oil Spill (p185)
Translational Toxicology: Molecules to Global Health (p180)
Vascular Developmental Toxicity: Identification, Prioritization, and Application (p186)

WORKSHOP SESSIONS

Protein Aggregation As a Common Mechanism of Toxicity in Neurodegenerative Diseases (p187)
Technical Characterization and Dosimetry Challenges Associated with Conducing or Interpreting Nanotoxicity (p187)
Understanding Structural and Physical Chemical Drivers of Drug Toxicity: Utility and Translatable Value (p188)

PLATFORM SESSIONS

Advancing Assessment Approaches: Pesticides and Other Key Contaminants (p189)
Alternative Methods in Developmental Neurotoxicology: Validation and Application (p189)
Biomarkers of Carcinogenesis (p190)

4:35 PM–5:55 PM
SOT/EUROTOX DEBATE

Biomarkers from Blood and Urine Will Replace Traditional Histopathological Evaluation to Determine Adverse Responses (p191)

Tuesday, March 8

6:30 AM–7:50 AM
RNDORND ALEND SESSIONS

Current Uses and Understanding of the Tissue Cross Reactivity Assay (p193)
Risk and Risk Management of Potentially Toxic Compounds Formed by Cooking Food (p193)

INFORMATIONAL SESSION

Emerging Science for Environmental Health Decisions: Tools, Strategies, and Evidence (p194)

7:00 AM–7:50 AM
LEADING EDGE IN BASIC SCIENCE AWARD LECTURE

Roles of Keap1-Nrf2 in Environmental Response, Lecturer: Masayuki Yamamoto (p194)

8:00 AM–9:00 AM
KEYNOTE PLENARY LECTURE

Increasing the Prestige of Regulatory Sciences, Lecturer: Margaret Hamburg, U.S. FDA (p195)

9:00 AM–11:45 AM
SYMPOSIUM SESSIONS

Metabolic Basis of Respiratory Tract Chemical Toxicity (p195)
Stem Cell Biology and Cell Therapy Approaches to Understanding Cellular Injury and Wound Healing in Dermal, Ocular, and Pulmonary Injury (p196)
Uncovering the Role of Non-Coding RNAs in Toxicology (p196)

WORKSHOP SESSIONS

Identification of Chemical Respiratory Allergens: Principles and New Developments (p197)
Safer Products for a Sustainable World: Linking Chemical Design and Toxicology (p197)

HISTORICAL HIGHLIGHTS SESSION

1961 to 2011 and Beyond: The Evolution of Toxicology (p199)

REGIONAL INTEREST SESSION

Bombs in Our Backyards? Historical Military Activities and Current Public Health Issues in the U.S. Capital Region (p199)

PLATEFORM SESSIONS

Computational Approaches to Address DILI and Hepatotoxicity (p200)
Epigenetic Mechanisms in Developmental and Disease (p200)
Gene Regulatory Mechanisms of Carcinogenesis (p201)
9:00 AM–12:30 PM
POSTER SESSIONS
- Ah Receptor in Immune Regulation and Toxicity (p214)
- Alternative Approaches to Animal Testing for Toxico logical Research (p204)
- Alternatives to Mammalian Models for Testing (p202)
- Cholestasis, Lipid Homeostasis, and Liver Toxicity (p213)
- Epidemiology and Exposure Evaluations (p220)
- Exposure Assessments and Biomonitoring Applications (p223)
- Hepatotoxicity (p211)
- ImmunoSafety Methods in Non-Rodents (p213)
- Nanotoxicology: Carbon Nanotubes, Carbon Nanoparticles, and Quantum Dots (p218)
- Oxidative Stress and Redox Biology (p225)
- Reproductive Toxicology I (p207)
- Reproductive Toxicology II (p209)
- Stem Cell Toxicology (p216)

12:00 NOON–1:20 PM
ROUND TABLE SESSION
- Integrating Alternative Test Methods into the Federal Regulatory Framework (p230)

1:30 PM–4:15 PM
SYMPOSIUM SESSIONS
- Developmental Origins of Adult Disease: The Effects of Low Dose Lead (p263)
- Does the Clock Make the Poison? Influence of the Circadian Clock on Toxico logical Mechanisms and Outcomes (p263)
- Macrophages: Regulators of Toxicity and Disease Pathogenesis (p264)
- When Is Exposure Not Exposure? Defining the Dose-Response Region between “Effect” and “Adverse Effect” Implications for Human Health Risk Assessment (p265)

2:00 PM–3:15 PM
SYMPOSIUM SESSIONS
- Nanotechnology: Carbon Nanotubes, Carbon Nanoparticles, and Quantum Dots (p218)

3:30 PM–5:00 PM
SYMPOSIUM SESSIONS
- Genotoxicity: Sensitivity and Specificity (p227)

4:00 PM–6:00 PM
SYMPOSIUM SESSIONS
- Pharmaceutical Safety Assessment: Novel Methods (p276)
- Understanding the Implications of Preclinical Seizures for Clinical Drug Development (p277)

8:00 AM–9:00 AM
KEYNOTE MEDICAL RESEARCH COUNCIL (MRC) LECTURE
Cellular Responses to DNA Damage: New Molecular Insights and New Approaches for Cancer Therapy, Lecturer: Stephen P. Jackson, University of Cambridge (p273)

9:00 AM–11:45 AM
SYMPOSIUM SESSIONS
- Autism: Genetic, Epigenetic, and Environmental Factors Influencing Neural Networks (p273)
- Gene-Environment Disease Interactions in Fish Models of Human Disease (p274)
- Mechanisms of Inflammation in Skin Carcinogenesis (p275)
- New Insights into the Nrf2-Keap1 Pathway and Its Impact on Human Disease (p275)

9:00 AM–12:30 PM
POSTER SESSIONS
- Arsenic (p289)
- Chemical and Biological Weapons (p293)
- Metal Neurotoxicity: Manganese and Lead (p302)
- Nanotoxicology: Metal Oxides, Silver, Gold, and Silica Nanoparticle Toxicity (p296)
- Pesticides: General (p299)
- Pharmaceutical Safety Assessment: Novel Methods (p284)
- Phase I and II Biotransformation Enzymes (p280)
- Risk Assessment: Conceptual Constructs and Current Controversies (p287)
- Safety Testing of Pharmaceuticals (p283)
- Toxicology Education: K–12 and Beyond (p282)
- Xenobiotic Biotransformation (p278)

9:30 AM–10:30 AM
MEET THE DIRECTOR
NIEHS Director, Lecturer: Linda Birnbaum, NIEHS (p305)

Wednesday, March 9
6:30 AM–7:50 AM
HISTORICAL HIGHLIGHTS SESSION
- 50 Years of “the Pill”: Risk Reduction and Discovery of Benefits Beyond Contraception (p271)

1:00 PM–4:30 PM
POSTER SESSIONS
- Apoptosis/Cell Death (p258)
- Biomarkers of Environmental Exposures (p260)
- Developmental Toxicology (p255)
- Drug Allergy, Pseudoallergy, IDRH, and Autoimmunity (p247)
- Genetic Polymorphisms (p236)
- Medical Devices (p232)
- Metal Neurotoxicity: Methylmercury and General (p237)
- Methods in Biomarker Discovery and Validation (p241)
- Mutagenicity (p240)
- Nanotoxicology (p244)
- Neurotoxicity of Pesticides (p232)
- ‘Omic in Toxicology Research (p253)
- Risk Assessment and Regulatory Policy Applications (p249)
- Safety and Risk Assessment: Critical Characterizations for Chemicals and New Concerns (p250)

1:00 PM–3:30 PM
EDUCATION-CAREER DEVELOPMENT SESSION
- From Pilot Grants to High-End Journals: The Science of Writing (p272)
10:45 AM–11:45 AM
MEET THE DIRECTOR

CDC/NIOSH Director, Lecturer: John Howard, CDC/NIOSH (p306)

12:00 NOON–1:00 PM
MEET THE DIRECTOR

Eunice Kennedy Shriver National Institute of Child Health & Human Development Director, Lecturer: Yvonne Maddox, NICHD (p307)

12:00 NOON–1:00 PM
RND TABLE SESSION

‘Omics in Toxic Tort (p307)

1:00 PM–4:30 PM
POSTER SESSIONS

Aquatic and Ecotoxicology (p325)
Cellular Effects of Natural Product Extracts (p312)
Developmental Basis of Adult Disease (p310)
Endocrine Toxicology (p323)
Food Safety and Nutrition (p328)
Mechanisms of Aspiration Injury and Airway Disease (p321)
Mechanistic Assessments of Chemical Mixtures (p319)
Nanotoxicology: In Vitro and Ex Vivo Studies (p308)
Persistent Organic Compounds (POPs) (p314)
Pharmacokinetics and Disposition (p316)
Risk Assessment: Models and Approaches for Inhaled Agents (p318)
Toxicology of the Gulf Oil Spill (p322)

1:30 PM–4:15 PM
SYMPOSIUM SESSIONS

Autophagy in Toxicology: Essential Process, Adaptive Process, and Disease Process (p331)
Human Pluripotent Stem Cells and Neural Progenitors As Models of Gene-Environment Interactions in Neurological Disease (p331)
The Use of Epidemiological Data and PBPK Modeling in a Risk Assessment: Manganese As a Case Study (p332)

2:30 PM–3:30 PM
MEET THE DIRECTOR

U.S. FDA Director, Lecturer: Jesse Goodman, U.S. FDA (p337)

3:45 PM–4:45 PM
MEET THE DIRECTOR

U.S. EPA Director, Lecturer: Paul Anastas, U.S. EPA (invited) (p337)

1:15 PM–2:15 PM
MEET THE DIRECTOR

Center for Scientific Review Director, Lecturer: Sy Garte, Center for Scientific Review (p330)

4:30 PM–5:30 PM
RND TABLE SESSION

Assessment of Nanoparticle Exposure in Occupational Settings and in Inhalation Toxicology Studies: Is There a Best Dosemetric to Use? (p337)

1:30 PM–4:15 PM
SYMPOSIUM SESSIONS

Workshop on Immunotoxicity Testing (p355)
Hypersensitivity: Commonalities Useful for Autoimmunity versus Immunotoxicity (p354)
Toxicants: From Persistent Toxicities to Diseases (p354)

12:00 NOON–3:00 PM
SATELLITE MEETING

Johns Hopkins Center for Alternatives to Animal Testing—Evidence-Based Toxicology (EBT) Collaboration Kick-Off Meeting (p87)

Thursday, March 10

6:30 AM–7:50 AM
ISSUES SESSION

What It Means to Be Global (p340)

8:00 AM–9:00 AM
KEYNOTE PLENARY LECTURE


8:30 AM–12:00 NOON
POSTER SESSIONS

Alternatives to Animal Models in Toxicology (p341)
Alternatives to Mammalian Models (p344)
Carcinogenesis II (p351)
Developmental Neurotoxicity: General (p348)
Disease Prevention (p346)

9:00 AM–11:45 AM
SYMPOSIUM SESSIONS

Developmental Exposure to Environmental Toxicants: From Persistent Toxicities to Diseases (p354)
Vascular Injury: A Figit of Your Inflammation? (p354)

12:00 NOON–3:00 PM
SATELLITE MEETING

Johns Hopkins Center for Alternatives to Animal Testing—Evidence-Based Toxicology (EBT) Collaboration Kick-Off Meeting (p87)
March 6–10, 2011

Walter E. Washington Convention Center
Washington, D.C.

Visit www.toxicology.org for complete information

Scan this code for quick and easy access to up-to-date Annual Meeting information.

This is a QR (Quick Response) code. The code can be decoded by most camera-equipped mobile phones with a free downloadable application, thereby offering a direct link from this printed material to the latest and greatest 50th Anniversary and Annual Meeting information on the SOT Web site. Download a QR reader application and try it!
In honor of the Society’s 50th Anniversary, a number of celebration activities, events, and programs have been developed by the various Committees, Regional Chapters, Special Interest Groups, Specialty Sections, and Task Forces. Please take a moment to visit the 50th Anniversary Web site to view full descriptions of all the 50th Anniversary events and activities. All events will be held at the Walter E. Washington Convention Center unless otherwise noted.

50th Anniversary Member Celebration Meeting
Tuesday, March 8, 4:30 PM–6:00 PM
All members are invited to celebrate the Society’s first 50 years of accomplishments. This fun event will highlight the history and growth of the Society over the past 50 years recognizing the members who are responsible for the Society’s success. Come see what is going in the Time Capsule that will be opened in 2036 by current and future SOT members. Receive your copy of The Society of Toxicology: The First Fifty Years.

50th Anniversary Book
SOT is publishing a deluxe publication, The Society of Toxicology: The First Fifty Years, which features the many significant events and people who have helped move the toxicology field to where it is today. The historical articles and photographs that make up the book are priceless. Please visit the SOT 50th Anniversary Web site to view the table of contents and to get an idea of materials collected so far. Society members who attend the 50th Anniversary Members Celebration on Tuesday, March 8, will receive a complimentary copy of the book (see previous listing). In addition, the book can be picked up at the SOT Registration Area on Wednesday, March 9. All members will be able to download the book from the SOT Web site after the Annual Meeting.

Awards Ceremony
Sunday, March 6, 5:15 PM–6:30 PM
SOT will recognize our prestigious award recipients at the SOT Awards Ceremony (pages 63–71). Please refer to the Awards and Fellowships section of the SOT Web site for complete details about the award recipients and criteria. In commemoration of the 50th Anniversary, two individuals who have significantly and positively influenced the fields of toxicology will be inducted as Honorary Members: William C. Hays, Esq. and Dr. Frances Kathleen Oldham Kelsey.

Benchmarks in Toxicology Banner
SOT and the National Institute of Environmental Health Sciences (NIEHS) will showcase the winning benchmarks on a huge banner that will be displayed prominently at the Walter E. Washington Convention Center. In addition, a Benchmarks poster will be distributed to attendees and will also appear on the SOT Web site.

Celebration Event
Tuesday, March 8, 6:30 PM–9:30 PM (Ticket Required)
Come celebrate the 50th Anniversary in style. Dance the night away with tunes from the Beatles as performed by BeatleMania Live. Dress in your favorite decade’s attire (60’s to the future)! Additional entertainment plans include festive decorations, games, delicious food stations, and beverages. This is truly an event you will not want to miss! Purchase your ticket now by signing up on the 2011 Annual Meeting registration form. A limited number of discounted tickets have been set aside for trainees (undergraduate students, graduate students, and postdocs). All tickets will be sold on a first-come, first-served basis and are non-refundable after February 11, 2011.

Committee on Diversity Initiatives Reunion
Saturday, March 5, 8:00 PM–9:00 PM
The Committee on Diversity Initiatives (CDI) will host the CDI Reunion from 8:00 PM–9:00 PM on Saturday, March 5. Whether as a student, peer mentor, host mentor, speaker, or organizer, anyone who has ever been involved in the SOT Undergraduate Program is invited to attend. Visit with colleagues who have been involved in the program over the last 22 years, meet with program alums, and greet the undergraduate students who are attending the program this year. The 2011 Endowment Gehring Diversity Student Travel Award will be presented. Enjoy dessert, coffee, and tea. Start off your 50th Anniversary meeting celebration by joining with the special people who have contributed to the diversity in SOT through this important activity.

Commemorative Posters
A picture says it all! SOT has created a series of posters highlighting important aspects of the Society and the science. Please visit the SOT Web site to view the latest posters. The posters will also be on display from Sunday, March 6, to Wednesday, March 9, in the pre-function space outside the Exhibit Hall at the Walter E. Washington Convention Center.

Decades Keepsake Brochure—Fifty Years of Impact
Get a snapshot of the past 50 years. This colorful brochure features short summaries by decade of global history, along with brief write-ups about major toxicological innovations. Each attendee to the 2011 Annual Meeting will want to get their copy to enjoy and save until the next major SOT anniversary. The brochure will also be posted on the SOT Web site after the Annual Meeting.

SOT 50th Anniversary Endowment Fund Matching
In honor of SOT’s 50th Anniversary, SOT Council has committed to match $750,000 of contributions to the Endowment Fund. Almost $600,000 in contributions have already been matched. Help us meet the match with your contribution. All contributions to the General Purpose Fund are currently being matched. Visit www.toxicology.org/ai/csot/contribute.asp.

Endowment Fund 50th Anniversary Undergraduate Educator Award
The new Endowment Fund Undergraduate Educator Award is being sponsored by the Endowment Education Fund and the Endowment SOT Priorities Fund in honor of the 50th Anniversary and outstanding undergraduate education. The awardee, Joan B. Tarloff, will be recognized at the Sunday, March 6, Awards Ceremony. To learn more about the award criteria, please visit www.toxicology.org/ai/af/awards.aspx.
Celebration Activities

Historical Highlights
In recognition of the SOT 50th Anniversary, the Scientific Program Committee has selected two special Historical Highlight sessions:

1961–2011 History of Toxicology
Tuesday, March 8, 9:00 AM–11:45 AM

50 Years of “the Pill”
Wednesday, March 9, 6:30 AM–7:30 AM

Historical Photo Gallery
SOT Historical Photo Gallery is comprised of pictures from the SOT archives; most are from the various Annual Meetings. Take a few moments to view the slide show and share these images with colleagues and friends. Help contribute to the photo gallery by posting your pictures from SOT events. Please come back and visit again as pictures will be added regularly, and let us know if any of the captions need to be corrected.

Landmarks Program Presentation to the National Academy of Science
Monday, March 7, 7:45 AM–8:00 AM
Michael P. Holsapple, SOT President, will present a landmark plaque to leaders of the Committee on Toxicology, National Academy of Sciences (NAS), where the Society of Toxicology was founded March 4, 1961, and subsequently re-defined, fostered, and supported. The plaque represents the gratitude and appreciation of the leadership and membership of the Society of Toxicology.

Regional Chapter, Special Interest Group, and Specialty Section Posters
The Regional Chapters, Special Interest Groups, and Specialty Sections are important components of the Society and have contributed to the Society’s overall diversity. From Sunday, March 6 to Wednesday, March 9, posters highlighting these component groups’ roles in the Society will be displayed in the pre-function space outside the Exhibit Hall at the Walter E. Washington Convention Center. The posters will also be available on the SOT Web site after the Annual Meeting.

Past Presidents 5K Fun Run
Sunday, March 6, 6:00 AM
In celebration of 50 years of moving the Society of Toxicology forward, the SOT Past Presidents have organized a 5K Fun Run at the 2011 SOT Annual Meeting. Can you keep up? SOT Past Presidents Jay Goodman (1999–2000) and Bill Greenlee (2002–2003) will be the pace presidents for an extremely fun, competitive, and entertaining 5K race at scenic Hains Point in East Potomac Park. Past Presidents will cheer and greet you as you cross the finish line.

Sign up on the SOT Annual Meeting Web site. Those who pre-register before February 15, 2011, will receive a free 2011 Fun Run T-Shirt! Transportation to the Fun Run will depart at 6:00 AM from the L Street entrance of the Walter E. Washington Convention Center and return to the same location. Results will be announced on ToXchange, at the 50th Anniversary Member Celebration Meeting, as well as on the SOT Web site and in the Communiqué.

Protecting You and Your Pet through the Science of Toxicology: Paracelsus Goes to Washington
Saturday, March 5, 10:00 AM–5:00 PM
Marion Koshland Science Museum of the National Academy of Sciences

SOT is sponsoring a free Family Day at the Marion Koshland Science Museum of the National Academy of Sciences. In addition to the activities that are on display, SOT will supplement the topic areas of Wonders of Science, Safe Drinking Water, Global Warming, and Infectious Disease with toxicology-related activities. Toxicologists from a variety of employment sectors will be available to engage with visitors. Renate Reinschussel, V.M.D., Ph.D., Veterinary Laboratory Response Network Program Director, U.S. FDA Center for Veterinary Medicine, will speak at 12:00 NOON on “Poisoned Pet Food—Unraveling the Melamine Mystery.” Bring your family or volunteer to assist.

ToXExpo™ 50th Anniversary Raffle
While visiting the Exhibit Hall, be sure to stop by the Diamond Level Sponsor booths to drop off your business card and have a chance at winning $500. Drawings will take place on Monday, Tuesday, and Wednesday in the Exhibit Hall. The Diamond Level Sponsors are acknowledged on the back cover.

50th Anniversary Silent Auction
Live on SOT Web site on February 1
(Committee on Toxicology)
In honor of the 50th Anniversary of SOT, the Postdoctoral Assembly is organizing the 50th Anniversary Silent Auction. Bid on vacation get-a-ways or purchase items of historical significance to SOT and toxicology (such as books, laboratory items, memorabilia, photographs) as well as other items of general interest. Bids for some items will close in the E-mail Center Monday, March 7, from 4:45 PM–5:45 PM. Join the excitement! Cash bar available. Bring your laptop or smart phone to join in the bidding.

Bids for remaining items will close beginning at 10:00 AM Wednesday and conclude at 1:00 PM. All proceeds from the Silent Auction will go to the Endowment Priorities Fund.

Smithsonian Seminar: Poisons: When Good Chemicals Turn Bad
Saturday, March 5, 9:30 AM–4:30 PM
S. Dillon Ripley Center
To commemorate SOT’s 50th Anniversary, the Smithsonian Institution is holding an all-day seminar for the public featuring the latest research in the science of toxicology, and information about the positive and adverse effects that chemical, biological, and physical substances can have on people, animals, and the environment. We are surrounded by chemicals that may be beneficial, harmful, or neither depending on the dose. This day-long session, which features several SOT members, is open to the public and requires separate registration. SOT members receive the Smithsonian member discount. To learn more please visit www.toxicology.org/am/meet/am2011.
The Founding of the Society

On Saturday, March 4, 1961, a small group met in Washington, D.C., to talk about the need for providing a forum where toxicologists could meet and share their research findings. By the end of their day-long meeting the Founders had concluded that the advantages of forming a society outweighed the disadvantages. They had even suggested a name, “The Society of Toxicology” and it was to be an international learned society drawing together persons trained in the various disciplines related to toxicology.

The follow-up work from this organizational meeting required preparation of a draft constitution, by-laws, scheduling presentations at upcoming scientific meetings, and notifying key people in the field of their plans. To finance all this, each attendee at the first meeting contributed $5 to the treasury. Accordingly, the Society of Toxicology was launched with assets of $35.

The First Annual Meeting of the Society of Toxicology was held in Atlantic City, New Jersey, on April 15, 1962. There were 180 Charter members and 3 Honorary members by that time. This meeting followed organizational meetings in Atlantic City, New Jersey (FASEB), Detroit, Michigan (AIHA), Meriden, New Hampshire (Gordon Conference), and Rochester, New York (ASPET).

The Founding of the Society

The idea for a Society of Toxicology originated in 1959 when it became clear that toxicologists needed to be brought together to share expertise and information. A group of toxicologists, including Harry W. Hays, National Academy of Sciences—National Research Council, C. Boyd Shaffer, American Cyanamid; Victor A. Drill, G.D. Searle & Company; and Fred Coulston, Sterling Winthrop Institute, came to the conclusion that the advantages of forming a society outweighed the disadvantages. They had even suggested a name, “The Society of Toxicologists,” and it was to be an international learned society drawing together persons trained in the various disciplines related to toxicology. It was decided that toxicologists could meet and share their research findings. By the end of their day-long meeting the Founders had concluded that a society was necessary.

On Saturday, March 4, 1961, a small group met in Washington, D.C., to talk about the need for providing a forum where toxicologists could meet and share their research findings. To further this purpose, the following day the Founders met again to organize the Society of Toxicology. Attendees at the first meeting contributed $5 to the treasury. Accordingly, the Society of Toxicology was launched with assets of $35.

The follow-up work from this organizational meeting required preparation of a draft constitution, by-laws, scheduling of the first meeting, and other organizational tasks. The first meeting was held in Washington, D.C., on April 15, 1962. There were 180 Charter members and 3 Honorary members by that time. The First Annual Meeting of the Society of Toxicology was held in Atlantic City, New Jersey, in 1961. Subsequent annual meetings were held in various locations, including The Rhode Island (Gordon Conference), and Rochester, New York (ASPET).

THE SOCIETY OF TOXICOLOGY SEAL

SALUS—Latin for “Safety”
The Ribband—A Token of Pre-Eminence or Superiority
The Arrow—Toxicum (Latin for poison arrow)
The Shield—Protection
The Wreath—Symbol of Success
Radiating Lines—Force Manifesting Itself: Victory Over Ignorance

COLORS
White for the Shield
Red Background, Suggesting Warning or Danger
Black Arrow—Meaning Ignorance
White Ribband—Meaning Wisdom
Olive Green for the Wreath Indicating Vigor

Designed by Louise Shaffer, wife of C. Boyd Shaffer, a Founder of the Society
Fifty Years of Outstanding Leadership

1961 1962
Harold C. Hodge

1962 1963
C. Boyd Shaffer

1963 1964
Paul S. Larson

1964 1965
Harry W. Hays

1965 1966
Frederick Coulston

1971 1972
Wayland J. Hayes, Jr.

1972 1973
Victor A. Drill

1973 1974
Joseph F. Borzelleca

1974 1975
Sheldon D. Murphy

1975 1976
Seymour L. Friess

1981 1982
Robert B. Forney

1982 1983
Robert L. Dixon

1983 1984
Gabriel L. Plaa

1984 1985
Frederick W. Oehme

1985 1986
Emil A. Pfitzer

1991 1992
Donald J. Reed

1992 1993
John L. Emmerson

1993 1994
I. Glenn Sipes

1994 1995
Meryl H. Karol

1995 1996
Jack H. Dean

2001 2002
David L. Eaton

2002 2003
William F. Greenlee

2003 2004
Marion F. Ehrich

2004 2005
Linda S. Birnbaum

2005 2006
Kendall B. Wallace

Celebrating Fifty Years of Service to the
SOT Presidents 1961–2011

1966 - 1967: Verald K. Rowe
1967 - 1968: John A. Zapp, Jr.
1968 - 1969: Carrol S. Weil
1970 - 1971: Robert L. Roudabush
1976 - 1977: Robert A. Scala
1977 - 1978: Harold M. Peck
1978 - 1979: Leon Golberg
1979 - 1980: Tom S. Miya
1980 - 1981: Perry J. Gehring
1986 - 1987: John Doull
1987 - 1988: Jerry B. Hook
1988 - 1989: James E. Gibson
1989 - 1990: Roger O. McClellan
1990 - 1991: Curtis D. Klaassen
1996 - 1997: James S. Bus
1997 - 1998: R. Michael McClain
1998 - 1999: Steven D. Cohen
1999 - 2000: Jay I. Goodman
2006 - 2007: James A. Popp
2007 - 2008: George B. Corcoran
2008 - 2009: Kenneth S. Ramos
2009 - 2010: Cheryl Lyn Walker
2010 - 2011: Michael P. Holsapple

Science and Profession of Toxicology

Honorary Members

1962 ...... Eugene M. K. Geiling*
1962 ...... W. F. Von Oettingen*
1962 ...... Torald H. Sollman*
1963 ...... Ethel Browning*
1966 ...... R. Tecwyn Williams*
1976 ...... Norton Nelson*
1982 ...... George H. Hitchings*
1986 ...... Bernard B. Brodie*
1986 ...... Herbert Remmer*
1991 ...... Hyman J. Zimmerman*
1994 ...... Ronald W. Estabrook

1994 ...... Wendell W. Weber
1995 ...... Gertrude B. Elion*
1995 ...... Charles S. Lieber*
1996 ...... Sten G. Orrenius
1996 ...... Dennis Parke*
1997 ...... John E. Casida
1997 ...... Roger W. Russell*
1998 ...... Jud Coon
1998 ...... Michel Mercier
1999 ...... William O. Robertson
1999 ...... Takashi Sugimura

2000 ...... Findlay Russell
2001 ...... Herbert Needleman
2007 ...... Mario Molina
2008 ...... Lee Hartwell
2008 ...... H. Robert Horvitz
2009 ...... Gilbert S. Omenn
2009 ...... Sir John E. Walker
2010 ...... Sir Philip Cohen
2010 ...... Ferid Murad
2011 ...... Frances Kathleen Oldham Kelsey

The Society of Toxicology recognizes nonmembers who embody outstanding and sustained achievements in the field of toxicology with Honorary Membership. Candidates are nominated by two Full or Associate members of the Society. Seconding letters and information regarding career achievements in toxicology accompany the nomination. A two-thirds vote of Council determines recipients, with not more than two Honorary Members elected during any one term of Council.
The SOT Council Thanks and Recognizes Some of the Many Members Who Have Contributed to the Success of the Society:

84 Charter Members

Edgar M. Adams, Ph.D.
Anthony M. Ambrose, Ph.D.
Kenneth C. Back, Ph.D.
Robert E. Bagdon, Ph.D., DABT
Tibor Balazs, D.V.M.
Bernard A. Becker, M.D., Ph.D.
John P. Frawley, Ph.D.
Karl Friedrich Benitz, M.D.
Frank R. Blood, Ph.D.
Albert N. Booth, Ph.D.
Seymour L. Friess, Ph.D.
William H. Funderburk, Ph.D.
Karl L. Gabriel, Ph.D., V.M.D., DABT
Eugene Maxmillian Karl Geiling, M.D., Ph.D.
Horace W. Gérarde, M.D., Ph.D.
Jerome M. Glassman, Ph.D.
Morton E. Goldberg, D.Sc.
Richard C. Graham, Ph.D.
Edward LeB Gray, Ph.D.
Zareh Hadidian, Ph.D.
Thomas J. Haley, Ph.D.
Duane W. Hallesy, Ph.D.
Walter E. Hambourger, M.D., Ph.D.
Philip L. Harris, Ph.D.
Joseph W. E. Harrisson, D.Sc.
Wayland J. Hayes, Jr., M.D., Ph.D.
Harry W. Hays, Ph.D.
Lloyd W. Hazleton, Ph.D.
Gordon Ross Hennigard, M.D.
Bernard E. Hietbrink, Ph.D.
Charles H. Hine, M.D., Ph.D.
Harold C. Hodge, Ph.D.
James O. Hoppe, Ph.D.
William H. Hunt, Ph.D.
Colin H. Hunter, M.D.
John W. Hylin, Ph.D.
Don D. Irish, Ph.D.
Margaret Ives, Ph.D.
Benjamin A. Jackson, M.B.A., Ph.D.
Keith H. Jacobson, Ph.D.
Daniel C. Jessup, Ph.D.
L. Meyer Jones, D.V.M., Ph.D.
Ralph Jones, Jr., M.D.
Joseph A. Kaiser, Ph.D.
John H. Kay, Ph.D.
Sidney Kaye, Ph.D.
Charles J. Kessler, Ph.D.
Moreno L. Keplinger, Ph.D.
Kathel B. Kerr, D.Sc.
Jiro K. Kodama, Ph.D.
Harry A. Kornberg, Ph.D.
Herman F. Kraybill, Ph.D.
Stephen Krop, Ph.D.
Souheil Laham, Ph.D., CIH
Kenneth F. Lampe, Ph.D.
Paul S. Larson, Ph.D.
Leonard J. Leach, B.S.
Arnold J. Lehman, M.D., Ph.D.
Margaret I. Leonard, Ph.D.
George J. Levinskas, Ph.D., DABT
Amos E. Light, M.A.
Charles R. Linegar, Ph.D.
Ted A. Loomis, M.D., Ph.D., ATS
Frank C. Lu, M.D.
Lehman M. Lusky, B.A.
William E. MacDonald, Ph.D.
Harold N. MacFarland, Ph.D., FRCP
Willard Machle, M.D.
William A. Mannell, Ph.D.
Gilbert J. Manenning, Ph.D.
Hiromu Matsumoto, Ph.D.
Paul A. Mattis, D.Sc.
Elliott A. Maynard, Ph.D.
John D. McColl, Ph.D.
Donald D. McCollister, B.S.
Francis P. McGrath, M.S.
Herbert McKennis, Jr., Ph.D.
Bernard P. McNamara, Ph.D.
Sheldon D. Murphy, Ph.D.
John H. Nair, M.S.
Joe B. Nash, Ph.D.
James W. Newberne, D.V.M., Ph.D., ATS
Gordon W. Newell, Ph.D., ATS
Fred W. Oberst, Ph.D.
Yvo T. Oester, M.D., Ph.D.
Donald L. Opdyke, Ph.D.
Bernard L. Oser, Ph.D.
Elia W. Packman, Sc.D.
Arthur J. Pallotta, Ph.D.
Edward D. Palmes, Ph.D.
Orville E. Paynter, Ph.D.
Harold Marl. Peck, M.D.
Rafael A. Penalver, M.D.
Gabriel L. Plaa, Ph.D., DABT
Albert J. Plummer, M.D., Ph.D.
Urbano C. Pozzani, M.S.
Charles D. Proctor, Ph.D., D.Sc.
Charles L. Punte, B.S.
Jack L. Radomski, Ph.D., ATS
Virgil B. Robinson, Ph.D.
Harry Rosen, Ph.D.
Robert L. Roudabush, Ph.D.
Verald K. Rowe, D.Sc.
Jack P. Saunders, Ph.D.
Jen Scholler, Ph.D.
Joseph Seifert, M.D.
C. Boyd Shaffer, Ph.D.
Martin Sherman, Ph.D.
Gary J. Sibert, D.V.M., Ph.D.
Jacob Siegel, Ph.D.
Frank A. Smith, Ph.D.
R. Blackwell Smith, Jr., Ph.D.
Fred H. Snyder, Ph.D.
Toral H. Solomon, M.D.
Frederick Sperling, Ph.D.
William B. Stavino, Ph.D.
James H. Stern, M.D.
Herbert E. Stoking, Ph.D.
Joseph L. Svirbely, Ph.D.
Maurice L. Tainter, M.D.
Anton A. Tamas, M.D.
Jean M. Taylor, Ph.D.
Clinton H. Thienes, M.D., Ph.D.
Richard F. Tislow, D.Sc., M.D.
Joseph F. Treon, Ph.D.
Thomas W. Tusing, M.D.
Clarence G. Van Arman, Ph.D.
Leonard J. Vinson, Ph.D.
Wolfgang Felix Von Oettingen, M.D., Ph.D.
John W. Ward, Ph.D.
John H. Weisburger, Ph.D., M.D. (hon)
Bob West, Ph.D.
Norman G. White, Ph.D.
Martin W. Williams, Ph.D.
Geoffrey Woodard, Ph.D.
Alastair N. Worden, M.A.
Frederick F. Yonkman, M.D., Ph.D.
John Zapp, Jr., Ph.D.
Virginia Zaratian, Ph.D.
Benjamin R. Zeitlin, M.S.
Robert E. Zwickey, D.V.M.
Celebrating Achievements

Honorary Membership
The Society of Toxicology recognizes non-members who embody outstanding and sustained achievements in the field of toxicology with Honorary Membership. Candidates are nominated by two Full or Associate members of the Society. Two-thirds of Council determines recipients, with not more than two Honorary Members elected during any one term of Council.

Inductees
1962 Eugene M.K. Geiling
W. F. Von Oettingen
Torald H. Sollman
1963 Ethel Browning
1966 T. Tecwyn Williams
1967 Norton Nelson
1982 George H. Hitchings
1986 Bernard B. Brodie
1991 Hyman J. Furtek
1994 Ronald W. Estabrook
1995 Wendell W. Weber
1996 Gertrude B. Elion
Charles S. Lieber
1997 Sten G. Orrenius
Dennis Parke
1999 John E. Casida
Roger W. Russell
2001 Jud Coon
Michel Mercier
2003 William G. Robertson
Takashi Sugimoto
2004 Findlay Russell
2005 Herbert Needleman
2007 Mario Molina
2008 Lee Hartwell
2009 Robert A. Kerr
2011 William C. Hays
Frances Oldham Kelsey

Achievement Award
The Achievement Award is presented to a member of the Society of Toxicology who has less than 15 years experience since obtaining his/her highest earned degree (in the year of the Annual Meeting of the Society of Toxicology) and who has made significant contributions to toxicology.

Award Recipients
1967 Gabriel L. Plaa
1968 Allan H. Conney
1969 Samuel S. Epstein
1970 Sheldon D. Murphy
1971 Yves Alarie
1972 Robert L. Dixon
1973 Thomas J. Sibley
1974 W. John Richardson
1975 Frank P. Cushner
1976 Curtis D. Klaassen
1977 James E. Gibson
1978 Raymond D. Harbison
1979 Michael R. Boyd
1980 Philip G. Watanabe
1981 (No Award)
1982 Frederick P. Guengerich
1983 (No Award)
1984 Melvin E. Anderson
1985 Alan R. Buckpitt
1986 Sam Kacew
1987 James S. Bus
1988 Jeanne M. Manson
1989 James P. Kehrer
1990 Michael P. Waalkes
1991 Debra Lynn Laskin
1992 Michael P. Hopsapple
1993 David L. Eaton
1994 James L. Stevens
1995 Lucio G. Costa
1996 Kenneth S. Ramos
1997 Eric E. Driscoll
1998 Rick G. Schnellmann
1999 Michel Charbonneau
2000 Christopher Bradfield
2001 Martin Philbert
2002 Ruth A. Roberts
2003 Lois D. Lehman-McKeeman
2004 David C. Dorman
2005 (No Award)
2006 Jose E. Manautou
2007 Jeffrey M. Peters
2008 Ivan Rusyn
2009 Russell S. Thomas
2010 Gary W. Miller
2011 Nathan Cherrington

Arnold J. Lehman Award
The Arnold J. Lehman Award is presented to an individual who has made a major contribution to risk assessment and/or the regulation of chemical agents, including pharmaceuticals. The contribution may have resulted from the application of sound scientific principles to the regulation and/or from research activities that have significantly influenced the regulatory process.

Award Recipients
1980 Allan H. Conney
1981 Gabriel L. Plaa
1982 Gary M. Williams
1983 David P. Rall
1984 Tibor Boros
1985 Frederick Coulston
1986 Gerrit Johannes Van Esch
1987 John P. Frawley
1988 Kundan S. Khera
1989 Richard H. Adamson
1990 Harold C. Grice
1991 Bernard A. Schwartz
1992 Roger O. McClellan
1993 Thomas W. Clarkson
1994 Bruce Ames
1995 Emil A. Pitzen
1996 John F. Rosen
1997 (No Award)
1998 Helmut Alfred Greim
1999 (No Award)
2000 Carole A. Kimmel, Janardan K. Reddy
2001 Samuel M. Cohen
2002 Dennis P. Pauley
2003 Michael L. Doursoun
2004 Melvin E. Andersen
2005 Rory B. Connolly
2006 Kathryn R. Mahaffey
2007 Harvey J. Eglitis
2008 Vicki Dellarco
2009 Michael Bolger
2010 Edward V. O’Hanian
2011 Bette Meek

Best Postdoctoral Publication Awards
The Best Postdoctoral Publication Awards were created by the Postdoctoral Assembly to recognize talented postdoctoral researchers who have recently published exceptional papers in the field of toxicology.

Award Recipients
2001 Nande Dragan, Kristen Mitchell, Dorothea Zuehlke
2002 Joshua P. Gray, Christi J. Thompson
2003 Jeffrey W. Card, Kembra Howdeshell, Lewis Zhichang Shi
2010 Brett F. Bassac, Manabu Nukaya, Nicolas Radio
2011 Dirdrich S. Bermudez Joshua A. Harrill Jordan Noel Smith

Best Paper in Toxicological Sciences Award
The Board of Publications Award for the Best Paper in Toxicological Sciences is presented to the authors of the best paper published in this official SOT publication during a 12-month period, terminating with the June issue of the calendar year preceding the Annual Meeting at which the award is presented. (This award was formerly known as the Frank R. Blood Award.)

Best Paper in Toxicological Sciences (formerly published as Fundamental and Applied Toxicology Award)

Award Recipients
1995 J. L. Larson, D. C. Wolf, banquet
1997 M. I. Luster, C. Porter, D. G. Pait
1998 G. J. Rosenhal, D. R. Gormeol, N. L. Kline
1999 B. L. Blaylock, P. Pollock, Yuehua Jiang
2000 Frank J. Gonzalez, Shinji Ito, Edward V. Ohanian
2001 Frank J. Gonzalez, Shinji Ito, Andrew Fix, Adrienne S. Bigalow
2002 Frank J. Gonzalez, Shinji Ito, Yves Alarie, Frank J. Gonzalez
2003 Frank J. Gonzalez, Shinji Ito, Lewis Zhichang Shi
2004 Frank J. Gonzalez, Shinji Ito, Yves Alarie, Frank J. Gonzalez
2005 Frank J. Gonzalez, Shinji Ito, Yves Alarie, Frank J. Gonzalez
2006 Frank J. Gonzalez, Shinji Ito, Yves Alarie, Frank J. Gonzalez
2008 Sarah SNYERS, Tamara Vanhuele, Peggy Papelue, Aeront Lutton, Yuehua Jiang
2009 Yvonne Vander Heyden, Catherine Verfaille, Vera Rogers
2010 Quan Yang, Tomaszuk Nagano, Yatzik Shah, Connie Cheung, Shinji Ito, Liz E. W. Newton, Ryan Jorgensen, Mohan Ram

Contributions to Public Awareness of the Importance of Animals in Toxicology Research Award
The Contributions to Public Awareness of the Importance of Animals in Toxicology Research Award is presented annually to an individual (or organization) in recognition of the contributions made to the public understanding of the role and importance of experimental animals in toxicological science.

Award Recipients
2003 Alphonse C. A. Ralston
2004 Jessica M. Dale
2005 Robert E. Cade
2006 Ralph L. Marnett
2007 diaper
2008 diaper
2009 diaper
2010 diaper
2011 diaper

Full description of each award and application procedure may be found on the SOT Web site at www.toxicology.org. The annual deadline for award nominations is October 9.
2003 Michael Derelanko
2004 North Carolina Association for Biomedical Research (NCABR), Americans for Medical Progress (AMP)
2005 Orrin G. Hatch, Foundation for Biomedical Research (FBR)
2006 Jayne Macka

Distinguished Toxicology Scholar Award
The Distinguished Toxicology Scholar Award is presented to a member of SOT who has made substantial and seminal scientific contributions to our understanding of the science of toxicology. Nominees should be active scientists involved in toxicological research. The prime consideration for this award is scientific accomplishments. (This award was presented in 2001 as the Scientific Achievement Award.)

Award Recipients
2001 James E. Troska
2002 (No Award)
2003 Henry C. Pitot
2004 Gerald N. Wogan
2005 Daniel Nebert
2006 Sten G. Orrenius
2007 Stephen H. Safe
2008 Toshio Narahashi
2009 Lance R. Pohl
2010 Haririha M. Mehenade
2011 Oliver Hankinson

Education Award
The Education Award is presented to an individual who is distinguished by the teaching and training of toxicologists and who has made significant contributions to education in the broad field of toxicology.

Award Recipients
1975 Harold E. Hodge
1976 Ted A. Loomis
1977 Robert B. Forney
1978 Sheldon D. Murphy
1979 Herbert H. Cornish
1980 Frederick Spiering
1981 Lloyd W. Hazleton
1982 Julius M. Coon
1983 Frank Guthrie, Ernest Hodgson
1984 William B. Buck
1985 Robert L. Kriger
1986 Gabriel L. Plaa
1987 John P. Holeh
1988 Ted A. Loomis
1989 Howard Kopelman
1990 W. Norman Aldridge
1991 John Doull
1992 Ernest Hodgson
1993 Robert A. Neal
1994 William Carlton
1995 Robert B. Forney
1996 Albert E. Munson
1997 David J. Holbrook
1998 Jules Brodeur
1999 Gary C. Mels
2000 Hariraha Mehendale
2001 Joseph Borzellino
2002 Frederick W. Oehme
2003 A. Jay Gandolfi
2004 Nobuyuki Ito
2005 Robert A. Schatz

2006 Torkjorn Malmfors
2007 Steven Cohen
2008 Janice E. Chambers, Sertine L. Lau
2009 Tetsuo Satoh
2010 Michael Galfi

Enhancement of Animal Welfare Award
The Enhancement of Animal Welfare Award is presented annually to a member of the Society in recognition of the contribution made to the advancement of toxicological science through the development and application of methods that replace, refine, or reduce the need for experimental animals. This award recognizes outstanding contributions made by members of the Society to Toxicology to the sound and responsible use of animals in scientific research.

Award Recipients
2000 Alan Goldberg
2001 Gary Williams
2002 G. Frank Gerberick, Tammy Kimber
2003 (No Award)
2004 Daniel Acosta
2005 William S. Stokes
2006 Thomas Hartung
2007 (No Award)
2008 Sally Robinson
2009 (No Award)

Merit Award
The Merit Award is presented to a member of the Society of Toxicology in recognition of distinguished contributions to toxicology throughout an entire career in areas such as research, teaching, regulatory activities, consulting, and service to the Society. The recipient delivers the Merit Award Lecture at the SOT Annual Meeting.

Award Recipients
1996 Henry F. Smyth, Jr.
1997 Arnold I. Lehman
1998 R. T. Williams
1999 Harold C. Hodge
2000 Don J. Irish
2001 Kenneth P. DuBois
2002 Garth Fitzhugh
2003 Herbert E. Stokinger
2004 William B. Deichmann
2005 Verne A. Rosen
2006 Gerald K. Rowe
2007 Harry W. Hays
2008 Julius M. Coon
2009 David W. Fasset
2010 Bernard L. Oser
2011 John H. Weisburger
2012 Harold M. Peck
2013 Philip J. Berry
2014 Tom S. Myia
2015 Carrol S. Weil
2016 Ted A. Loomis
2017 Bo Holmstedt
2018 Seymour L. Friesen
2019 Wayland J. Hayes, Jr.
2020 Sheldon D. Murphy
2021 Yoshio Narahashi
2022 W. Norman Aldridge
2023 John Doull
2024 Ernest Hodgson
2025 Robert A. Scalabroni
2026 G. Steven Faa
2027 Mary O. Amund
2028 John A. Thomas
2029 Thomas Clarkson
2030 Richard G. Slusher
2031 (No Award)
2032 Bernard Schwartz
2033 M. W. Anders
2034 Robert A. Scalabroni
2035 Robert O. McClellan
2036 A. Wallace Hayes
2037 James A. Swenberg
2038 Henry C. Pitot
2039 Gary M. Williams
2040 Marion E. Fribby
2041 Michael Achsner

SOT Endowment Fund/IUTOX Travel Fellowship
SOT and IUTOX sponsor travel fellowship awards annually, which are administered by IUTOX. Awards are available to junior and senior scientists from a country where toxicology is underdeveloped. Fellows are selected to travel with the Society of Toxicology Annual Meeting.

Award Recipients
2002 Christoph Dischovsky (Bulgaria)
2003 Zoltan Gregus (Hungary), Mariza Rojas Martini (Venezuela), Feng Chen (Singapore), W. Wasowicz (Poland), Ping-Kun Zhuo (China)
2004 Eran A. Seif (Egypt), Marijan G. Vrako (Slovenia)
2005 Cristina Bolaton (Philippines), P.K. Gupta (India), Salimain Inayat-Hussain (Malaysia), Xiaping Ying (China)
2006 Diana A. Apostolova (Bulgaria), Marite Arja Bake (Latvia), Teresita I. Fortuol (Mexico), Mary Gulumian (South Africa), He Sheng (China), Khalidya Kamdulina (Russia), L. Orish Orisakwe (Nigeria), Songskak Srianiat (Thailand), Sinan Suzen (Turkey)
2007 Lida M. Yoshiya (Japan), Karolyna Lyubomirov (Brazil), Oman Ally Osman (Egypt), Shang-Qing Peng (China), Julia Radekova-Sueva (Bulgaria)
2008 Hakem Ahmed (Egypt), Jiri Biagar (Czech Republic), Ismet Cok (Turkey), Carlos Garcia (Peru), Wenceslao Kiat (Philippines), Calvarhan Lashchoumyvardone (India), Fatueyha Metwally (Egypt), Hilmi Orhan (Turkey), Nwocha Umuuna (Nigeria)
2009 Cairo Rashid Ahmed (Egypt), Sayed Mabrouky (Egypt), Philip Burcham (Australia), Kemal Buyukguzel (Turkey), Jin-Ho Chung (Korea), Hande Gurur-Orhan (Turkey), Lyle C. Gw (South Africa), Zdravko Pasekale (Bulgaria)
2010 Sema Buraz (Turkey),elsey G. Moreira (Brazil), Kolawole Olorunbo (Nigeria), Kelly P.K. Oyamoto (Brazil), Betzabeta Quintanilla-Valenzuela (Venezuela), Jullia Ben Salah Abbes (Tunisia), Sufeporn Sangrajrang (Thailand)
Smithsonian and SOT Collaborate to Host Seminar on Toxicology

“When Good Chemicals Turn Bad”

Saturday, March 5, 2011  9:30 AM–4:30 PM
Ripley Center, Smithsonian

This seminar features an overview of, and the latest research in, the science of toxicology. Many of the sessions feature SOT members. A sampling of the program follows:

9:30 AM–10:30 AM Poisoning through the Ages

Presenters talk about early experimentation with botanicals and intentional and unintentional poisoning and then on to natural and synthetic chemicals, highlighting some of the accidents that sometimes resulted.

*Michael Gallo, Robert Wood Medical School*
*Philip Wexler, National Library of Medicine*

10:30 AM–11:30 AM The Dose Makes the Poison—What’s Safe?

Guest speaker talks about how poisons interact with an organism and provides an overview of cell damage and repair, cancer-causing chemicals, and chemicals that disrupt reproduction and development.

*Marion Ehrich, Virginia Tech*

11:45 AM–12:45 PM The Nature of Poisoning

Session focuses on human poisoning and its treatment. Speaker talks about emergency and disaster responses, forensic toxicology, and legal issues.

*Cathleen Clancy, Capital Poison Center*

2:00 PM–3:00 PM Water and Land

Researchers offer the latest information about the effects of chemical, physical, and biological substances on the ecosystem.

*Gerhardt Riedel, Smithsonian Environmental Research Center*
*Kathy Boomer, Smithsonian Environmental Research Center*

3:15 PM–4:30 PM Cutting-Edge Research

Presenters explore the potential danger of miniscule particles, the promise of epigenetics studies, implementation of animal testing alternatives, and the future of toxicology.

*Martin Philbert, University of Michigan*
*Cheryl Lyn Walker, University of Texas, MD Anderson Cancer Center*
*Thomas Hartung, Johns Hopkins Bloomberg School of Public Health*

SOT members can purchase tickets by calling 202.633.3030 and telling the Smithsonian Associate office (program or staff) that he/she is a member of SOT.
Thank You to the following individuals who contributed to the Benchmarks in Toxicology project:

Please pick up a FREE copy of the Benchmarks poster located throughout the center.

<table>
<thead>
<tr>
<th>Rebecca Adams</th>
<th>Michael J. Davis</th>
<th>Benjamin Jackson</th>
<th>Michael Ottinger</th>
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<td>Yves Alarie</td>
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<td>James Doyle</td>
<td>John Kille</td>
<td>Ciara Remillard</td>
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<td>Joanne English</td>
<td>Tracy Kimmel</td>
<td>Ruth Roberts</td>
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<td>Andrew Ewens</td>
<td>Weixi Kong</td>
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<td>Jeffrey Fisher</td>
<td>Charles Lapin</td>
<td>James Romano</td>
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<td>John Benitez</td>
<td>Paul Donald Forbes</td>
<td>Paige B. Lawrence</td>
<td>Mohamed Salama</td>
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<td>Sue Ford</td>
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<td>Regina Santella</td>
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<td>Donald Fox</td>
<td>Doreen Lehner</td>
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<td>Byron Butterworth</td>
<td>Cynthia Graham</td>
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<td>Daniel Casciano</td>
<td>John Groopman</td>
<td>Donald McCollister</td>
<td>Marc Stifelman</td>
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<td>Mark Hahn</td>
<td>Daniel Mclain</td>
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<td>Lois Haighton</td>
<td>Haritha Mehendale</td>
<td>Steave Su</td>
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<td>Pertti Hakkinen</td>
<td>Charles Miller, III</td>
<td>Kerry Thuet</td>
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<td>Harvey Clewell, III</td>
<td>Stephen Harris</td>
<td>Lesley Mills</td>
<td>James Trosko</td>
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<td>Samuel Cohen</td>
<td>Ronald Hines</td>
<td>Isaac Mohar</td>
<td>Rochelle Tyl</td>
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<td>Margaret Collins</td>
<td>Seishiro Hirano</td>
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<td>Alan Hoberman</td>
<td>Ron Myers</td>
<td>Calvin Willhite</td>
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<td>Ernest Hodgson</td>
<td>Rachel Novick</td>
<td>Hanspeter Witschi</td>
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<td>Edmond Creppy</td>
<td>Robert Howd</td>
<td>Guenter Oberdorster</td>
<td>Marcelo Wolansky</td>
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<td>Edward Croom</td>
<td>Dennis Hsieh</td>
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<td>Robert Osterberg</td>
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SPACE IS LIMITED SO REMEMBER TO PURCHASE YOUR TICKET WHEN YOU REGISTER FOR THE ANNUAL MEETING

50TH ANNIVERSARY | SOCIETY OF TOXICOLOGY

CELEBRATION EVENT

3.8.2011 | 6:30 PM–9:30 PM | WALTER E. WASHINGTON CONVENTION CENTER

BeatleMania Live

Wii Stations

Golf Putting Station

charles river

ExxonMobil

CALVERT Labs

Additional Sponsorship Opportunities Remain—Contact SOT Headquarters to inquire!

Entertainment by BeatleMania Live
Food Stations by the Decades
Wii Stations, Photo Book Center, Golf Putting Station, and more
Dress in Your Favorite Decade Attire or Come As You Are!!!
To become a host or reserve a table (10 tickets per table),
please contact SOT Headquarters 703.438.3115

Please note that due to the numerous 50th Anniversary activities scheduled,
there will not be a Sunday evening Welcoming Reception.
50th Anniversary Silent Auction

Bid on fabulous items
* Historic toxicology materials • Fantastic vacation opportunities
* Hand crafted art pieces

Sponsored by the Postdoctoral Assembly
Proceeds to SOT Endowment Priority Fund

All bidding on-line—linked from 50th Anniversary Web site
See donated items on display in the SOT Pavilion in ToxExpo™

Special Event in the E-mail Center
Monday, March 7  4:45 PM–5:45 PM
Participate in the excitement as bids close
Get a close look at these items and hear why you should bid
Cash bar available
Bring your computer, smart phone, or use an E-mail Center computer to place last-minute bids on these items

- Timeshare at Marriott Grande Vista in Orlando, FL
- 40th Anniversary Edition of *The Double Helix* Signed by Dr. James Watson
- Used "Hot Science and all that Jazz" T-shirt from the SOT New Orleans 2005 Annual Meeting

Final bids close on these items
Wednesday, March 9  10:00 AM–1:00 PM

- Dinner with John and Vera Doull during SOT Annual Meeting 2012
- Dr. Doull Antismoking Photo
- SOT Fun Run Sunglasses from 1993 Annual Meeting
- Ski Vermont! Condo in Okemo, VT

- House on Block Island, RI
- *Casarett and Doull's Toxicology* textbook, 2nd Edition, Autographed
- Needlepoint of Toxicants
- Handmade Pottery Vase
- Photo & Plaque of CIIT Founders
- Framed Underwater Photographs
- White House Athletic Center Gym Bag
- Antique Clay Bottle
- SOT Anniversary Desk Art Piece
- Framed Photograph of SOT Founders
- Smoked Salmon and Fruit Candy
- Handmade Ceramic Wall Hanging
- Vintage Copies (1970's) of *The Toxicologist*
- Compendium of CIIT Activities (1981–2004), Signed by CIIT Presidents
- 3rd Edition of the *Handbook of Pesticide Toxicology*, 2 Volume Set (2010), Autographed
- Antique Pharmaceutical Bottle—Stoddard's Dyspepsia Tonic
- A Handcrafted Wooden 4-Legged Stool
- Wine Cork Trivet, SOT 50th Anniversary Commemorative Edition
- 3 Handcrafted Washington State janaea Red Wines by Chaos Vintners
- Framed Photograph of John Doull
- Handcrafted Beaded Necklace and Earrings
- House on the Chesapeake Bay, VA
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up-to-date information at www.toxicology.org

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How to Use this Program

The Society of Toxicology’s (SOT) Annual Meeting is always an exciting opportunity to highlight advancements in the science of toxicology. In order to maximize the value of your Annual Meeting attendance, we offer this Program Publication Layout Overview, the Scientific Session Reference, and Scientific Session Type Legend to assist you. We hope that you find this information useful and welcome your comments.

Program Publication Layout Overview

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front Fold-Out Cover—Scientific Program Overview</td>
<td>This quick reference guide lists the Annual Meeting scientific sessions with corresponding page numbers in the Program Description section. Color-coded presentation titles assist you in identifying sessions within each theme. A brief description for each theme is available as well.</td>
</tr>
<tr>
<td>Daily Pocket Calendar (pages 3–11)</td>
<td>This at-a-glance calendar is your guide to the daily activities of the Annual Meeting including special sessions; Specialty Section, Regional Chapter, Special Interest Group, and ancillary functions; and SOT committee meetings. We encourage you to tear out the daily guide for easy reference. Please note that the scientific session details are included at the end of each day’s guide.</td>
</tr>
<tr>
<td>Schedule by Event Name (pages 13–22)</td>
<td>This is an alphabetical listing of all the functions held during the Annual Meeting. You may use this easy-to-read schedule to quickly locate an event. Please note that for the scientific sessions detail, you must refer to the Scientific Program Overview on the front fold-out cover or Daily Pocket Calendar on pages 3–11.</td>
</tr>
<tr>
<td>Scientific Session Index (pages 97–103)</td>
<td>This index lists the scientific sessions by type, date, and time. In addition, this information includes the session titles with abstract numbers, poster boards, session locations, and corresponding page numbers in the Program Description section.</td>
</tr>
<tr>
<td>Poster Session Board Surface Maps, Schedule, and Historical Poster Floor Plan (pages 104–112)</td>
<td>The Poster Session Schedule and Poster Board Surface Maps are displayed with a mock layout of the ToxExpo™ Exhibit Hall to assist you in finding poster sessions. Each poster schedule and surface map shows the poster session abstract numbers and the poster surface locations for each poster session time. Posters are displayed in the Exhibit Hall Monday–Wednesday and Registration Area and Room 202 on Thursday.</td>
</tr>
<tr>
<td>Author Index (pages 359–386)</td>
<td>The numerals following the author’s names refer to the abstract numbers referenced in this Program and The Toxicologist. The asterisk after the abstract number indicates the author is the first presenter.</td>
</tr>
<tr>
<td>Abstract Key Word Index (pages 387–401)</td>
<td>This index provides a listing of key words by subject or chemical and the relevant abstract(s) referenced in this Program and The Toxicologist.</td>
</tr>
</tbody>
</table>

Program Description Scientific Session Reference (pages 113–357)

The Program Description layout is ordered by date and start time. Please refer to the description below. Each scientific session listing includes a session abstract and list of speakers or the featured presenters.

<table>
<thead>
<tr>
<th>Listing</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session Type and Title</td>
<td>Session type and title display in bold type. A brief description for each scientific session type is listed below.</td>
</tr>
<tr>
<td>Sponsors or Endorsers</td>
<td>This section lists the sponsors and endorsers from SOT Special Interest Groups, Specialty Sections, Regional Chapters, or SOT Committees. For each scientific session, the sponsor, the group that developed the session, is listed first and followed by the endorsers. The list of endorsers, groups that support the session, is sorted alphabetically.</td>
</tr>
<tr>
<td>Abstract Number or Presentation Time</td>
<td>The first number listed is the abstract number, or the SOT final identifying number. For scientific sessions (but not Continuing Education Courses or Poster Presentations), the second number is the presentation time. Individual abstracts can be found on The Toxicologist CD-ROM (free to all attendees), The Toxicologist publication (available for purchase on-site for $20), and on the SOT Web site.</td>
</tr>
<tr>
<td>Poster Sessions</td>
<td>The poster board surface number is listed above the title of each individual poster presentation for easy reference.</td>
</tr>
<tr>
<td>50th Celebration Events &amp; Activities</td>
<td>SOT 50th Anniversary Events and Activities display in the Program Description section with a grey background and 50th Anniversary icon.</td>
</tr>
</tbody>
</table>

Scientific Session Type Legend

- CE Target Areas (45 or 225 minutes)—Continuing Education courses highlighting specialized areas of interest
- Education-Career Development Sessions (80 minutes)—Sessions that provide the tools and resources to toxicologists that will enhance their professional and scientific development
- Exhibitor Hosted Sessions (60 minutes)—Informative sessions developed by an exhibiting company
- Featured Sessions (50–60 minutes)—Keynote and other special lectures
- Historical Highlights (80 minutes)—Review of a historical body of science that has impacted toxicology
- Informational Sessions (80 minutes)—Scientific planning or membership development
- Platform Sessions (165 minutes)—Oral presentations that cover new areas, concepts, or data
- Poster Sessions (180–210 minutes)—Topic specific presentations that cover new areas, concepts, or data
- Regional Interest Session (165 minutes)—Central topics of relevance that describe public health and/or ecological problems of a particular region
- Roundtable Sessions (80 minutes)—Controversial subjects
- Symposium Sessions (80 or 165 minutes)—Cutting-edge science; new areas, concepts, or data
- Thematic Sessions (80–210 minutes)—Timely topics of relevance to toxicology
- Workshop Sessions (165 minutes)—State-of-the-art knowledge in toxicology
Society of Toxicology 2011

Daily Pocket Calendar

For your convenience, please tear out and carry with you. Easily folds to nest within your badge holder.
(Calendar as of January 7; private events are not listed.)

Saturday

<table>
<thead>
<tr>
<th>Event Description</th>
<th>Time</th>
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<tbody>
<tr>
<td>10:00 AM to 12:00 NOON Minority Health Cooperative Agreement: An Overview with FAMU and Texas A&amp;M</td>
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<tr>
<td>11:30 AM to 1:00 PM Council Orientation Luncheon</td>
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<tr>
<td>11:30 AM to 6:00 PM Johnson &amp; Johnson Toxicology Interest Group Meeting</td>
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<tr>
<td>12:00 NOON to 5:00 PM Board of Publications Toxic Sci Editor Interviews</td>
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<tr>
<td>12:00 NOON to 1:00 PM K-12 Outreach: Poisoned Pet Food--Unraveling the Melamine Mystery, Lecturer: Renate Reimschuessel Marian Koshland Science Museum of the National Academy of Sciences</td>
<td>12:00 NOON to 1:00 PM</td>
</tr>
<tr>
<td>1:00 PM to 6:00 PM American Board of Toxicology Board of Directors Meeting</td>
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<tr>
<td>1:30 PM to 5:30 PM Council Meeting</td>
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<td>4:00 PM to 7:00 PM E-mail Center</td>
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<td>4:00 PM to 7:00 PM Housing Desk</td>
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<td>4:00 PM to 7:00 PM Registration</td>
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<tr>
<td>4:00 PM to 7:00 PM SOT Office</td>
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<tr>
<td>4:00 PM to 7:00 PM Speaker Ready Room</td>
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<tr>
<td>4:00 PM to 7:00 PM Tour Desk</td>
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<tr>
<td>4:15 PM to 5:45 PM Undergraduate Education Program: Orientation for SOT Hosts, Peer Mentors, and Advisors</td>
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<tr>
<td>5:00 PM to 5:45 PM Continuing Education Committee Walk-Through</td>
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<tr>
<td>5:45 PM to 9:00 PM Undergraduate Education Program: Opening Event (By Invitation Only)</td>
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<tr>
<td>7:30 PM to 9:30 PM Graduate Fellowship Interviews by Awards Committee</td>
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<tr>
<td>8:00 PM to 9:00 PM CDI Reunion (Networking and Dessert—Invited: Anyone involved with the SOT Undergraduate Education Program through the years)</td>
<td>12:00 NOON to 1:00 PM</td>
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<tr>
<td>4:00 PM to 7:00 PM Housing Desk</td>
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<tr>
<td>4:00 PM to 7:00 PM Registration</td>
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<td>4:00 PM to 7:00 PM Tour Desk</td>
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Sunday

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<tr>
<th>Event Description</th>
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<tr>
<td>9:00 AM to 10:30 AM Past Presidents SK Fun Run</td>
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<tr>
<td>10:00 AM to 11:45 AM Career Resource and Development Committee Meeting</td>
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<tr>
<td>12:00 NOON to 1:00 PM Continuing Education Afternoon Courses (Ticket Required)</td>
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<tr>
<td>1:30 PM to 3:30 PM SOT Committee/Task Force Chair Orientation</td>
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<tr>
<td>2:00 PM to 5:00 PM Tex-21c Implementation Meeting</td>
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<tr>
<td>2:30 PM to 6:30 PM Safety Pharmacology Society Meeting</td>
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<tr>
<td>3:00 PM to 5:00 PM Congressional Task Force Meeting</td>
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<tr>
<td>3:00 PM to 5:00 PM Undergraduate Education Program: Academic Toxicology Programs and Internships</td>
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<tr>
<td>3:00 PM to 5:30 PM Continuing Education Afternoon Courses (Ticket Required)</td>
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<tr>
<td>3:00 PM to 5:30 PM Undergraduate Education Program: Host Mentor and Peer Mentor Meeting</td>
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<tr>
<td>4:00 PM to 5:15 PM Awards Recipients Photographed</td>
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<tr>
<td>4:00 PM to 6:00 PM Dermal Toxicology Specialty Section Officers Meeting</td>
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<tr>
<td>4:45 PM to 5:15 PM Awards Ceremony Music—Performed by Gail Shanta, Harpist</td>
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<tr>
<td>5:15 PM to 6:30 PM Awards Ceremony (All Attendees Welcome)</td>
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<tr>
<td>6:00 PM to 8:00 PM Metals Specialty Section Meeting/Reception</td>
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March 5

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<thead>
<tr>
<th>Event Description</th>
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<tbody>
<tr>
<td>6:30 PM to 7:30 PM 25-Year (or More) Member Reception (By Invitation Only)</td>
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<tr>
<td>6:30 PM to 8:00 PM carcinogenesis Specialty Section Meeting/Reception</td>
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<tr>
<td>6:30 PM to 8:00 PM Dermal Toxicology Specialty Section Meeting/Reception</td>
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<tr>
<td>6:30 PM to 8:00 PM Food Safety Specialty Section Meeting/Reception</td>
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<tr>
<td>6:30 PM to 8:00 PM Hispanic Organization of Toxicologists Special Interest Group Meeting/Reception</td>
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<tr>
<td>6:30 PM to 8:00 PM Medical Device Specialty Section Meeting/Reception</td>
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<tr>
<td>6:30 PM to 8:00 PM Nanotoxicology Specialty Section Meeting/Reception</td>
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<tr>
<td>6:30 PM to 8:00 PM Occupational and Public Health Specialty Section Meeting/Reception</td>
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<tr>
<td>6:30 PM to 8:00 PM Ocular Toxicology Specialty Section Meeting/Reception</td>
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<tr>
<td>7:30 PM to 10:00 PM Arizona Night</td>
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<tr>
<td>7:30 PM to 10:30 PM Lovelace Respiratory Research Institute Reception</td>
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<tr>
<td>7:30 PM to 10:30 PM Renaissance Meeting Room</td>
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</tr>
<tr>
<td>8:00 PM to 9:30 PM Student/Postdoctoral Scholar Mixer (Ticket and Meeting Badge Required)</td>
<td></td>
</tr>
</tbody>
</table>
Daily Pocket Calendar.

Scientific Program Overview by Day & Time

**Sunday**

7:00 AM–7:45 AM
CONTINUING EDUCATION SUNRISE MINI-COURSE
1. Biodegradable Materials for Tissue Engineering: Applications and Safety Assessment

8:15 AM–12:00 noon
CONTINUING EDUCATION MORNING COURSES
2. Best Practices for Developing, Characterizing, and Applying Physiologically Based Pharmacokinetic Models in Risk Assessment
3. Current Nonclinical Strategies and Methods for Evaluating Drug-Induced Cardiovascular Toxicity
4. Dealing with the Data Deluge: A Live Data Discovery and Analysis Course (Note: Participants are asked to bring their own computer with Internet access)
5. Epigenetics in Toxicology: Introduction, Mechanistic Understanding, and Applications in Safety Assessment
6. Protecting Human Health: Use of Toxicological and Epidemiological Data in Determining Safe Levels for Human Exposure
7. Drug Hypersensitivity Reactions: Risk Assessment and Management
8. Toxicology and Risk Assessment of Chemical Mixtures

1:15 PM–5:00 PM
CONTINUING EDUCATION AFTERNOON COURSES
9. Applications of Computational Systems Biology for Toxicology
10. Evaluating Toxicity of Engineered Nanomaterials: Issues with Conventional Toxicology Approaches
11. New Technologies and Approaches in Genetic Toxicology and Their Expanding Role in General Toxicology and Safety Assessment
12. Practical How-To and Pitfalls Associated with Current Epigenetic Studies
13. Quantitative In Vitro to In Vivo Extrapolation: The Essential Element of In Vitro Assay-Based Risk Assessment
14. Stem Cell Utility in Toxicology Screening
15. The Biology and Toxicology of the Peri- and Post-Natal Development

**March 6**

**7:00 AM–7:45 AM**
CONTINUING EDUCATION SUNRISE MINI-COURSE
1. Biodegradable Materials for Tissue Engineering: Applications and Safety Assessment

**8:15 AM–12:00 noon**
CONTINUING EDUCATION MORNING COURSES
2. Best Practices for Developing, Characterizing, and Applying Physiologically Based Pharmacokinetic Models in Risk Assessment
3. Current Nonclinical Strategies and Methods for Evaluating Drug-Induced Cardiovascular Toxicity
4. Dealing with the Data Deluge: A Live Data Discovery and Analysis Course (Note: Participants are asked to bring their own computer with Internet access)
5. Epigenetics in Toxicology: Introduction, Mechanistic Understanding, and Applications in Safety Assessment
6. Protecting Human Health: Use of Toxicological and Epidemiological Data in Determining Safe Levels for Human Exposure
7. Drug Hypersensitivity Reactions: Risk Assessment and Management
8. Toxicology and Risk Assessment of Chemical Mixtures

**1:15 PM–5:00 PM**
CONTINUING EDUCATION AFTERNOON COURSES
9. Applications of Computational Systems Biology for Toxicology
10. Evaluating Toxicity of Engineered Nanomaterials: Issues with Conventional Toxicology Approaches
11. New Technologies and Approaches in Genetic Toxicology and Their Expanding Role in General Toxicology and Safety Assessment
12. Practical How-To and Pitfalls Associated with Current Epigenetic Studies
13. Quantitative In Vitro to In Vivo Extrapolation: The Essential Element of In Vitro Assay-Based Risk Assessment
14. Stem Cell Utility in Toxicology Screening
15. The Biology and Toxicology of the Peri- and Post-Natal Development

For your convenience, please tear out and carry with you. Easily folds to nest within your badge holder. (Calendar as of January 7; private events are not listed.)
Daily Pocket Calendar

For your convenience, please tear out and carry with you. Easily folds to nest within your badge holder.
(Calendar as of January 7; private events are not listed.)

Monday

7:00 AM to 5:00 PM
SOT Office
CC Room 101

7:00 AM to 5:00 PM
Speaker Ready Room
CC Room 208

7:20 AM to 7:30 AM
Undergraduate Education Program: Meeting for Student, Advisor, Peer Mentors and SOT Hosts
CC Room 102

7:30 AM to 9:30 AM
Carcinogenesis Specialty Section Officers Meeting
CC Salon G

7:30 AM to 9:30 AM
In Vitro and Alternative Methods Specialty Section Officers Meeting
CC Salon G

7:30 AM to 7:45 AM
Medical Device Specialty Section Officers Meeting
CC Salon G

7:45 AM to 8:00 AM
Landmarks Program Presentation to the National Academy of Science
CC Grand Ballroom

8:00 AM to 5:00 PM
Guest/Spouse Hospitality Room
Renaissance Penn Quarter

8:00 AM to 5:00 PM
EUTOX Meetings
CC Rooms 305, 306

8:00 AM to 9:00 AM
Plenary Opening Lecture: NIH Vision, Lecturer: Francis S. Collins, National Institute of Health
CC Grand Ballroom

8:00 AM to 1:00 PM
Tour Desk
CC East Salon

9:00 AM to 10:00 AM
Complimentary Coffee
CC Exhibit Hall

9:00 AM to 4:30 PM
ToxExpo™ Exhibits Open
CC Exhibit Hall

9:00 AM to 4:30 PM
Wi-Fi Lounges
(See Session Index on Pages 97–103 for Room Location)

9:00 AM to 11:45 AM
Undergraduate Education Program Wrap Up
CC Room 102

10:30 AM to 11:30 AM
Exhibitor Hosted Session: Harlan Laboratories, Inc.
CC Room 140B

10:30 AM to 11:30 AM
Exhibitor Hosted Session: Huntington Life Sciences
CC Room 156

11:00 AM to 11:45 AM
Undergraduate Education Program: Meeting for Student, Advisor, Peer Mentors and SOT Hosts
CC Room 102

11:30 AM to 2:30 PM
Communications Committee Meeting
CC Room 303

11:45 AM to 12:45 PM
Exhibitor Hosted Session: Pursolt & Partners Pharmacology
CC Room 140A

11:45 AM to 12:45 PM
Exhibitor Hosted Session: Rules-Based Medicine
CC Room 156

11:45 AM to 12:45 PM
Exhibitor Hosted Session: Sigma Life Science
CC Room 140B

12:00 NOON to 2:00 PM
Central States Regional Chapter Meeting/Luncheon
Embassy Suites, Capital Ballroom B

12:00 NOON to 1:30 PM
Continuing Education Committee Meeting
CC Room 301

12:00 NOON to 1:30 PM
Disease Prevention Task Force Meeting
CC Room 302

12:00 NOON to 2:00 PM
HESI Seminar: Putting Health Risks into Perspective by Dr. Bruce Ames
Renaissance Congressional Ballroom

12:00 NOON to 2:00 PM
In Vitro Toxicology Lecture and Luncheon for Students, Lecturer: Robert E. Chapin (Ticket Required)
CC Salon G

12:00 NOON to 3:00 PM
Exhibitor Hosted Session: Sigma Life Science
CC Room 140B

12:00 NOON to 3:00 PM
Exhibitor Hosted Session: SPCTL Technologes, Inc.
CC Room 156

12:00 NOON to 3:00 PM
Exhibitor Hosted Session: Will Research Laboratories
CC Room 140A

3:00 PM to 4:00 PM
Special Interest Group Governors and Subcommittees Meeting
CC Room 103

3:30 PM to 4:30 PM
Exhibitor Hosted Session: In Vitro ADMET Laboratories, LLC (IVAL)
CC Room 140A

3:30 PM to 4:30 PM
Exhibitor Hosted Session: U.S. Environmental Protection Agency
CC Room 140B

4:30 PM to 6:00 PM
American Broiler Toxicology Open Mixer Meeting
Renaissance Congressional A

4:30 PM to 7:00 PM
Roundtable of Toxicology Consultants Meeting/Reception
Renaissance Ballroom East

4:30 PM to 6:00 PM
Specialty Section Presidents and Officers Meeting
CC Room 103

4:35 PM to 5:55 PM
SOT/EUROTOX Debate: Biomarkers from Blood and Urine Will Replace Traditional Histopathological Evaluation to Determine Adverse Responses, SOT Debater: Kim Boekelheide, EUROTOX Debater: Ana Schappe Kotzinn CC Room 150

4:45 PM to 5:45 PM
50th Anniversary Silent Auction
CC East Salon

5:00 PM to 6:00 PM
AACT Distinguished Chinese Toxicologist Lectureship: Oxidative Stress and Metal Carcinogenesis; Lecturer: Xiaogin Shi, Renaissance Grand Ballroom South

March 7

12:30 PM to 1:00 PM
Poster Set Up (See Poster Board Surface Maps on Pages 104–107)
CC Exhibit Hall

1:00 PM to 4:30 PM
Poster Sessions

1:00 PM to 1:30 PM
Special Interest Group Collaboration Group Meeting
CC Room 103

1:00 PM to 2:00 PM
ToxExpo™ Time (NEW)
CC Exhibit Hall

2:00 PM to 4:45 PM
Scientific Sessions
CC (See Session Index on Pages 97–103 for Room Location)

2:00 PM to 3:00 PM
Exhibitor Hosted Session: ToxExpo™ Exhibit Hall
VIP Walk Through
CC Exhibit Hall

2:15 PM to 3:15 PM
Exhibitor Hosted Session: SNBL USA, Ltd.
CC Room 140B

2:15 PM to 3:15 PM
Exhibitor Hosted Session: STEMCELL Technologies, Inc.
CC Room 156

2:15 PM to 3:15 PM
Exhibitor Hosted Session: Will Research Laboratories
CC Room 140A

3:00 PM to 4:00 PM
Scientific Sessions
CC Room 301

3:30 PM to 4:30 PM
Exhibitor Hosted Session: In Vitro ADMET Laboratories, LLC (IVAL)
CC Room 140A

3:30 PM to 4:30 PM
Exhibitor Hosted Session: U.S. Environmental Protection Agency
CC Room 140B

4:30 PM to 6:00 PM
American Broiler Toxicology Open Mixer Meeting
Renaissance Congressional A

4:30 PM to 7:00 PM
Roundtable of Toxicology Consultants Meeting/Reception
Renaissance Ballroom East

4:30 PM to 6:00 PM
Specialty Section Presidents and Officers Meeting
CC Room 103

4:35 PM to 5:55 PM
SOT/EUROTOX Debate: Biomarkers from Blood and Urine Will Replace Traditional Histopathological Evaluation to Determine Adverse Responses, SOT Debater: Kim Boekelheide, EUROTOX Debater: Ana Schappe Kotzinn CC Room 150

4:45 PM to 5:45 PM
50th Anniversary Silent Auction
CC East Salon

Continued on next page

up-to-date information at www.toxicology.org
Scientific Program Overview by Day & Time

**Monday**

8:00 AM–9:00 AM

**Plenary Opening Lecture**

NIH Vision, Lecturer: Francis S. Collins, National Institute of Health (Grand Ballroom)

9:15 AM–12:00 NOON

**Symposium Sessions**

- Emerging Issues at the Intersection of Reproductive and Mixtures Toxicology (Room 143)
- Environmental Oxidative Pollutant-Induced Pulmonary Toxicity (Room 151)
- High Content Imaging: Applications in Toxicology and Toxicity Testing (Room 150)
- Ribotoxic Stress: Mechanisms and Models for Human Disease (Room 207)

**Workshop Sessions**

- Disease Prevention: The Next 50 Years (Room 144)
- New Approaches for Integrating Toxicological and Epidemiological Data to Better Inform Risk Assessment (Room 145)

**Platform Sessions**

- Nanotoxicology — Carbon Nanotubes and Carbon Nanoparticles (Room 206)
- New Insights into Male Reproductive Toxicology (Room 202A)
- Use of Embryonic Stem Cells in Toxicology (Room 204)

9:30 AM–12:30 PM

**Poster Sessions**

(Exhibit Hall — See Poster Board Surface Map on Pages 104–107)

- Bioinformatic Profiling and Computational Pathway Prediction
- Carcinogenesis I
- Cardiovascular Toxicology
- Cell Signaling and Gene Regulation
- DNA Replication and Repair
- Epigenetic Mechanisms

- Genotoxicity
- Hypersensitivity: Methods and Mechanisms
- Inflammatory Mediators in Disease Pathogenesis
- Metals I
- Metals II
- Neurodegenerative Diseases
- Receptor and Receptor-Mediated Toxicity

12:10 PM–1:30 PM

**Roundtable Session**

Reforming the Toxic Substances Control Act (TSCA): Challenges, Opportunities, and Timing (Room 144)

**Informational Session**

- The International Cooperation on Alternative Test Methods (ICATM): Translating Science to Provide Improved Public Health Safety Assessment Tools (Room 143)

**Education/Career Development Session**

- Social Media and Informatics Essentials for Toxicologists (Room 147)

1:15 PM–1:05 PM

**Merit Award Lecture**

Neurotoxicology Goes Global: Scientific Collaboration and Mentorship, Lecturer: Michael Aschner (Room 201)

1:00 PM–4:30 PM

**Poster Sessions**

(Exhibit Hall — See Poster Board Surface Map on Pages 104–107)

- Acetaminophen Hepatotoxicity
- Animal Models in Toxicological Research
- Animal Models in Toxicology
- Biological Modeling: Computational Approaches, Mixtures, Multihost and Lifestage Applications
- Children’s Health/Juvenile Toxicology
- Drug Induced Liver Injury
- Immunotoxicity: Methods and Evaluation
- Inhalation and Cardiopulmonary Toxicology
- Kidney

- Mechanisms of Immunotoxicity
- Pharmaceutical Safety Assessment: Therapeutic Agents
- Risk Assessment: Computational Approaches, Analyses, and Applications
- Skin

2:00 PM–4:45 PM

**Symposium Sessions**

- Epigenetics, Metals, and Cancer (Room 151)
- Human Variability in Susceptibility to Environmental Toxicants (Room 207)
- Pulmonary Considerations in the Gulf of Mexico Oil Spill (Room 204)
- Translational Toxicology: Molecules to Global Health (Room 147)
- Vascular Developmental Toxicity: Identification, Prioritization, and Application (Room 206)

**Workshop Sessions**

- Protein Aggregation As a Common Mechanism of Toxicity in Neurodegenerative Diseases (Room 143)
- Technical Characterization and Dosimetry Challenges Associated with Conducting or Interpreting Nanotoxicity (Room 145)
- Understanding Structural and Physical Chemical Drivers of Drug Toxicity: Utility and Translatable Value (Room 144)

**Platform Sessions**

- Advancing Assessment Approaches: Pesticides and Other Key Contaminants (Room 202B)
- Alternative Methods in Developmental Neurotoxicology: Validation and Application (Room 201)
- Biomarkers of Carcinogenesis (Room 202A)

4:35 PM–5:55 PM

**SoT/Eurotox Debate**

Biomarkers from Blood and Urine Will Replace Traditional Histopathological Evaluation to Determine Adverse Responses (Room 150)
Daily Pocket Calendar

For your convenience, please tear out and carry with you. Easily folds to nest within your badge holder. (Calendar as of January 7; private events are not listed.)

Tuesday

Events are listed alphabetically by the event start time.

Events at the Walter E. Washington Convention Center are noted as CC.

6:00 AM to 10:00 PM
Coat/Luggage Check
CC Salon F

6:00 AM to 4:30 PM
Registration
CC East Salon

6:00 AM to 4:30 PM
Speaker Ready Room
CC Room 208

6:15 AM to 6:30 AM
Complimentary Coffee
(For Sunrise Session Attendees)
CC (Outside Sunrise Session Meeting Rooms)

6:30 AM to 7:50 AM
Scientific Sessions (Sunrise)
CC (See Session Index on Pages 97–103 for Room Location)

6:45 AM to 7:45 AM
American Board of Veterinary Toxicology Meeting
Renaissance Meeting Room 14

7:00 AM to 8:00 AM
Awards Committee Meeting
CC Room 303

7:00 AM to 8:30 AM
Education Committee Meeting
CC Room 305

7:00 AM to 7:50 AM
Leading Edge in Basic Science Award Lecture: Roles of Kupfl-Nr2 in Environmental Response, Lecturer: Masayuki Yamamoto
CC Room 201

7:00 AM to 8:30 AM
Regional Chapter Presidents and Officers Meeting
CC Room 103

7:00 AM to 4:30 PM
SOT Office
CC Room 101

7:00 AM to 8:30 AM
Society Section Graduate Committee Meeting
CC Room 142

7:30 AM to 8:30 AM
50th Year Anniversary SOT Task Force Meeting
CC Room 304

7:30 AM to 9:30 AM
Concession Stands
CC First and Second Levels

7:30 AM to 9:00 AM
Poster Set Up (See Poster Board Surface Maps on Pages 104–107)
CC Exhibit Hall

8:00 AM to 6:00 PM
E-mail Center
CC East Salon

8:00 AM to 5:00 PM
Guest/Sponsor Hospitality Room
Renaissance Penn Quarter

8:00 AM to 4:00 PM
Housing Desk
CC East Salon

8:00 AM to 9:00 AM
Keynote Plenary Lecture: Increasing the Prestige of Regulatory Sciences, Lecturer: Margaret Humble, U.S. FDA
CC Grand Ballroom

8:00 AM to 1:00 PM
Tour Desk
CC East Salon

8:30 AM to 4:30 PM
Concession Stands
CC Exhibit Hall

8:30 AM to 4:30 PM
Job Bank Center
CC Room 157

8:30 AM to 4:30 PM
SOT Pavilion
CC Exhibit Hall, Booth 464

8:30 AM to 4:30 PM
ToxExpo® Exhibits Open
CC Exhibit Hall

8:30 AM to 4:30 PM
Wi-Fi Lounges (Wireless Internet Access)
CC Exhibit Hall

9:00 AM to 10:30 AM
Audit Committee Meeting
CC Room 302

9:00 AM to 10:00 AM
Complimentary Coffee
CC Exhibit Hall

9:00 AM to 12:30 PM
Poster Sessions
CC Exhibit Hall

9:00 AM to 4:30 PM
Research Funding Resource Room
CC Room 203

9:00 AM to 11:45 AM
Scientific Sessions
CC (See Session Index on Pages 97–103 for Room Location)

9:15 AM to 10:15 AM
Exhibitor Hosted Session: Celis In Vitro Technologies
CC Room 140B

9:15 AM to 10:15 AM
Exhibitor Hosted Session: Charles River
CC Room 140A

9:15 AM to 10:15 AM
Exhibitor Hosted Session: MPI Research
CC Room 156

10:30 AM to 11:30 AM
Exhibitor Hosted Session: Harlan Laboratories, Inc.
CC Room 140B

10:30 AM to 11:30 AM
Exhibitor Hosted Session: Huntingdon Life Sciences
CC Room 156

10:30 AM to 11:30 AM
Exhibitor Hosted Session: National Toxicology Program
CC Room 140A

10:30 AM to 11:30 AM
ToxLearn Work Group
CC Room 303

11:45 AM to 12:45 PM
Exhibitor Hosted Session: Data Sciences International
CC Room 140B

11:45 AM to 12:45 PM
Exhibitor Hosted Session: Ingenuity Systems, Inc.
CC Room 156

11:45 AM to 12:45 PM
Exhibitor Hosted Session: LAB Research
CC Room 140A

11:45 AM to 1:30 PM
Toxicology Letters Editorial Board Meeting
Renaissance Meeting Room 3

12:00 NOON to 1:30 PM
ASIO Lunch and Learn Program
CC Room 141

12:00 NOON to 1:30 PM
Comparative and Veterinary Specialty Section Meeting/Luncheon
CC Room 149

12:00 NOON to 1:30 PM
Endowment Fund Board Meeting
CC Room 305

12:00 NOON to 1:30 PM
Global Strategy Task Force Meeting
CC Room 306

12:00 NOON to 1:15 PM
New Investigator Luncheon
CC Salon I

12:00 NOON to 1:15 PM
Postdoctoral Assembly Luncheon (Ticket Required)
CC Salon G

12:00 NOON to 1:20 PM
Scientific Sessions
CC (See Session Index on Pages 97–103 for Room Location)

1:30 PM to 2:30 PM
Poster Set Up (See Poster Board Surface Maps on Pages 104–107)
CC Exhibit Hall

1:00 PM to 2:00 PM
Exhibitor Hosted Session: emka TECHNOLOGIES
CC Room 156

1:00 PM to 2:00 PM
Exhibitor Hosted Session: Rutledge Laboratories
CC Room 140A

1:00 PM to 2:00 PM
Exhibitor Hosted Session: Lignocell Laboratories
CC Room 140A

March 8

1:30 PM to 4:15 PM
Scientific Sessions
CC (See Session Index on Pages 97–103 for Room Location)

2:15 PM to 3:15 PM
Exhibitor Hosted Session: Cynotex
Discovery
CC Room 140A

2:15 PM to 3:15 PM
Exhibitor Hosted Session: Instructive Science
CC Room 140E

3:00 PM to 3:15 PM
Exhibitor Hosted Session: Promega Corporation
CC Room 156

3:00 PM to 4:30 PM
Undergraduate Toxicology Faculty Meeting
CC Room 103

3:30 PM to 4:30 PM
Exhibitor Hosted Session: Biopredic Inc
CC Room 156

3:30 PM to 4:30 PM
Exhibitor Hosted Session: Life Technologies
CC Room 140B

4:30 PM to 6:00 PM
50th Anniversary Member Celebration Meeting
(SOT Members Only; Full, Associate, Postdoctoral, and Student Members Invited)
CC Room 207

4:45 PM to 6:00 PM
ToxExpo® 2012 Exhibit Space Selection Meeting
CC Room 156

6:30 PM to 9:30 PM
50th Anniversary Celebration Event (Ticket Required)
CC Grand Ballroom

For up-to-date information at www.toxicology.org

Continued on next page
Daily Pocket Calendar.

Scientific Program Overview by Day & Time

Tuesday

6:30 AM–7:50 AM
Complimentary coffee service is available at 6:15 AM for attendees participating in sunrise sessions.

ROUND TABLE SESSIONS
- Current Uses and Understanding of the Tissue Cross Reactivity Assay (Room 144)
- Risk and Risk Management of Potentially Toxic Compounds Formed by Cooking Food (Room 143)

INFORMATIONAL SESSION
- Emerging Science for Environmental Health Decisions: Tools, Strategies, and Evidence (Room 147)

7:00 AM–7:50 AM
LEADING EDGE IN BASIC SCIENCE AWARD LECTURE
Roles of Keap1-Nrf2 in Environmental Response, Lecturer: Masayuki Yamamoto (Room 201)

8:00 AM–9:00 AM
KEYNOTE PLenary LECTURE
Increasing the Prestige of Regulatory Sciences, Lecturer: Margaret Hamburg, U.S. FDA
(Grand Ballroom)

9:00 AM–11:45 AM
SYMPOSIUM SESSIONS
- Metabolic Basis of Respiratory Tract Chemical Toxicity (Room 206)
- Stem Cell Biology and Cell Therapy Approaches to Understanding Cellular Injury and Wound Healing in Dermal, Ocular, and Pulmonary Injury (Room 202A)
- Uncovering the Role of Non-Coding RNAs in Toxicology (Room 147)

WORKSHOP SESSIONS
- Identification of Chemical Respiratory Allergens: Principles and New Developments (Room 207)
- Safer Products for a Sustainable World: Linking Chemical Design and Toxicology (Room 144)
- Using Mode of Action Data to Guide Quantitative Cancer Risk Assessment: A Case Study of Hexavalent Chromium in Drinking Water (Room 143)

HISTORICAL HIGHLIGHTS SESSION
- 1961 to 2011 and Beyond: The Evolution of Toxicology (Room 150)

REGIONAL INTEREST SESSION
- Bombs in Our Backyards? Historical Military Activities and Current Public Health Issues in the U.S. Capital Region (Room 150)

PLATFORM SESSIONS
- Computational Approaches to Address DILI and Hepatotoxicity (Room 204)
- Epigenetic Mechanisms in Development and Disease (Room 201)
- Gene Regulatory Mechanisms of Carcinogenesis (Room 202B)

9:00 AM–12:30 PM
POSTER SESSIONS
(Exhibit Hall—See Poster Board Surface Map on Pages 104–107)
- Ah Receptor in Immune Regulation and Toxicity
- Alternative Approaches to Animal Testing for Toxicological Research
- Alternative in Vitro and In Silico Models for Testing Cholestasis, Lipid Homeostasis, and Liver Toxicity
- Epidemiology and Exposure Evaluations
- Exposure Assessments and Biomonitoring Applications
- Hepatotoxicity
- ImmunoSafety Methods in Non-Rodents
- Nanotoxicology: Carbon Nanotubes, Carbon Nanoparticles, and Quantum Dots
- Oxidative Stress and Redox Biology
- Reproductive Toxicology I
- Reproductive Toxicology II
- Stem Cell Toxicology

12:00 NOON–1:20 PM
ROUND TABLE SESSION
- Integrating Alternative Test Methods into the Federal Regulatory Framework (Room 143)

INFORMATIONAL SESSIONS
- Coordinating Global Chemical Safety: The Big Four (Room 144)
- Livers on a Plate: Next Generation Hepatocyte Models for High-Throughput Screening and Mode of Action Prediction (Room 147)

12:15 PM–1:05 PM
DISTINGUISHED TOXICOLOGY SCHOLAR AWARD LECTURE
Cloning and Functional Analysis of the Aryl Hydrocarbon Nuclear Translocator (ARNT), Lecturer: Oliver Hankinson (Room 201)

1:00 PM–4:30 PM
POSTER SESSIONS
(Exhibit Hall—See Poster Board Surface Map on Pages 104–107)
- Apoptosis/Cell Death
- Biomarkers to Environmental Exposures
- Developmental Toxicology
- Drug Allergy, Pseudoallergy, IDRH, and Autoimmunity
- Genetic Polymorphisms
- Medical Devices
- Metal Neurotoxicity: Methylmercury and General
- Methods in Biomarker Discovery and Validation
- Mutagenicity
- Nanotoxicology
- Neurotoxicity of Pesticides
- ·omics in Toxicology Research
- Risk Assessment and Regulatory Policy Applications
- Safety and Risk Assessment: Critical Characterizations for Chemicals and New Concerns

March 8

1:30 PM–4:15 PM
SYMPOSIUM SESSIONS
- Developmental Origins of Adult Disease: The Effects of Low Dose Lead (Room 144)
- Does the Clock Make the Poison? Influence of the Circadian Clock on Toxicological Mechanisms and Outcomes (Room 204)
- Macrophages: Regulators of Toxicity and Disease Pathogenesis (Room 143)
- When Is Exposure Not Exposure? Defining the Dose-Response Region between "Effect" and "Adverse Effect" Implications for Human Health Risk Assessment (Room 147)

WORKSHOP SESSIONS
- Nonclinical to Clinical Abuse Liability Assessment of Drugs: Current Practices, Challenges, and Impact of Recent Regulatory Guidance (Room 150)
- Risk Assessment for Proteins Introduced into Genetically Modified Crops (Room 207)
- The Spectrum of Systems Biology (Room 151)

PLATFORM SESSIONS
- Application of Zebrafish Models in Toxicology (Room 202B)
- Chemical and Biological Weapons—Sulfur Mustard Effects (Room 145)
- Nanotoxicology—Nanosilver Particulates (Room 202A)

4:30 PM–6:00 PM
50th Anniversary Member Celebration Meeting (Room 207)

For your convenience, please tear out and carry with you. Easily folds to nest within your badge holder.
(Calendar as of January 7; private events are not listed.)
Daily Pocket Calendar

Wednesday

Events are listed alphabetically by the
event start time.
Events at the Walter E. Washington
Convention Center are noted as CC.

6:00 AM to 6:30 AM 
Complimentary Coffee 
(For Sunrise Session Attendees)
CC First and Second Levels

6:15 AM to 6:30 AM 
ACADEMY OF TOXICOLOGICAL SCIENCES BOARD OF DIRECTORS MEETING 
CC Room 304

6:30 AM to 7:00 AM 
Academy of Toxicological Sciences Board of Directors Meeting
Renaissance Meeting Room 7

6:30 AM to 7:50 AM 
Scientific Sessions (Sunrise) 
CC (See Session Index on Pages 97–103 for Room Location)

7:00 AM to 8:00 AM 
Committee on Diversity Initiatives Meeting 
CC Room 302

7:00 AM to 8:00 AM 
Contemporary Concepts in Toxicology Conference Committee Meeting 
CC Room 304

7:00 AM to 8:00 AM 
SOT Office 
CC Room 101

7:00 AM to 8:30 AM 
Student Advisory Council 
Business Meeting 
CC Room 103

7:00 AM to 8:00 AM 
Toxicology In Vitro Editorial Board Meeting 
Renaissance Meeting Room 3

7:30 AM to 9:30 AM 
Concession Stands 
CC First and Second Levels

7:30 AM to 9:00 AM 
Poster Set-Up (See Poster Board Surface Maps on Pages 104–107) 
CC Exhibit Hall

8:00 AM to 6:00 PM 
E-mail Center 
CC East Salon

8:00 AM to 5:00 PM 
Guest/Spouse Hospitality Room 
Renaissance Penn Quarter

8:00 AM to 2:00 PM 
Housing Desk 
CC East Salon

8:00 AM to 9:00 AM 
Keynote Medical Research Council (MRC) Lecture: Cellular Responses to DNA Damage: New Molecular Insights and New Approaches for Cancer Therapy, 
Lecturer: Stephen P. Jackson, University of Cambridge
CC Grand Ballroom

8:00 AM to 9:30 AM 
Tour Desk 
CC East Salon

8:30 AM to 4:30 PM 
Concession Stands 
CC Exhibit Hall

8:30 AM to 4:30 PM 
Job Bank Center 
CC Room 157

8:30 AM to 4:30 PM 
SOT Pavilion 
CC Exhibit Hall, Booth 464

8:30 AM to 4:30 PM 
ToxExpo® Exhibits Open 
CC Exhibit Hall

8:30 AM to 4:30 PM 
Wi-Fi Lounges (Wireless Internet Access) 
CC Exhibit Hall

9:00 AM to 10:00 AM 
Complimentary Coffee 
CC Exhibit Hall

9:00 AM to 12:30 PM 
Poster Sessions 
CC Exhibit Hall

9:00 AM to 4:30 PM 
Research Funding Resource Room 
CC Room 203

9:00 AM to 11:45 AM 
Scientific Sessions 
CC (See Session Index on Pages 97–103 for Room Location)

9:15 AM to 10:15 AM 
Exhibitor Hosted Session: Charles River 
CC Room 140A

9:15 AM to 10:15 AM 
Exhibitor Hosted Session: Harlan Laboratories, Inc. 
CC Room 140B

9:15 AM to 10:15 AM 
Exhibitor Hosted Session: Huntingdon Life Sciences 
CC Room 156

9:30 AM to 10:30 AM 
Meet the Director, 
Lecturer: Linda Birnbaum, NIEHS 
CC Room 201

10:30 AM to 11:30 AM 
Exhibitor Hosted Session: BioReliance® Corporation 
CC Room 140B

10:30 AM to 11:30 AM 
Exhibitor Hosted Session: InSphero AG 
CC Room 140A

10:30 AM to 11:30 AM 
Exhibitor Hosted Session: MPI Research 
CC Room 156

10:45 AM to 11:45 AM 
Meet the Director, 
Lecturer: John Howard, CDC/NIOSH 
CC Room 201

12:00 NOON to 1:30 PM 
In Vitro and Alternative Methods Specialty Session Meeting/Luncheon 
CC Salon G

12:00 NOON to 1:30 PM 
Journal of Immunotoxicology Editorial Board Meeting 
Renaissance Meeting Room 10

12:00 NOON to 1:00 PM 
Meet the Director, 
Lecturer: Yvonne Muddos, NCHD 
CC Room 201

12:00 NOON to 1:30 PM 
Professional Needs Assessment Task Force Meeting 
CC Room 305

12:00 NOON to 1:30 PM 
Regional Chapter Governance Committee Meeting 
CC Room 304

12:00 NOON to 1:20 PM 
Scientific Sessions 
CC (See Session Index on Pages 97–103 for Room Location)

12:15 PM to 1:05 PM 
Translational Impact Award Lecture: Integration of Bioinformatics into Regulatory Decision Making, 
Lecturer: Weida Tang 
CC Room 151

12:30 PM to 1:00 PM 
Poster Set-Up (See Poster Board Surface Maps on Pages 104–107) 
CC Exhibit Hall

1:00 PM to 2:00 PM 
Exhibitor Hosted Session: Applied BioPhysics, Inc. 
CC Room 140A

1:00 PM to 4:30 PM 
Poster Sessions 
CC Exhibit Hall

1:15 PM to 2:15 PM 
Meet the Director, 
Lecturer: Sy Garte, 
Center for Scientific Review 
CC Room 156

1:30 PM to 4:15 PM 
Scientific Sessions 
CC (See Session Index on Pages 97–103 for Room Location)

2:00 PM to 4:00 PM 
Exhibitor Liaison Working Group 
CC Room 141

2:30 PM to 3:30 PM 
Meet the Director, 
Lecturer: Jesse Goodman, U.S. FDA 
CC Room 201

3:45 PM to 4:45 PM 
Meet the Director, 
Lecturer: Paul Anastas, U.S. EPA (invited) 
CC Room 201

4:30 PM to 6:00 PM 
Board of Publications Meeting 
CC Room 305

4:30 PM to 6:30 PM 
Women in Toxicology Special Interest Group Meeting/Reception 
Renaissance Ballroom West A and B

4:30 PM to 5:50 PM 
Scientific Sessions (Sunset) 
CC (See Session Index on Pages 97–103 for Room Location)

5:00 PM to 6:30 PM 
Michigan Regional Chapter Reception 
(Happy Hour/Social Gathering) 
TBD

March 9

6:00 PM to 7:30 PM 
Biological Modeling Specialty Section Meeting/Reception 
CC Room 149

6:00 PM to 7:30 PM 
Drug Discovery Toxicology Specialty Section Meeting/Reception 
CC Room 103

6:00 PM to 7:30 PM 
Ethical, Legal, and Social Issues Specialty Section Meeting/Reception 
CC Room 102

6:00 PM to 7:30 PM 
Immunotoxicology Specialty Section Meeting/Reception 
CC Room 140A

6:00 PM to 7:30 PM 
Reproductive and Developmental Toxicology Specialty Section Meeting/Reception 
CC Salon G

6:30 PM to 8:30 PM 
Kettering Laboratory Reception—University of Cincinnati 
Renaissance Meeting Room 2

7:00 PM to 8:30 PM 
President’s Reception (By Invitation Only) 
Renaissance Grand Ballroom Central

8:00 PM to 10:00 PM 
Academy of Toxicological Sciences Reception 
Renaissance Congressional Ballroom

For your convenience, please tear out and carry with you. Easily folds to nest within your badge holder.
(Calendar as of January 7; private events are not listed.)

up-to-date information at www.toxicology.org
Daily Pocket Calendar.

Scientific Program Overview by Day & Time

Wednesday

9:00 AM–12:30 PM
POSTER SESSIONS
(Exhibit Hall—See Poster Board Surface Map on Pages 104–107)
- Arsenic
- Chemical and Biological Weapons
- Metal Neurotoxicity: Manganese and Lead
- Nanotoxicology: Metal Oxides, Silver, Gold, and Silica Nanoparticle Toxicity
- Pesticides: General
- Pharmaceutical Safety Assessment: Novel Methods
- Phase I and II Biotransformation Enzymes
- Risk Assessment: Conceptual Constructs and Current Controversies
- Safety Testing of Pharmaceuticals
- Toxicology Education: K–12 and Beyond
- Xenobiotic Biotransformation

3:30 PM–4:30 PM
POSTER SESSIONS
(Exhibit Hall—See Poster Board Surface Map on Pages 104–107)
- Aquatic and Ecotoxicology
- Cellular Effects of Natural Product Extracts
- Developmental Basis of Adult Disease
- Endocrine Toxicology
- Food Safety and Nutrition
- Mechanisms of Aspiration Injury and Airway Disease
- Mechanistic Assessments of Chemical Mixtures
- Nanotoxicology: In Vitro and Ex Vivo Studies
- Persistent Organic Compounds (POPs)
- Pharmacokinetics and Disposition
- Risk Assessment: Models and Approaches for Inhaled Agents
- Toxicology of the Gulf Oil Spill

1:15 PM–2:15 PM
MEET THE DIRECTOR
Center for Scientific Review Director,
Lecturer: Sy Garie, Center for Scientific Review
(Room 201)

March 9

1:30 PM–4:15 PM
SYMPOSIUM SESSIONS
- Autophagy in Toxicology: Essential Process, Adaptive Process, and Disease Process
  (Room 147)
- Human Pluripotent Stem Cells and Neural Progenitors As Models of Gene-Environment Interactions in Neurological Disease
  (Room 150)
- The Use of Epidemiological Data and PBPK Modeling in a Risk Assessment: Manganese As a Case Study
  (Room 145)

WORKSHOP SESSIONS
- Advancing Predictive Ecotoxicology Testing and Environmental Risk Assessment in the 21st Century
  (Room 144)
- De-Risking the Potential for Cardiovascular Toxicity of Type-2 Diabetic Drugs: Preclinical and Clinical Strategies
  (Room 204)
- Meeting the Challenges of Respiratory Toxicology Testing—In Search of Best Practices
  (Room 206)
- Polishing Today’s Job Candidate in a Tough Economy
  (Room 202A)

PLATFORM SESSIONS
- Airborne Particulates and Health Effects
  (Room 143)
- Nrf2 and Antioxidant Response Networks
  (Room 202B)

2:30 PM–3:30 PM
MEET THE DIRECTOR
U.S. FDA Director, Lecturer: Jesse Goodman,
U.S. FDA (Room 201)

3:45 PM–4:45 PM
MEET THE DIRECTOR
U.S. EPA Director, Lecturer: Paul Anastas,
U.S. EPA (invited) (Room 201)

4:30 PM–5:50 PM
ROUNDTABLE SESSION
- Assessment of Nanoparticle Exposure in Occupational Settings and in Inhalation Toxicology Studies: Is There a Dosemetric to Use?
  (Room 144)

INFORMATIONAL SESSIONS
- Progress of the Tox21 Consortium in High-Throughput Bioactivity Profiling of Chemicals
  (Room 143)
- Toxicological Considerations of Pharmacotherapy during Pregnancy
  (Room 145)

For your convenience, please tear out and carry with you. Easily folds to nest within your badge holder.
(Calendar as of January 7; private events are not listed.)
Daily Pocket Calendar

For your convenience, please tear out and carry with you. Easily folds to nest within your badge holder.
(Calendar as of January 7; private events are not listed.)

Thursday

Events are listed alphabetically by the event start time.
Events at the Walter E. Washington Convention Center are noted as CC.
6:00 AM to 1:00 PM Coat/Luggage Check
CC Salon F
6:00 AM to 11:30 AM Registration
CC East Salon
6:00 AM to 11:30 AM Speaker Ready Room
CC Room 208
6:15 AM to 6:30 AM Complimentary Coffee
(For Sunrise Session Attendees)
CC (Outside Sunrise Session Meeting Rooms)
6:30 AM to 7:50 AM Scientific Sessions (Sunrise)
CC (See Session Index on Pages 97–103 for Room Location)
7:00 AM to 8:00 AM Poster Set Up (See Poster Board Surface Maps on Pages 104–107)
CC East Salon & Room 202
7:00 AM to 11:30 AM SOT Office
CC Room 101
7:30 AM to 12:00 NOON Scientific Sessions
Concession Stands
CC First and Second Levels
8:00 AM to 11:30 AM E-mail Center
CC East Salon
8:00 AM to 11:30 AM Guest/Spouse Hospitality Room
Renaissance Penn Quarter
8:00 AM to 9:00 AM Keynote Plenary Lecture: U.S. EPA Vision,
Lecturer: Lisa Jackson, U.S. EPA (invited)
CC Ballroom C
8:00 AM to 12:00 NOON ToxExpo™ Tear Down
CC Exhibit Hall
8:30 AM to 12:00 NOON Poster Sessions
CC East Salon & Room 202
9:00 AM to 11:45 AM Scientific Sessions
CC (See Session Index on Pages 97–103 for Room Location)
11:00 AM to 1:00 PM Research Funding Committee Meeting
CC Room 302
12:00 NOON to 1:30 PM Scientific Program Committee Meeting
CC Room 303

Scientific Program Overview by Day & Time

Thursday

6:30 AM–7:50 AM
Scientific Sessions (Sunrise)
CC (See Session Index on Pages 97–103 for Room Location)
7:00 AM to 8:00 AM Poster Set Up (See Poster Board Surface Maps on Pages 104–107)
CC East Salon & Room 202
7:00 AM to 11:30 AM SOT Office
CC Room 101
7:30 AM to 12:00 NOON Scientific Sessions
Concession Stands
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Renaissance Penn Quarter
8:00 AM to 9:00 AM Keynote Plenary Lecture: U.S. EPA Vision,
Lecturer: Lisa Jackson, U.S. EPA (invited)
CC Ballroom C
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CC Exhibit Hall
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CC East Salon & Room 202
9:00 AM to 11:45 AM Scientific Sessions
CC (See Session Index on Pages 97–103 for Room Location)
11:00 AM to 1:00 PM Research Funding Committee Meeting
CC Room 302
12:00 NOON to 1:30 PM Scientific Program Committee Meeting
CC Room 303

March 10

6:30 AM–7:50 AM
Scientific Sessions (Sunrise)
CC (See Session Index on Pages 97–103 for Room Location)
7:00 AM to 8:00 AM Poster Set Up (See Poster Board Surface Maps on Pages 104–107)
CC East Salon & Room 202
7:00 AM to 11:30 AM SOT Office
CC Room 101
7:30 AM to 12:00 NOON Scientific Sessions
Concession Stands
CC First and Second Levels
8:00 AM to 11:30 AM E-mail Center
CC East Salon
8:00 AM to 11:30 AM Guest/Spouse Hospitality Room
Renaissance Penn Quarter
8:00 AM to 9:00 AM Keynote Plenary Lecture: U.S. EPA Vision,
Lecturer: Lisa Jackson, U.S. EPA (invited)
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8:00 AM to 12:00 NOON ToxExpo™ Tear Down
CC Exhibit Hall
8:30 AM to 12:00 NOON Poster Sessions
CC East Salon & Room 202
9:00 AM to 11:45 AM Scientific Sessions
CC (See Session Index on Pages 97–103 for Room Location)
11:00 AM to 1:00 PM Research Funding Committee Meeting
CC Room 302
12:00 NOON to 1:30 PM Scientific Program Committee Meeting
CC Room 303

WORKSHOP SESSIONS

• Are We There Yet? Attrition in the Pharmaceutical Industry and Impactful Strategies for Reducing Failure (Room 151)
• Autoimmunity versus Systemic Hypersensitivity: Commonalities Useful for Immunotoxicity Testing (Room 201)
• PBPK Model Use in Risk Assessment: Why Being Published Is Not Enough (Room 145)
• Role of Biomarkers in Assessing Tobacco Harm Reduction: A Toxicological Perspective (Room 144)

March 10

*Late Breaking and Grace Period Abstracts accepted for presentation were not available for this publication. These abstracts will be available on-line through the Itinerary Planner and as separate printed supplement.

ToxExchange

It’s YOUR Network. Be a part of it.
Go to the SOT Pavilion for on-site information.
For on-line information, go to www.toxchange.org.

up-to-date information at www.toxicology.org
SOT Pavilion

Make the SOT Pavilion your meeting place on the exhibit floor. Stop by to see special presentations and to...

- Obtain Information about SOT Membership
- Support the SOT Endowment
- Connect with SOT Volunteers
- Learn More about SOT Regional Chapter, Specialty Section, and Special Interest Group Activities
- Share and Discuss Communication Tips
- Visit High School Research Posters
- Learn about Outreach Materials for Animals in Research
- Public Outreach
- Regulatory and Legislative Initiatives

The SOT Pavilion is your connection to key resources and people in toxicology.

Visit the SOT Pavilion in the Exhibit Hall...

Learn all about ToXchange exciting new SOT member resource and how you can—

- Create a customized SOT member My Page you can update on-line 24/7
- Search for and find other SOT members based on their profile information
- Be found by other SOT members based on YOUR profile information
- Communicate with YOUR SOT peers with easy-to-use, secure networking tools

ToXchange

It’s YOUR Network. Be a part of it.

For on-line information, go to www.toXchange.org.
<table>
<thead>
<tr>
<th>Event:</th>
<th>Date:</th>
<th>Time:</th>
<th>Location:</th>
<th>Room:</th>
</tr>
</thead>
<tbody>
<tr>
<td>25-Year (or More) Member Reception <em>(By Invitation Only)</em></td>
<td>Sunday, Mar 6</td>
<td>6:30 PM to 7:30 PM</td>
<td>Convention Center</td>
<td>Room 103</td>
</tr>
<tr>
<td>50th Anniversary Celebration Event <em>(Ticket Required)</em></td>
<td>Tuesday, Mar 8</td>
<td>6:30 PM to 9:30 PM</td>
<td>Convention Center</td>
<td>Grand Ballroom</td>
</tr>
<tr>
<td>50th Anniversary Member Celebration Meeting <em>(SOT Members Only; Full, Associate, Postdoctoral, and Student Members Invited)</em></td>
<td>Tuesday, Mar 8</td>
<td>4:30 PM to 6:00 PM</td>
<td>Convention Center</td>
<td>Room 207</td>
</tr>
<tr>
<td>50th Anniversary Silent Auction</td>
<td>Monday, Mar 7</td>
<td>4:45 PM to 5:45 PM</td>
<td>Convention Center</td>
<td>East Salon</td>
</tr>
<tr>
<td>50th Year Anniversary SOT Task Force Meeting</td>
<td>Tuesday, Mar 8</td>
<td>7:30 AM to 8:30 AM</td>
<td>Convention Center</td>
<td>Room 304</td>
</tr>
</tbody>
</table>

**A**

- AACT Distinguished Chinese Toxicologist Lectureship: Oxidative Stress and Metal Carcinogenesis, Lecturer: Xianglin Shi | Monday, Mar 7 | 5:00 PM to 6:00 PM | Renaissance | Grand Ballroom South |
- Academy of Toxicological Sciences Board of Directors Meeting        | Wednesday, Mar 9 | 6:30 AM to 7:30 AM | Renaissance | Meeting Room 7 |
- Academy of Toxicological Sciences Reception                          | Wednesday, Mar 9 | 8:00 PM to 10:00 PM | Renaissance | Congressional Ballroom |
- Alliance for Risk Assessment (ARA) Open Meeting/Lunch                | Sunday, Mar 6  | 12:15 PM to 1:15 PM | Renaissance | Meeting Room 14 |
- American Association of Chinese in Toxicology Special Interest Group Meeting/Reception | Monday, Mar 7 | 6:00 PM to 8:00 PM | Renaissance | Grand Ballroom South |
- American Board of Toxicology Board of Directors Meeting             | Saturday, Mar 5 | 1:00 PM to 6:00 PM | Renaissance | Meeting Room 7 |
- American Board of Toxicology Open Mixer Meeting                     | Monday, Mar 7 | 4:30 PM to 6:00 PM | Renaissance | Congressional A |
- American Board of Veterinary Toxicology Meeting                      | Tuesday, Mar 8 | 6:45 AM to 7:45 AM | Renaissance | Meeting Room 14 |
- Arizona Night                                                        | Sunday, Mar 6  | 7:30 PM to 10:00 PM | Renaissance | Ballroom West B |
- ASIO Lunch and Learn Program                                          | Tuesday, Mar 8 | 12:00 NOON to 1:30 PM | Convention Center | Room 141 |
- Association of Scientists of Indian Origin Special Interest Group Meeting/Reception | Monday, Mar 7 | 6:00 PM to 7:30 PM | Convention Center | Salon H |
- Audit Committee Meeting                                               | Tuesday, Mar 8 | 9:00 AM to 10:30 AM | Convention Center | Room 302 |
- Awards Ceremony *(All Attendees Welcome)*                            | Sunday, Mar 6  | 5:15 PM to 6:30 PM | Convention Center | Room 207 |
- Awards Ceremony Music—Performed by Gail Shanta, Harpist              | Sunday, Mar 6  | 4:45 PM to 5:15 PM | Convention Center | Room 207 |
- Awards Committee Meeting                                              | Tuesday, Mar 8 | 7:00 AM to 8:00 AM | Convention Center | Room 303 |
- Awards Recipients Photographed                                         | Sunday, Mar 6  | 4:00 PM to 5:15 PM | Convention Center | Room 206 |

**B**

- Biological Modeling Specialty Section Meeting/Reception             | Wednesday, Mar 9 | 6:00 PM to 7:30 PM | Convention Center | Room 149 |
- Biotechnology Specialty Section Meeting/Reception                   | Monday, Mar 7 | 6:00 PM to 7:30 PM | Convention Center | Room 140B |
- Board of Publications Meeting                                        | Wednesday, Mar 9 | 4:30 PM to 6:00 PM | Convention Center | Room 305 |
- Board of Publications *ToxSci* Editor Interviews                    | Monday, Mar 7 | 12:00 NOON to 5:00 PM | Convention Center | Room 303 |

**C**

- Carcinogenesis Specialty Section Meeting/Reception                  | Sunday, Mar 6  | 6:30 PM to 8:00 PM | Convention Center | Room 146A |
- Carcinogenesis Specialty Section Officers Meeting                   | Monday, Mar 7 | 6:30 AM to 8:00 AM | Convention Center | Salon G |
- Cardiovascular Toxicology Specialty Section Meeting/Reception        | Monday, Mar 7 | 6:00 PM to 7:30 PM | Convention Center | Room 102 |
- Career Resource and Development Committee Meeting                   | Sunday, Mar 6  | 7:30 AM to 9:30 AM | Convention Center | Room 301 |
- CDI Reunion *(Networking and Dessert—Invited: Anyone involved with the SOT Undergraduate Education Program through the years)* | Saturday, Mar 5 | 8:00 PM to 9:00 PM | Convention Center | Room 103 |
- Central States Regional Chapter Meeting/Luncheon                     | Monday, Mar 7 | 12:00 NOON to 2:00 PM | Embassy Suites | Capital Ballroom B |
- Coat/Luggage Check                                                    | Sunday, Mar 6  | 7:00 AM to 8:00 PM | Convention Center | Salon F |
- Coat/Luggage Check                                                    | Monday, Mar 7 | 7:00 AM to 8:00 PM | Convention Center | Salon F |
- Coat/Luggage Check                                                    | Tuesday, Mar 8 | 6:00 AM to 10:00 PM | Convention Center | Salon F |
- Coat/Luggage Check                                                    | Wednesday, Mar 9 | 6:00 AM to 8:00 PM | Convention Center | Salon F |
- Coat/Luggage Check                                                    | Thursday, Mar 10 | 6:00 AM to 1:00 PM | Convention Center | Salon F |
Schedule by Event Name (Continued)

<table>
<thead>
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<th>Location:</th>
<th>Room:</th>
</tr>
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<tbody>
<tr>
<td>Committee on Diversity Initiatives Meeting</td>
<td>Wednesday, Mar 9</td>
<td>7:00 AM to 8:30 AM</td>
<td>Convention Center</td>
<td>Room 302</td>
</tr>
<tr>
<td>Communications Committee Meeting</td>
<td>Monday, Mar 7</td>
<td>11:30 AM to 2:30 PM</td>
<td>Convention Center</td>
<td>Room 303</td>
</tr>
<tr>
<td>Comparative and Veterinary Specialty Section Meeting/ Luncheon</td>
<td>Tuesday, Mar 8</td>
<td>12:00 NOON to 1:30 PM</td>
<td>Convention Center</td>
<td>Room 149</td>
</tr>
<tr>
<td>Complimentary Coffee</td>
<td>Monday, Mar 7</td>
<td>9:00 AM to 10:00 AM</td>
<td>Convention Center</td>
<td>Room 302</td>
</tr>
<tr>
<td>Complimentary Coffee (For Sunrise Session Attendees)</td>
<td>Tuesday, Mar 8</td>
<td>6:15 AM to 6:30 AM</td>
<td>Convention Center</td>
<td>Room 302</td>
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<td>Complimentary Coffee</td>
<td>Wednesday, Mar 9</td>
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<td>Convention Center</td>
<td>Room 302</td>
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<td>Complimentary Coffee (For Sunrise Session Attendees)</td>
<td>Thursday, Mar 10</td>
<td>6:15 AM to 6:30 AM</td>
<td>Convention Center</td>
<td>Room 302</td>
</tr>
<tr>
<td>Concession Stands</td>
<td>Sunday, Mar 6</td>
<td>7:30 AM to 2:30 PM</td>
<td>Convention Center</td>
<td>First and Second Levels</td>
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<tr>
<td>Concession Stands</td>
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<td>Room 302</td>
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<td>Tuesday, Mar 8</td>
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<td>Convention Center</td>
<td>Room 302</td>
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<td>Concession Stands</td>
<td>Wednesday, Mar 9</td>
<td>7:30 AM to 9:30 AM</td>
<td>Convention Center</td>
<td>Room 302</td>
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<td>Concession Stands</td>
<td>Wednesday, Mar 9</td>
<td>8:30 AM to 4:30 PM</td>
<td>Convention Center</td>
<td>Room 302</td>
</tr>
<tr>
<td>Concession Stands</td>
<td>Thursday, Mar 10</td>
<td>7:30 AM to 12:00 NOON</td>
<td>Convention Center</td>
<td>Room 302</td>
</tr>
<tr>
<td>Congressional Task Force Meeting</td>
<td>Sunday, Mar 6</td>
<td>3:00 PM to 5:00 PM</td>
<td>Convention Center</td>
<td>Room 302</td>
</tr>
<tr>
<td>Contemporary Concepts in Toxicology Conference Committee</td>
<td>Wednesday, Mar 9</td>
<td>7:00 AM to 8:00 AM</td>
<td>Convention Center</td>
<td>Room 302</td>
</tr>
<tr>
<td>Continuing Education Sunrise Mini-Course (Ticket Required)</td>
<td>Sunday, Mar 6</td>
<td>7:00 AM to 7:45 AM</td>
<td>Convention Center</td>
<td>Room 302</td>
</tr>
<tr>
<td>Continuing Education Morning Courses (Ticket Required)</td>
<td>Sunday, Mar 6</td>
<td>8:15 AM to 12:00 NOON</td>
<td>Convention Center</td>
<td>Room 302</td>
</tr>
<tr>
<td>Continuing Education Afternoon Courses (Ticket Required)</td>
<td>Sunday, Mar 6</td>
<td>1:15 PM to 5:00 PM</td>
<td>Convention Center</td>
<td>Room 302</td>
</tr>
<tr>
<td>Continuing Education Committee Meeting</td>
<td>Monday, Mar 7</td>
<td>12:00 NOON to 1:30 PM</td>
<td>Convention Center</td>
<td>Room 302</td>
</tr>
<tr>
<td>Continuing Education Committee Walk-Through</td>
<td>Saturday, Mar 5</td>
<td>5:00 PM to 5:45 PM</td>
<td>Convention Center</td>
<td>Room 201</td>
</tr>
<tr>
<td>Continuing Education Luncheon for Speakers, Committee, and</td>
<td>Sunday, Mar 6</td>
<td>11:45 AM to 1:15 PM</td>
<td>Convention Center</td>
<td>Room 146A</td>
</tr>
<tr>
<td>Student Volunteers (By Invitation Only)</td>
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</tr>
<tr>
<td>Conversation with Dr. Collins (Ticket Required; Postdoctoral</td>
<td>Monday, Mar 7</td>
<td>9:30 AM to 10:30 AM</td>
<td>Convention Center</td>
<td>Room 304</td>
</tr>
<tr>
<td>Scholars only, limited seating)</td>
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</tr>
<tr>
<td>Council Meeting</td>
<td>Saturday, Mar 5</td>
<td>1:00 PM to 5:30 PM</td>
<td>Renaissance</td>
<td>Meeting Room 13</td>
</tr>
<tr>
<td>Council Orientation Luncheon</td>
<td>Saturday, Mar 5</td>
<td>11:30 AM to 1:00 PM</td>
<td>Renaissance</td>
<td>Meeting Room 14</td>
</tr>
<tr>
<td>Council Orientation Meeting</td>
<td>Saturday, Mar 5</td>
<td>8:00 AM to 11:30 AM</td>
<td>Renaissance</td>
<td>Meeting Room 14</td>
</tr>
<tr>
<td>Dermal Toxicology Specialty Section Meeting/Reception</td>
<td>Sunday, Mar 6</td>
<td>6:30 PM to 8:00 PM</td>
<td>Convention Center</td>
<td>Room 203</td>
</tr>
<tr>
<td>Dermal Toxicology Specialty Section Officers Meeting</td>
<td>Sunday, Mar 6</td>
<td>4:00 PM to 6:00 PM</td>
<td>Convention Center</td>
<td>Room 203</td>
</tr>
<tr>
<td>Disease Prevention Task Force Meeting</td>
<td>Monday, Mar 7</td>
<td>12:00 NOON to 1:30 PM</td>
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(Schedule as of January 7: private events are not listed.)
## Schedule by Event Name (Continued)

(Schedule as of January 7; private events are not listed.)

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<tr>
<td>Distinguished Toxicology Scholar Award Lecture: Cloning and Functional Analysis of the Aryl Hydrocarbon Nuclear Translocator (ARNT), Lecturer: Oliver Hankinson</td>
<td>Tuesday, Mar 8</td>
<td>12:15 PM to 1:05 PM</td>
<td>Convention Center</td>
<td>Room 201</td>
</tr>
<tr>
<td>Drug Discovery Toxicology Specialty Section Meeting/Reception</td>
<td>Wednesday, Mar 9</td>
<td>6:00 PM to 7:30 PM</td>
<td>Convention Center</td>
<td>Room 103</td>
</tr>
<tr>
<td>E-mail Center</td>
<td>Saturday, Mar 5</td>
<td>4:00 PM to 7:00 PM</td>
<td>Convention Center</td>
<td>East Salon</td>
</tr>
<tr>
<td>E-mail Center</td>
<td>Sunday, Mar 6</td>
<td>7:00 AM to 6:00 PM</td>
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<td>E-mail Center</td>
<td>Monday, Mar 7</td>
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<tr>
<td>E-mail Center</td>
<td>Tuesday, Mar 8</td>
<td>8:00 AM to 6:00 PM</td>
<td>Convention Center</td>
<td>East Salon</td>
</tr>
<tr>
<td>E-mail Center</td>
<td>Wednesday, Mar 9</td>
<td>8:00 AM to 6:00 PM</td>
<td>Convention Center</td>
<td>East Salon</td>
</tr>
<tr>
<td>E-mail Center</td>
<td>Thursday, Mar 10</td>
<td>8:00 AM to 11:30 AM</td>
<td>Convention Center</td>
<td>East Salon</td>
</tr>
<tr>
<td>Education Committee Meeting</td>
<td>Tuesday, Mar 8</td>
<td>7:00 AM to 8:30 AM</td>
<td>Convention Center</td>
<td>Room 305</td>
</tr>
<tr>
<td>Elsevier Reception</td>
<td>Monday, Mar 7</td>
<td>5:00 PM to 7:00 PM</td>
<td>Renaissance</td>
<td>Meeting Room 12</td>
</tr>
<tr>
<td>Endowment Fund Board Meeting</td>
<td>Tuesday, Mar 8</td>
<td>12:00 NOON to 1:30 PM</td>
<td>Convention Center</td>
<td>Room 305</td>
</tr>
<tr>
<td>Ethical, Legal, and Social Issues Specialty Section Meeting/Reception</td>
<td>Wednesday, Mar 9</td>
<td>6:00 PM to 7:30 PM</td>
<td>Convention Center</td>
<td>Room 156</td>
</tr>
<tr>
<td>Exhibitor Hosted Session: Applied BioPhysics, Inc.</td>
<td>Wednesday, Mar 9</td>
<td>1:00 PM to 2:00 PM</td>
<td>Convention Center</td>
<td>Room 140A</td>
</tr>
<tr>
<td>Exhibitor Hosted Session: Biopredic Inc</td>
<td>Tuesday, Mar 8</td>
<td>3:30 PM to 4:30 PM</td>
<td>Convention Center</td>
<td>Room 156</td>
</tr>
<tr>
<td>Exhibitor Hosted Session: BioReliance® Corporation</td>
<td>Wednesday, Mar 9</td>
<td>10:30 AM to 11:30 AM</td>
<td>Convention Center</td>
<td>Room 140B</td>
</tr>
<tr>
<td>Exhibitor Hosted Session: Celsis In Vitro Technologies</td>
<td>Tuesday, Mar 8</td>
<td>9:15 AM to 10:15 AM</td>
<td>Convention Center</td>
<td>Room 140B</td>
</tr>
<tr>
<td>Exhibitor Hosted Session: Charles River</td>
<td>Monday, Mar 7</td>
<td>9:15 AM to 10:15 AM</td>
<td>Convention Center</td>
<td>Room 140A</td>
</tr>
<tr>
<td>Exhibitor Hosted Session: Charles River</td>
<td>Tuesday, Mar 8</td>
<td>9:15 AM to 10:15 AM</td>
<td>Convention Center</td>
<td>Room 140A</td>
</tr>
<tr>
<td>Exhibitor Hosted Session: Cyprotex Discovery</td>
<td>Tuesday, Mar 8</td>
<td>9:15 AM to 10:15 AM</td>
<td>Convention Center</td>
<td>Room 140A</td>
</tr>
<tr>
<td>Exhibitor Hosted Session: Data Sciences International</td>
<td>Tuesday, Mar 8</td>
<td>11:45 AM to 12:45 PM</td>
<td>Convention Center</td>
<td>Room 140B</td>
</tr>
<tr>
<td>Exhibitor Hosted Session: Ellegaard Göttingen Minipigs A/S</td>
<td>Tuesday, Mar 8</td>
<td>3:30 PM to 4:30 PM</td>
<td>Convention Center</td>
<td>Room 140A</td>
</tr>
<tr>
<td>Exhibitor Hosted Session: emka TECHNOLOGIES</td>
<td>Tuesday, Mar 8</td>
<td>1:00 PM to 2:00 PM</td>
<td>Convention Center</td>
<td>Room 156</td>
</tr>
<tr>
<td>Exhibitor Hosted Session: GeneGo, Inc., a Thomson Reuters Business</td>
<td>Wednesday, Mar 9</td>
<td>11:45 AM to 12:45 PM</td>
<td>Convention Center</td>
<td>Room 140A</td>
</tr>
<tr>
<td>Exhibitor Hosted Session: Harlan Laboratories, Inc.</td>
<td>Monday, Mar 7</td>
<td>10:30 AM to 11:30 AM</td>
<td>Convention Center</td>
<td>Room 140B</td>
</tr>
<tr>
<td>Exhibitor Hosted Session: Harlan Laboratories, Inc.</td>
<td>Tuesday, Mar 8</td>
<td>10:30 AM to 11:30 AM</td>
<td>Convention Center</td>
<td>Room 140B</td>
</tr>
<tr>
<td>Exhibitor Hosted Session: Harlan Laboratories, Inc.</td>
<td>Wednesday, Mar 9</td>
<td>9:15 AM to 10:15 AM</td>
<td>Convention Center</td>
<td>Room 140B</td>
</tr>
<tr>
<td>Exhibitor Hosted Session: Huntingdon Life Sciences</td>
<td>Monday, Mar 7</td>
<td>10:30 AM to 11:30 AM</td>
<td>Convention Center</td>
<td>Room 156</td>
</tr>
<tr>
<td>Exhibitor Hosted Session: Huntingdon Life Sciences</td>
<td>Tuesday, Mar 8</td>
<td>10:30 AM to 11:30 AM</td>
<td>Convention Center</td>
<td>Room 156</td>
</tr>
<tr>
<td>Exhibitor Hosted Session: Huntingdon Life Sciences</td>
<td>Wednesday, Mar 9</td>
<td>9:15 AM to 10:15 AM</td>
<td>Convention Center</td>
<td>Room 156</td>
</tr>
<tr>
<td>Exhibitor Hosted Session: In Vitro ADMET Laboratories, LLC (IVAL)</td>
<td>Monday, Mar 7</td>
<td>3:30 PM to 4:30 PM</td>
<td>Convention Center</td>
<td>Room 140A</td>
</tr>
<tr>
<td>Exhibitor Hosted Session: Ingenuity Systems, Inc.</td>
<td>Tuesday, Mar 8</td>
<td>11:45 AM to 12:45 PM</td>
<td>Convention Center</td>
<td>Room 156</td>
</tr>
<tr>
<td>Exhibitor Hosted Session: InSphero AG</td>
<td>Wednesday, Mar 9</td>
<td>10:30 AM to 11:30 AM</td>
<td>Convention Center</td>
<td>Room 140A</td>
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<tr>
<td>Exhibitor Hosted Session: Instech Solomon</td>
<td>Tuesday, Mar 8</td>
<td>2:15 PM to 3:15 PM</td>
<td>Convention Center</td>
<td>Room 140B</td>
</tr>
<tr>
<td>Exhibitor Hosted Session: LAB Research</td>
<td>Tuesday, Mar 8</td>
<td>11:45 AM to 12:45 PM</td>
<td>Convention Center</td>
<td>Room 140A</td>
</tr>
<tr>
<td>Exhibitor Hosted Session: Life Technologies</td>
<td>Tuesday, Mar 8</td>
<td>3:30 PM to 4:30 PM</td>
<td>Convention Center</td>
<td>Room 140B</td>
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<tr>
<td>Exhibitor Hosted Session: MPI Research</td>
<td>Monday, Mar 7</td>
<td>9:15 AM to 10:15 AM</td>
<td>Convention Center</td>
<td>Room 156</td>
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<tr>
<td>Exhibitor Hosted Session: MPI Research</td>
<td>Tuesday, Mar 8</td>
<td>9:15 AM to 10:15 AM</td>
<td>Convention Center</td>
<td>Room 156</td>
</tr>
<tr>
<td>Exhibitor Hosted Session: MPI Research</td>
<td>Wednesday, Mar 9</td>
<td>10:30 AM to 11:30 AM</td>
<td>Convention Center</td>
<td>Room 156</td>
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</table>
### Schedule by Event Name (Continued)

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
<th>Time</th>
<th>Location:</th>
<th>Room:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exhibitor Hosted Session: National Toxicology Program</td>
<td>Tuesday, Mar 8</td>
<td>10:30 AM to 11:30 AM</td>
<td>Convention Center</td>
<td>Room 140A</td>
</tr>
<tr>
<td>Exhibitor Hosted Session: Porsolt &amp; Partners Pharmacology</td>
<td>Monday, Mar 7</td>
<td>11:45 AM to 12:45 PM</td>
<td>Convention Center</td>
<td>Room 140A</td>
</tr>
<tr>
<td>Exhibitor Hosted Session: Promega Corporation</td>
<td>Tuesday, Mar 8</td>
<td>2:15 PM to 3:15 PM</td>
<td>Convention Center</td>
<td>Room 156</td>
</tr>
<tr>
<td>Exhibitor Hosted Session: RTC Research Toxicology Centre</td>
<td>Tuesday, Mar 8</td>
<td>1:00 PM to 2:00 PM</td>
<td>Convention Center</td>
<td>Room 140B</td>
</tr>
<tr>
<td>Exhibitor Hosted Session: Rules-Based Medicine</td>
<td>Monday, Mar 7</td>
<td>11:45 AM to 12:45 PM</td>
<td>Convention Center</td>
<td>Room 156</td>
</tr>
<tr>
<td>Exhibitor Hosted Session: Sigma Life Science</td>
<td>Monday, Mar 7</td>
<td>11:45 AM to 12:45 PM</td>
<td>Convention Center</td>
<td>Room 140B</td>
</tr>
<tr>
<td>Exhibitor Hosted Session: SNBL USA, Ltd.</td>
<td>Monday, Mar 7</td>
<td>2:15 PM to 3:15 PM</td>
<td>Convention Center</td>
<td>Room 140B</td>
</tr>
<tr>
<td>Exhibitor Hosted Session: STEMCELL Technologies, Inc.</td>
<td>Monday, Mar 7</td>
<td>2:15 PM to 3:15 PM</td>
<td>Convention Center</td>
<td>Room 156</td>
</tr>
<tr>
<td>Exhibitor Hosted Session: Taconic</td>
<td>Wednesday, Mar 9</td>
<td>11:45 AM to 12:45 PM</td>
<td>Convention Center</td>
<td>Room 140B</td>
</tr>
<tr>
<td>Exhibitor Hosted Session: U.S. Environmental Protection Agency</td>
<td>Monday, Mar 7</td>
<td>3:30 PM to 4:30 PM</td>
<td>Convention Center</td>
<td>Room 140B</td>
</tr>
<tr>
<td>Exhibitor Hosted Session: WIL Research Laboratories</td>
<td>Monday, Mar 7</td>
<td>2:15 PM to 3:15 PM</td>
<td>Convention Center</td>
<td>Room 140A</td>
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<tr>
<td>Exhibitor Hosted Session: WIL Research Laboratories</td>
<td>Tuesday, Mar 8</td>
<td>1:00 PM to 2:00 PM</td>
<td>Convention Center</td>
<td>Room 140A</td>
</tr>
<tr>
<td>Exhibitor Liaison Working Group</td>
<td>Wednesday, Mar 9</td>
<td>2:00 PM to 4:00 PM</td>
<td>Convention Center</td>
<td>Room 141</td>
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<tr>
<td>Finance Committee Meeting</td>
<td>Wednesday, Mar 9</td>
<td>11:30 AM to 1:30 PM</td>
<td>Convention Center</td>
<td>Room 301</td>
</tr>
<tr>
<td>Food Safety Specialty Section Meeting/Reception</td>
<td>Sunday, Mar 6</td>
<td>6:30 PM to 8:00 PM</td>
<td>Convention Center</td>
<td>Room 140A</td>
</tr>
<tr>
<td>Food Safety Specialty Section Officers Meeting</td>
<td>Sunday, Mar 6</td>
<td>12:00 NOON to 1:30 PM</td>
<td>Convention Center</td>
<td>Room 140A</td>
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<tr>
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<tr>
<td>Global Strategy Task Force Meeting</td>
<td>Tuesday, Mar 8</td>
<td>12:00 NOON to 1:30 PM</td>
<td>Convention Center</td>
<td>Room 306</td>
</tr>
<tr>
<td>Graduate Fellowship Interviews by Awards Committee</td>
<td>Saturday, Mar 5</td>
<td>7:30 PM to 9:30 PM</td>
<td>Convention Center</td>
<td>Room 301</td>
</tr>
<tr>
<td>Guest/Spouse Hospitality Room</td>
<td>Sunday, Mar 6</td>
<td>8:00 AM to 5:00 PM</td>
<td>Renaissance</td>
<td>Penn Quarter</td>
</tr>
<tr>
<td>Guest/Spouse Hospitality Room</td>
<td>Monday, Mar 7</td>
<td>8:00 AM to 5:00 PM</td>
<td>Renaissance</td>
<td>Penn Quarter</td>
</tr>
<tr>
<td>Guest/Spouse Hospitality Room</td>
<td>Tuesday, Mar 8</td>
<td>8:00 AM to 5:00 PM</td>
<td>Renaissance</td>
<td>Penn Quarter</td>
</tr>
<tr>
<td>Guest/Spouse Hospitality Room</td>
<td>Wednesday, Mar 9</td>
<td>8:00 AM to 5:00 PM</td>
<td>Renaissance</td>
<td>Penn Quarter</td>
</tr>
<tr>
<td>Gulf Coast/South Central Regional Chapters Joint Reception</td>
<td>Monday, Mar 7</td>
<td>5:00 PM to 7:00 PM</td>
<td>Fido Irish Pub</td>
<td></td>
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<tr>
<td><strong>H</strong></td>
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<tr>
<td>HESI Seminar: Putting Health Risks into Perspective by Dr. Bruce Ames</td>
<td>Monday, Mar 7</td>
<td>12:00 NOON to 2:00 PM</td>
<td>Renaissance</td>
<td>Congressional Ballroom</td>
</tr>
<tr>
<td>Hispanic Organization of Toxicologists Special Interest Group Meeting/Reception</td>
<td>Sunday, Mar 6</td>
<td>6:30 PM to 8:30 PM</td>
<td>RFD Restaurant</td>
<td></td>
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<tr>
<td>Housing Desk</td>
<td>Saturday, Mar 5</td>
<td>4:00 PM to 7:00 PM</td>
<td>Convention Center</td>
<td>East Salon</td>
</tr>
<tr>
<td>Housing Desk</td>
<td>Sunday, Mar 6</td>
<td>8:00 AM to 5:00 PM</td>
<td>Convention Center</td>
<td>East Salon</td>
</tr>
<tr>
<td>Housing Desk</td>
<td>Monday, Mar 7</td>
<td>7:00 AM to 5:00 PM</td>
<td>Convention Center</td>
<td>East Salon</td>
</tr>
<tr>
<td>Housing Desk</td>
<td>Tuesday, Mar 8</td>
<td>8:00 AM to 4:00 PM</td>
<td>Convention Center</td>
<td>East Salon</td>
</tr>
<tr>
<td>Housing Desk</td>
<td>Wednesday, Mar 9</td>
<td>8:00 AM to 2:00 PM</td>
<td>Convention Center</td>
<td>East Salon</td>
</tr>
<tr>
<td>Human Toxicology Project Consortium: Recommendations for Accelerating Implementation of the 2007 National Academy Report on 21st Century Toxicology: Outcome of an HTPC Workshop</td>
<td>Tuesday, Mar 8</td>
<td>12:00 NOON to 1:00 PM</td>
<td>Grand Hyatt</td>
<td>Constitution D</td>
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<tr>
<td><strong>I</strong></td>
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<tr>
<td>Immunotoxicology Specialty Section Meeting/Reception</td>
<td>Wednesday, Mar 9</td>
<td>6:00 PM to 7:30 PM</td>
<td>Convention Center</td>
<td>Salon H</td>
</tr>
<tr>
<td>In Vitro and Alternative Methods Specialty Section Meeting/Luncheon</td>
<td>Wednesday, Mar 9</td>
<td>12:00 NOON to 1:30 PM</td>
<td>Convention Center</td>
<td>Salon G</td>
</tr>
<tr>
<td>In Vitro and Alternative Methods Specialty Section Officers Meeting</td>
<td>Monday, Mar 7</td>
<td>6:30 AM to 7:45 AM</td>
<td>Convention Center</td>
<td>Salon G</td>
</tr>
<tr>
<td>In Vitro Toxicology Lecture and Luncheon for Students, Lecturer: Robert E. Chapin (Ticket Required)</td>
<td>Monday, Mar 7</td>
<td>12:00 NOON to 1:20 PM</td>
<td>Convention Center</td>
<td>Salon G</td>
</tr>
</tbody>
</table>

(Schedule as of January 7; private events are not listed.)
<table>
<thead>
<tr>
<th>Event:</th>
<th>Date:</th>
<th>Time:</th>
<th>Location:</th>
<th>Room:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation and Respiratory Specialty Section Meeting/Reception</td>
<td>Wednesday, Mar 9</td>
<td>6:00 PM to 7:30 PM</td>
<td>Convention Center</td>
<td>Room 102</td>
</tr>
<tr>
<td>International Neurotoxicology Association Business Meeting</td>
<td>Monday, Mar 7</td>
<td>5:00 PM to 6:00 PM</td>
<td>Renaissance</td>
<td>Congressional B</td>
</tr>
<tr>
<td>IUTOX Meetings</td>
<td>Saturday, Mar 5</td>
<td>8:00 AM to 5:00 PM</td>
<td>Convention Center</td>
<td>Rooms 305, 306</td>
</tr>
<tr>
<td>IUTOX Meetings</td>
<td>Sunday, Mar 6</td>
<td>8:00 AM to 5:00 PM</td>
<td>Convention Center</td>
<td>Rooms 305, 306</td>
</tr>
<tr>
<td>IUTOX Meetings</td>
<td>Monday, Mar 7</td>
<td>8:00 AM to 5:00 PM</td>
<td>Convention Center</td>
<td>Rooms 305, 306</td>
</tr>
<tr>
<td>Job Bank Center</td>
<td>Sunday, Mar 6</td>
<td>1:00 PM to 4:30 PM</td>
<td>Convention Center</td>
<td>Room 157</td>
</tr>
<tr>
<td>Job Bank Center</td>
<td>Monday, Mar 7</td>
<td>9:00 AM to 4:30 PM</td>
<td>Convention Center</td>
<td>Room 157</td>
</tr>
<tr>
<td>Job Bank Center</td>
<td>Tuesday, Mar 8</td>
<td>8:30 AM to 4:30 PM</td>
<td>Convention Center</td>
<td>Room 157</td>
</tr>
<tr>
<td>Job Bank Center</td>
<td>Wednesday, Mar 9</td>
<td>8:30 AM to 4:30 PM</td>
<td>Convention Center</td>
<td>Room 157</td>
</tr>
<tr>
<td>Johnson &amp; Johnson Toxicology Interest Group Meeting</td>
<td>Saturday, Mar 5</td>
<td>11:30 AM to 6:00 PM</td>
<td>Grand Hyatt</td>
<td>Burnham Room</td>
</tr>
<tr>
<td>Journal of Cutaneous and Ocular Toxicology Editorial Board Meeting</td>
<td>Monday, Mar 7</td>
<td>7:00 AM to 8:00 AM</td>
<td>Renaissance</td>
<td>Meeting Room 5</td>
</tr>
<tr>
<td>Journal of Immunotoxicology Editorial Board Meeting</td>
<td>Wednesday, Mar 9</td>
<td>12:00 NOON to 1:30 PM</td>
<td>Renaissance</td>
<td>Meeting Room 10</td>
</tr>
<tr>
<td>Journal of Inhalation Toxicology Editorial Board Meeting</td>
<td>Tuesday, Mar 8</td>
<td>12:00 NOON to 1:30 PM</td>
<td>Renaissance</td>
<td>Meeting Room 5</td>
</tr>
<tr>
<td>Journal of Toxicology Mechanisms and Methods Editorial Board Meeting</td>
<td>Monday, Mar 7</td>
<td>12:00 NOON to 1:30 PM</td>
<td>Renaissance</td>
<td>Meeting Room 5</td>
</tr>
<tr>
<td>K–12 Outreach: Poisoned Pet Food—Unraveling the Melamine Mystery, Lecturer: Renate Reimschuessel</td>
<td>Saturday, Mar 5</td>
<td>12:00 NOON to 1:00 PM</td>
<td>Koshland Science Museum of the National Academy of Sciences, University of Washington</td>
<td></td>
</tr>
<tr>
<td>K–12 Outreach: Protecting You and Your Pet through the Science of Toxicology: Paracelsus Goes to Washington</td>
<td>Saturday, Mar 5</td>
<td>10:00 AM to 11:00 AM</td>
<td>Koshland Science Museum of the National Academy of Sciences, University of Cambridge</td>
<td></td>
</tr>
<tr>
<td>Kettering Laboratory Reception—University of Cincinnati</td>
<td>Wednesday, Mar 9</td>
<td>6:30 PM to 8:30 PM</td>
<td>Renaissance</td>
<td>Meeting Room 2</td>
</tr>
<tr>
<td>Keynote Medical Research Council (MRC) Lecture: Cellular Responses to DNA Damage: New Molecular Insights and New Approaches for Cancer Therapy, Lecturer: Stephen P. Jackson, University of Cambridge</td>
<td>Wednesday, Mar 9</td>
<td>8:00 AM to 9:00 AM</td>
<td>Convention Center</td>
<td>Grand Ballroom</td>
</tr>
<tr>
<td>Keynote Plenary Lecture: Increasing the Prestige of Regulatory Sciences, Lecturer: Margaret Hamburg, U.S. FDA</td>
<td>Tuesday, Mar 8</td>
<td>8:00 AM to 9:00 AM</td>
<td>Convention Center</td>
<td>Grand Ballroom</td>
</tr>
<tr>
<td>Keynote Plenary Lecture: U.S. EPA Vision, Lecturer: Lisa Jackson, U.S. EPA (invited)</td>
<td>Thursday, Mar 10</td>
<td>8:00 AM to 9:00 AM</td>
<td>Convention Center</td>
<td>Ballroom C</td>
</tr>
<tr>
<td>Korean Toxicologists Association in America Special Interest Group Meeting/Reception</td>
<td>Monday, Mar 7</td>
<td>6:30 PM to 8:30 PM</td>
<td>Renaissance</td>
<td>Meeting Room 10</td>
</tr>
<tr>
<td>L–12 Outreach: Protecting You and Your Pet through the Science of Toxicology: Paracelsus Goes to Washington</td>
<td>Saturday, Mar 5</td>
<td>10:00 AM to 11:00 AM</td>
<td>Koshland Science Museum of the National Academy of Sciences, University of Cambridge</td>
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<tr>
<td>Landmarks Program Presentation to the National Academy of Science</td>
<td>Monday, Mar 7</td>
<td>7:45 AM to 8:00 AM</td>
<td>Convention Center</td>
<td>Grand Ballroom</td>
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<tr>
<td>Leading Edge in Basic Science Award Lecture: Roles of Keap1-Nrf2 in Environmental Response, Lecturer: Masayuki Yamamoto</td>
<td>Tuesday, Mar 8</td>
<td>7:00 AM to 7:50 AM</td>
<td>Convention Center</td>
<td>Room 201</td>
</tr>
<tr>
<td>Lovelace Respiratory Research Institute Reception</td>
<td>Sunday, Mar 6</td>
<td>7:30 PM to 10:30 PM</td>
<td>Renaissance</td>
<td>Meeting Room 16</td>
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<tr>
<td>Mechanisms Specialty Section Meeting/Reception</td>
<td>Wednesday, Mar 9</td>
<td>6:00 PM to 7:30 PM</td>
<td>Convention Center</td>
<td>Salon I</td>
</tr>
<tr>
<td>Mechanisms Specialty Section Officers Meeting</td>
<td>Monday, Mar 7</td>
<td>6:30 AM to 7:45 AM</td>
<td>Convention Center</td>
<td>Salon G</td>
</tr>
<tr>
<td>Medical Device Specialty Section Meeting/Reception</td>
<td>Sunday, Mar 6</td>
<td>6:30 PM to 8:00 PM</td>
<td>Convention Center</td>
<td>Room 156</td>
</tr>
<tr>
<td>Medical Device Specialty Section Officers Meeting</td>
<td>Monday, Mar 7</td>
<td>6:30 AM to 7:45 AM</td>
<td>Convention Center</td>
<td>Salon G</td>
</tr>
<tr>
<td>Meet the Director, Lecturer: Linda Burnham, NIEHS</td>
<td>Wednesday, Mar 9</td>
<td>9:30 AM to 10:30 AM</td>
<td>Convention Center</td>
<td>Room 201</td>
</tr>
<tr>
<td>Meet the Director, Lecturer: John Howard, CDC/NIOSH</td>
<td>Wednesday, Mar 9</td>
<td>10:45 AM to 11:45 AM</td>
<td>Convention Center</td>
<td>Room 201</td>
</tr>
<tr>
<td>Meet the Director, Lecturer: Yvonne Madden, NICHD</td>
<td>Wednesday, Mar 9</td>
<td>12:00 NOON to 1:00 PM</td>
<td>Convention Center</td>
<td>Room 201</td>
</tr>
<tr>
<td>Meet the Director, Lecturer: Sy Garte, Center for Scientific Review</td>
<td>Wednesday, Mar 9</td>
<td>1:15 PM to 2:15 PM</td>
<td>Convention Center</td>
<td>Room 201</td>
</tr>
</tbody>
</table>

(Schedule as of January 7; private events are not listed.)
<table>
<thead>
<tr>
<th>Event:</th>
<th>Date:</th>
<th>Time:</th>
<th>Location:</th>
<th>Room:</th>
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</thead>
<tbody>
<tr>
<td>Meet the Director, Lecturer: Jesse Goodman, U.S. FDA</td>
<td>Wednesday, Mar 9</td>
<td>2:30 PM to 3:30 PM</td>
<td>Convention Center</td>
<td>Room 201</td>
</tr>
<tr>
<td>Meet the Director, Lecturer: Paul Anastas, U.S. EPA (invited)</td>
<td>Wednesday, Mar 9</td>
<td>3:45 PM to 4:45 PM</td>
<td>Convention Center</td>
<td>Room 201</td>
</tr>
<tr>
<td>Membership Committee Meeting</td>
<td>Wednesday, Mar 9</td>
<td>11:30 AM to 1:00 PM</td>
<td>Convention Center</td>
<td>Room 303</td>
</tr>
<tr>
<td>Merit Award Lecture: Neurotoxicology Goes Global: Scientific Collaboration and Mentorship, Lecturer: Michael Aschner</td>
<td>Monday, Mar 7</td>
<td>12:15 PM to 1:05 PM</td>
<td>Convention Center</td>
<td>Room 201</td>
</tr>
<tr>
<td>Metals Specialty Section Meeting/Reception</td>
<td>Sunday, Mar 6</td>
<td>6:00 PM to 8:00 PM</td>
<td>District Chophouse Restaurant</td>
<td></td>
</tr>
<tr>
<td>Michigan Regional Chapter Reception (Happy Hour/Social Gathering)</td>
<td>Wednesday, Mar 9</td>
<td>5:00 PM to 6:30 PM</td>
<td>TBD</td>
<td></td>
</tr>
<tr>
<td>Michigan State University Environmental Toxicology Reception</td>
<td>Monday, Mar 7</td>
<td>9:00 PM to 11:00 PM</td>
<td>Renaissance Ballroom West A</td>
<td></td>
</tr>
<tr>
<td>Minority Health Cooperative Agreement: An Overview with FAMU and Texas A&amp;M</td>
<td>Saturday, Mar 5</td>
<td>10:00 AM to 12:00 NOON</td>
<td>Renaissance Meeting Room 6</td>
<td></td>
</tr>
<tr>
<td>Mixtures Specialty Section Meeting/Reception</td>
<td>Wednesday, Mar 9</td>
<td>6:00 PM to 7:30 PM</td>
<td>Convention Center</td>
<td>Room 140A</td>
</tr>
<tr>
<td>Mixtures Specialty Section Officers Meeting</td>
<td>Monday, Mar 7</td>
<td>6:30 AM to 7:45 AM</td>
<td>Convention Center</td>
<td>Salon G</td>
</tr>
<tr>
<td>Molecular Biology Specialty Section Meeting/Reception</td>
<td>Monday, Mar 7</td>
<td>6:00 PM to 7:30 PM</td>
<td>Convention Center</td>
<td>Room 159</td>
</tr>
<tr>
<td>Mountain West/Southern California Regional Chapters Joint Reception</td>
<td>Monday, Mar 7</td>
<td>6:00 PM to 7:30 PM</td>
<td>RFD Restaurant</td>
<td></td>
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<tr>
<td>MPI Research Event: Got Science?</td>
<td>Monday, Mar 7</td>
<td>6:30 PM to 10:00 PM</td>
<td>Grand Hyatt Constitution A</td>
<td></td>
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<tr>
<td>Nanotoxicology Specialty Section Meeting/Reception</td>
<td>Sunday, Mar 6</td>
<td>6:30 PM to 8:00 PM</td>
<td>Convention Center</td>
<td>Room 143</td>
</tr>
<tr>
<td>Nanotoxicology Specialty Section Officers Meeting</td>
<td>Monday, Mar 7</td>
<td>6:30 AM to 7:45 AM</td>
<td>Convention Center</td>
<td>Salon G</td>
</tr>
<tr>
<td>National Capital Area Regional Chapter/NRC Committee on Toxicology Joint Reception</td>
<td>Monday, Mar 7</td>
<td>5:30 PM to 7:30 PM</td>
<td>Embassy Suites Capital Ballroom A</td>
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<tr>
<td>Neurotoxicology Specialty Section Meeting/Reception</td>
<td>Monday, Mar 7</td>
<td>6:00 PM to 7:30 PM</td>
<td>Convention Center</td>
<td>Salon G</td>
</tr>
<tr>
<td>Neurotoxicology Specialty Section Officers Meeting</td>
<td>Monday, Mar 7</td>
<td>6:30 AM to 7:45 AM</td>
<td>Convention Center</td>
<td>Salon G</td>
</tr>
<tr>
<td>New Investigator Lunch</td>
<td>Tuesday, Mar 8</td>
<td>12:00 NOON to 1:15 PM</td>
<td>Convention Center</td>
<td>Salon I</td>
</tr>
<tr>
<td>North Carolina State University Alumni Reception</td>
<td>Monday, Mar 7</td>
<td>7:30 PM to 9:30 PM</td>
<td>Renaissance Meeting Room 15</td>
<td></td>
</tr>
<tr>
<td>Northeast Regional Chapter Student Luncheon</td>
<td>Tuesday, Mar 8</td>
<td>12:30 PM to 2:00 PM</td>
<td>Renaissance Congressional A</td>
<td></td>
</tr>
<tr>
<td>Northern California Regional Chapter Reception</td>
<td>Monday, Mar 7</td>
<td>6:30 PM to 8:30 PM</td>
<td>District Chophouse Restaurant</td>
<td></td>
</tr>
<tr>
<td>Occupational and Public Health Specialty Section Meeting/Reception</td>
<td>Sunday, Mar 6</td>
<td>6:30 PM to 8:00 PM</td>
<td>Convention Center</td>
<td>Room 144</td>
</tr>
<tr>
<td>Ocular Toxicology Specialty Section Meeting/Reception</td>
<td>Sunday, Mar 6</td>
<td>6:30 PM to 8:00 PM</td>
<td>Convention Center</td>
<td>Room 142</td>
</tr>
<tr>
<td>Past Presidents 5K Fun Run</td>
<td>Sunday, Mar 6</td>
<td>6:00 AM to 8:00 AM</td>
<td>Hains Point Buses Depart L Street, Convention Center</td>
<td></td>
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<tr>
<td>Past Presidents Breakfast</td>
<td>Monday, Mar 7</td>
<td>6:15 AM to 7:45 AM</td>
<td>Convention Center</td>
<td>Room 203</td>
</tr>
<tr>
<td>Plenary Opening Lecture: NIH Vision, Lecturer: Francis S. Collins, National Institute of Health</td>
<td>Monday, Mar 7</td>
<td>8:00 AM to 9:00 AM</td>
<td>Convention Center Grand Ballroom</td>
<td></td>
</tr>
<tr>
<td>Postdoctoral Assembly Board Meeting</td>
<td>Monday, Mar 7</td>
<td>6:45 AM to 7:45 AM</td>
<td>Convention Center</td>
<td>Room 303</td>
</tr>
<tr>
<td>Postdoctoral Assembly Luncheon (Ticket Required)</td>
<td>Tuesday, Mar 8</td>
<td>12:00 NOON to 1:15 PM</td>
<td>Convention Center</td>
<td>Salon G</td>
</tr>
<tr>
<td>Poster Sessions</td>
<td>Monday, Mar 7</td>
<td>9:30 AM to 12:30 PM</td>
<td>Convention Center</td>
<td>Exhibit Hall</td>
</tr>
<tr>
<td>Poster Sessions</td>
<td>Monday, Mar 7</td>
<td>1:00 PM to 4:30 PM</td>
<td>Convention Center</td>
<td>Exhibit Hall</td>
</tr>
<tr>
<td>Poster Sessions</td>
<td>Tuesday, Mar 8</td>
<td>9:00 AM to 12:30 PM</td>
<td>Convention Center</td>
<td>Exhibit Hall</td>
</tr>
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<td>Poster Sessions</td>
<td>Tuesday, Mar 8</td>
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<td>Convention Center</td>
<td>Exhibit Hall</td>
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<td>Poster Sessions</td>
<td>Wednesday, Mar 9</td>
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<td>Convention Center</td>
<td>Exhibit Hall</td>
</tr>
<tr>
<td>Poster Sessions</td>
<td>Wednesday, Mar 9</td>
<td>1:00 PM to 4:30 PM</td>
<td>Convention Center</td>
<td>Exhibit Hall</td>
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<td>Event:</td>
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<tr>
<td>Poster Sessions</td>
<td>Thursday, Mar 10</td>
<td>8:30 AM to 12:00 NOON</td>
<td>Convention Center</td>
<td>East Salon &amp; Room 202</td>
</tr>
<tr>
<td>Poster Set Up (See Poster Board Surface Maps on Pages 104–107)</td>
<td>Monday, Mar 7</td>
<td>7:30 AM to 9:30 AM</td>
<td>Convention Center</td>
<td>Exhibit Hall</td>
</tr>
<tr>
<td>Poster Set Up (See Poster Board Surface Maps on Pages 104–107)</td>
<td>Monday, Mar 7</td>
<td>12:30 PM to 1:00 PM</td>
<td>Convention Center</td>
<td>Exhibit Hall</td>
</tr>
<tr>
<td>Poster Set Up (See Poster Board Surface Maps on Pages 104–107)</td>
<td>Tuesday, Mar 8</td>
<td>7:30 AM to 9:00 AM</td>
<td>Convention Center</td>
<td>Exhibit Hall</td>
</tr>
<tr>
<td>Poster Set Up (See Poster Board Surface Maps on Pages 104–107)</td>
<td>Tuesday, Mar 8</td>
<td>12:30 PM to 1:00 PM</td>
<td>Convention Center</td>
<td>Exhibit Hall</td>
</tr>
<tr>
<td>Poster Set Up (See Poster Board Surface Maps on Pages 104–107)</td>
<td>Wednesday, Mar 9</td>
<td>7:30 AM to 9:00 AM</td>
<td>Convention Center</td>
<td>Exhibit Hall</td>
</tr>
<tr>
<td>Poster Set Up (See Poster Board Surface Maps on Pages 104–107)</td>
<td>Wednesday, Mar 9</td>
<td>12:30 PM to 1:00 PM</td>
<td>Convention Center</td>
<td>Exhibit Hall</td>
</tr>
<tr>
<td>Poster Set Up (See Poster Board Surface Maps on Pages 104–107)</td>
<td>Thursday, Mar 10</td>
<td>7:00 AM to 8:00 AM</td>
<td>Convention Center</td>
<td>East Salon &amp; Room 202</td>
</tr>
<tr>
<td>President’s Reception (By Invitation Only)</td>
<td>Wednesday, Mar 9</td>
<td>7:00 PM to 8:30 PM</td>
<td>Renaissance</td>
<td>Grand Ballroom Central</td>
</tr>
<tr>
<td>Professional Needs Assessment Task Force Meeting</td>
<td>Wednesday, Mar 9</td>
<td>12:00 NOON to 1:30 PM</td>
<td>Convention Center</td>
<td>Room 305</td>
</tr>
<tr>
<td>Regional Chapter Governance Committee Meeting</td>
<td>Wednesday, Mar 9</td>
<td>12:00 NOON to 1:30 PM</td>
<td>Convention Center</td>
<td>Room 304</td>
</tr>
<tr>
<td>Regional Chapter Presidents and Officers Meeting</td>
<td>Tuesday, Mar 8</td>
<td>7:00 AM to 8:30 AM</td>
<td>Convention Center</td>
<td>Room 103</td>
</tr>
<tr>
<td>Regional Chapter/Special Interest Group Graduate Committee Meeting</td>
<td>Monday, Mar 7</td>
<td>6:45 AM to 7:45 AM</td>
<td>Convention Center</td>
<td>Room 103</td>
</tr>
<tr>
<td>Registration</td>
<td>Saturday, Mar 5</td>
<td>4:00 PM to 7:00 PM</td>
<td>Convention Center</td>
<td>East Salon</td>
</tr>
<tr>
<td>Registration</td>
<td>Sunday, Mar 6</td>
<td>6:30 AM to 8:00 PM</td>
<td>Convention Center</td>
<td>East Salon</td>
</tr>
<tr>
<td>Registration</td>
<td>Monday, Mar 7</td>
<td>7:00 AM to 5:00 PM</td>
<td>Convention Center</td>
<td>East Salon</td>
</tr>
<tr>
<td>Registration</td>
<td>Tuesday, Mar 8</td>
<td>6:00 AM to 4:30 PM</td>
<td>Convention Center</td>
<td>East Salon</td>
</tr>
<tr>
<td>Registration</td>
<td>Wednesday, Mar 9</td>
<td>6:00 AM to 4:00 PM</td>
<td>Convention Center</td>
<td>East Salon</td>
</tr>
<tr>
<td>Registration</td>
<td>Thursday, Mar 10</td>
<td>6:00 AM to 11:30 AM</td>
<td>Convention Center</td>
<td>East Salon</td>
</tr>
<tr>
<td>Regulatory and Safety Evaluation Specialty Section Meeting/Reception on Capitol Hill—The Great Debate, Sen. Johnny Isakson, Honorary Host (Limited Seating)</td>
<td>Monday, Mar 7</td>
<td>5:00 PM to 6:30 PM</td>
<td>Russell Senate Building SR-325 (Buses Depart CC from L Street beginning at 4:00 PM)</td>
<td></td>
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<tr>
<td>Reproductive and Developmental Toxicology Specialty Section Meeting/Reception</td>
<td>Wednesday, Mar 9</td>
<td>6:00 PM to 7:30 PM</td>
<td>Convention Center</td>
<td>Salon G</td>
</tr>
<tr>
<td>Reproductive and Developmental Toxicology Specialty Section Officers Meeting</td>
<td>Monday, Mar 7</td>
<td>6:30 AM to 7:45 AM</td>
<td>Convention Center</td>
<td>Salon G</td>
</tr>
<tr>
<td>Research Funding Committee Meeting</td>
<td>Thursday, Mar 10</td>
<td>11:00 AM to 1:00 PM</td>
<td>Convention Center</td>
<td>Room 302</td>
</tr>
<tr>
<td>Research Funding Committee Meeting</td>
<td>Thursday, Mar 10</td>
<td>9:00 AM to 4:30 PM</td>
<td>Convention Center</td>
<td>Room 203</td>
</tr>
<tr>
<td>Research Funding Resource Room</td>
<td>Wednesday, Mar 9</td>
<td>9:00 AM to 4:30 PM</td>
<td>Convention Center</td>
<td>Room 203</td>
</tr>
<tr>
<td>Risk Assessment Specialty Section Meeting/Reception</td>
<td>Monday, Mar 7</td>
<td>6:00 PM to 7:30 PM</td>
<td>Convention Center</td>
<td>Salon 1</td>
</tr>
<tr>
<td>Risk Assessment Specialty Section Officers Meeting</td>
<td>Monday, Mar 7</td>
<td>6:30 AM to 7:45 AM</td>
<td>Convention Center</td>
<td>Salon G</td>
</tr>
<tr>
<td>Roundtable of Toxicology Consultants Meeting/Reception</td>
<td>Monday, Mar 7</td>
<td>4:30 PM to 7:00 PM</td>
<td>Renaissance</td>
<td>Ballroom East</td>
</tr>
<tr>
<td>Safety Pharmacology Society Meeting</td>
<td>Sunday, Mar 6</td>
<td>2:30 PM to 6:30 PM</td>
<td>Renaissance</td>
<td>Meeting Room 3</td>
</tr>
<tr>
<td>Satellite Meeting: Johns Hopkins Center for Alternatives to Animal Testing—Evidence-Based Toxicology (EBT) Collaboration Kick-Off Meeting</td>
<td>Thursday, Mar 10</td>
<td>12:00 NOON to 3:00 PM</td>
<td>Convention Center</td>
<td>Room 206</td>
</tr>
<tr>
<td>Scientific Liaison Coalition Meeting</td>
<td>Sunday, Mar 6</td>
<td>8:00 AM to 1:30 PM</td>
<td>Renaissance</td>
<td>Ballroom West B</td>
</tr>
<tr>
<td>Scientific Liaison Task Force Meeting</td>
<td>Monday, Mar 7</td>
<td>12:00 NOON to 1:30 PM</td>
<td>Convention Center</td>
<td>Room 304</td>
</tr>
<tr>
<td>Scientific Program Committee Meeting</td>
<td>Thursday, Mar 10</td>
<td>12:00 NOON to 1:30 PM</td>
<td>Convention Center</td>
<td>Room 303</td>
</tr>
<tr>
<td>Scientific Program Committee Walk-Through</td>
<td>Monday, Mar 7</td>
<td>7:00 AM to 7:45 AM</td>
<td>Convention Center</td>
<td>Room 201</td>
</tr>
<tr>
<td>Event:</td>
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<tr>
<td>Scientific Sessions</td>
<td>Monday, Mar 7</td>
<td>9:15 AM to 12:00 NOON</td>
<td>Convention Center</td>
<td>(See Session Index on Pages 97–103 for Room Location)</td>
</tr>
<tr>
<td>Scientific Sessions</td>
<td>Monday, Mar 7</td>
<td>12:10 PM to 1:30 PM</td>
<td>Convention Center</td>
<td>(See Session Index on Pages 97–103 for Room Location)</td>
</tr>
<tr>
<td>Scientific Sessions</td>
<td>Monday, Mar 7</td>
<td>2:00 PM to 4:45 PM</td>
<td>Convention Center</td>
<td>(See Session Index on Pages 97–103 for Room Location)</td>
</tr>
<tr>
<td>Scientific Sessions (Sunrise)</td>
<td>Tuesday, Mar 8</td>
<td>6:30 AM to 7:50 AM</td>
<td>Convention Center</td>
<td>(See Session Index on Pages 97–103 for Room Location)</td>
</tr>
<tr>
<td>Scientific Sessions</td>
<td>Tuesday, Mar 8</td>
<td>9:00 AM to 11:45 AM</td>
<td>Convention Center</td>
<td>(See Session Index on Pages 97–103 for Room Location)</td>
</tr>
<tr>
<td>Scientific Sessions</td>
<td>Tuesday, Mar 8</td>
<td>12:00 NOON to 1:20 PM</td>
<td>Convention Center</td>
<td>(See Session Index on Pages 97–103 for Room Location)</td>
</tr>
<tr>
<td>Scientific Sessions</td>
<td>Tuesday, Mar 8</td>
<td>1:30 PM to 4:15 PM</td>
<td>Convention Center</td>
<td>(See Session Index on Pages 97–103 for Room Location)</td>
</tr>
<tr>
<td>Scientific Sessions (Sunrise)</td>
<td>Wednesday, Mar 9</td>
<td>6:30 AM to 7:50 AM</td>
<td>Convention Center</td>
<td>(See Session Index on Pages 97–103 for Room Location)</td>
</tr>
<tr>
<td>Scientific Sessions</td>
<td>Wednesday, Mar 9</td>
<td>9:00 AM to 11:45 AM</td>
<td>Convention Center</td>
<td>(See Session Index on Pages 97–103 for Room Location)</td>
</tr>
<tr>
<td>Scientific Sessions</td>
<td>Wednesday, Mar 9</td>
<td>12:00 NOON to 1:20 PM</td>
<td>Convention Center</td>
<td>(See Session Index on Pages 97–103 for Room Location)</td>
</tr>
<tr>
<td>Scientific Sessions</td>
<td>Wednesday, Mar 9</td>
<td>1:30 PM to 4:15 PM</td>
<td>Convention Center</td>
<td>(See Session Index on Pages 97–103 for Room Location)</td>
</tr>
<tr>
<td>Scientific Sessions (Sunset)</td>
<td>Wednesday, Mar 9</td>
<td>4:30 PM to 5:50 PM</td>
<td>Convention Center</td>
<td>(See Session Index on Pages 97–103 for Room Location)</td>
</tr>
<tr>
<td>Scientific Sessions (Sunrise)</td>
<td>Thursday, Mar 10</td>
<td>6:30 AM to 7:50 AM</td>
<td>Convention Center</td>
<td>(See Session Index on Pages 97–103 for Room Location)</td>
</tr>
<tr>
<td>Scientific Sessions</td>
<td>Thursday, Mar 10</td>
<td>9:00 AM to 11:45 AM</td>
<td>Convention Center</td>
<td>(See Session Index on Pages 97–103 for Room Location)</td>
</tr>
<tr>
<td>Smithsonian Seminar: Poisons: When Good Chemicals Turn Bad</td>
<td>Saturday, Mar 5</td>
<td>9:30 AM to 4:30 PM</td>
<td>Smithsonian S. Dillon Ripley Center</td>
<td></td>
</tr>
<tr>
<td>SOT Committee/Task Force Chair Orientation</td>
<td>Sunday, Mar 6</td>
<td>1:30 PM to 3:30 PM</td>
<td>Renaissance Congressional A</td>
<td></td>
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<tr>
<td>Event:</td>
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<tr>
<td>SOT Office</td>
<td>Saturday, Mar 5</td>
<td>4:00 PM to 7:00 PM</td>
<td>Convention Center</td>
<td>Room 101</td>
</tr>
<tr>
<td>SOT Office</td>
<td>Sunday, Mar 6</td>
<td>7:00 AM to 5:30 PM</td>
<td>Convention Center</td>
<td>Room 101</td>
</tr>
<tr>
<td>SOT Office</td>
<td>Monday, Mar 7</td>
<td>7:00 AM to 5:00 PM</td>
<td>Convention Center</td>
<td>Room 101</td>
</tr>
<tr>
<td>SOT Office</td>
<td>Tuesday, Mar 8</td>
<td>7:00 AM to 4:30 PM</td>
<td>Convention Center</td>
<td>Room 101</td>
</tr>
<tr>
<td>SOT Office</td>
<td>Wednesday, Mar 9</td>
<td>7:00 AM to 4:30 PM</td>
<td>Convention Center</td>
<td>Room 101</td>
</tr>
<tr>
<td>SOT Office</td>
<td>Thursday, Mar 10</td>
<td>7:00 AM to 11:30 AM</td>
<td>Convention Center</td>
<td>Room 101</td>
</tr>
<tr>
<td>SOT Pavilion</td>
<td>Monday, Mar 7</td>
<td>9:00 AM to 4:30 PM</td>
<td>Convention Center</td>
<td>Exhibit Hall, Booth 464</td>
</tr>
<tr>
<td>SOT Pavilion</td>
<td>Tuesday, Mar 8</td>
<td>8:30 AM to 4:30 PM</td>
<td>Convention Center</td>
<td>Exhibit Hall, Booth 464</td>
</tr>
<tr>
<td>SOT Pavilion</td>
<td>Wednesday, Mar 9</td>
<td>8:30 AM to 4:30 PM</td>
<td>Convention Center</td>
<td>Exhibit Hall, Booth 464</td>
</tr>
<tr>
<td>SOT/EUROTOX Debate: Biomarkers from Blood and Urine Will Replace Traditional Histopathological Evaluation to Determine Adverse Responses, SOT Debater: Kim Boekelheide and EUROTOX Debater: Ina Schappe Koistinen</td>
<td>Monday, Mar 7</td>
<td>4:35 PM to 5:55 PM</td>
<td>Convention Center</td>
<td>Room 150</td>
</tr>
<tr>
<td>Speaker Ready Room</td>
<td>Saturday, Mar 5</td>
<td>4:00 PM to 7:00 PM</td>
<td>Convention Center</td>
<td>Room 208</td>
</tr>
<tr>
<td>Speaker Ready Room</td>
<td>Sunday, Mar 6</td>
<td>7:00 AM to 5:30 PM</td>
<td>Convention Center</td>
<td>Room 208</td>
</tr>
<tr>
<td>Speaker Ready Room</td>
<td>Monday, Mar 7</td>
<td>7:00 AM to 5:00 PM</td>
<td>Convention Center</td>
<td>Room 208</td>
</tr>
<tr>
<td>Speaker Ready Room</td>
<td>Tuesday, Mar 8</td>
<td>6:00 AM to 4:30 PM</td>
<td>Convention Center</td>
<td>Room 208</td>
</tr>
<tr>
<td>Speaker Ready Room</td>
<td>Wednesday, Mar 9</td>
<td>6:00 AM to 4:30 PM</td>
<td>Convention Center</td>
<td>Room 208</td>
</tr>
<tr>
<td>Speaker Ready Room</td>
<td>Thursday, Mar 10</td>
<td>6:00 AM to 11:30 AM</td>
<td>Convention Center</td>
<td>Room 208</td>
</tr>
<tr>
<td>Special Interest Group Collaboration Group Meeting</td>
<td>Monday, Mar 7</td>
<td>1:00 PM to 1:30 PM</td>
<td>Convention Center</td>
<td>Room 103</td>
</tr>
<tr>
<td>Special Interest Group Presidents and Officers Meeting</td>
<td>Monday, Mar 7</td>
<td>12:00 NOON to 1:00 PM</td>
<td>Convention Center</td>
<td>Room 103</td>
</tr>
<tr>
<td>Specialty Section Governance Group Meeting</td>
<td>Monday, Mar 7</td>
<td>3:00 PM to 4:00 PM</td>
<td>Convention Center</td>
<td>Room 103</td>
</tr>
<tr>
<td>Specialty Section Graduate Committee Meeting</td>
<td>Tuesday, Mar 8</td>
<td>7:00 AM to 8:30 AM</td>
<td>Convention Center</td>
<td>Room 142</td>
</tr>
<tr>
<td>Specialty Section Presidents and Officers Meeting</td>
<td>Monday, Mar 7</td>
<td>4:30 PM to 6:00 PM</td>
<td>Convention Center</td>
<td>Room 103</td>
</tr>
<tr>
<td>Stem Cells Specialty Section Inaugural Meeting/Reception</td>
<td>Monday, Mar 7</td>
<td>6:00 PM to 7:30 PM</td>
<td>Convention Center</td>
<td>Room 149</td>
</tr>
<tr>
<td>Student Advisory Council Business Meeting</td>
<td>Wednesday, Mar 9</td>
<td>7:00 AM to 8:30 AM</td>
<td>Convention Center</td>
<td>Room 103</td>
</tr>
<tr>
<td>Student/Postdoctoral Scholar Mixer</td>
<td>Sunday, Mar 6</td>
<td>8:00 PM to 9:30 PM</td>
<td>Convention Center</td>
<td>Salon G</td>
</tr>
</tbody>
</table>

(Ticket and Meeting Badge Required)

<table>
<thead>
<tr>
<th>Event:</th>
<th>Date:</th>
<th>Time:</th>
<th>Location:</th>
<th>Room:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tour Desk</td>
<td>Saturday, Mar 5</td>
<td>4:00 PM to 7:00 PM</td>
<td>Convention Center</td>
<td>East Salon</td>
</tr>
<tr>
<td>Tour Desk</td>
<td>Sunday, Mar 6</td>
<td>8:00 AM to 1:00 PM</td>
<td>Convention Center</td>
<td>East Salon</td>
</tr>
<tr>
<td>Tour Desk</td>
<td>Monday, Mar 7</td>
<td>8:00 AM to 1:00 PM</td>
<td>Convention Center</td>
<td>East Salon</td>
</tr>
<tr>
<td>Tour Desk</td>
<td>Tuesday, Mar 8</td>
<td>8:00 AM to 1:00 PM</td>
<td>Convention Center</td>
<td>East Salon</td>
</tr>
<tr>
<td>Tour Desk</td>
<td>Wednesday, Mar 9</td>
<td>8:00 AM to 9:30 AM</td>
<td>Convention Center</td>
<td>East Salon</td>
</tr>
<tr>
<td>Tox-21c Implementation Meeting</td>
<td>Sunday, Mar 6</td>
<td>2:00 PM to 5:00 PM</td>
<td>Renaissance</td>
<td>Ballroom West A</td>
</tr>
<tr>
<td>ToxExpo™ 2012 Exhibit Space Selection Meeting</td>
<td>Tuesday, Mar 8</td>
<td>4:45 PM to 6:00 PM</td>
<td>Convention Center</td>
<td>Room 156</td>
</tr>
<tr>
<td>ToxExpo™ Exhibit Hall VIP Walk-Through</td>
<td>Monday, Mar 7</td>
<td>2:00 PM to 3:00 PM</td>
<td>Convention Center</td>
<td>Exhibit Hall</td>
</tr>
<tr>
<td>ToxExpo™ Exhibits Open</td>
<td>Monday, Mar 7</td>
<td>9:00 AM to 4:30 PM</td>
<td>Convention Center</td>
<td>Exhibit Hall</td>
</tr>
<tr>
<td>ToxExpo™ Exhibits Open</td>
<td>Tuesday, Mar 8</td>
<td>8:30 AM to 4:30 PM</td>
<td>Convention Center</td>
<td>Exhibit Hall</td>
</tr>
<tr>
<td>ToxExpo™ Exhibits Open</td>
<td>Wednesday, Mar 9</td>
<td>8:30 AM to 4:30 PM</td>
<td>Convention Center</td>
<td>Exhibit Hall</td>
</tr>
<tr>
<td>ToxExpo™ Set Up</td>
<td>Saturday, Mar 5</td>
<td>8:00 AM to 5:00 PM</td>
<td>Convention Center</td>
<td>Exhibit Hall</td>
</tr>
<tr>
<td>ToxExpo™ Set Up</td>
<td>Sunday, Mar 6</td>
<td>8:00 AM to 5:00 PM</td>
<td>Convention Center</td>
<td>Exhibit Hall</td>
</tr>
</tbody>
</table>
### Schedule by Event Name (Continued)

(Schedule as of January 7; private events are not listed.)

<table>
<thead>
<tr>
<th>Event:</th>
<th>Date:</th>
<th>Time:</th>
<th>Location:</th>
<th>Room:</th>
</tr>
</thead>
<tbody>
<tr>
<td>ToxExpo™ Tear Down</td>
<td>Thursday, Mar 10</td>
<td>8:00 AM to 12:00 NOON</td>
<td>Convention Center</td>
<td>Exhibit Hall</td>
</tr>
<tr>
<td>ToxExpo™ Time! (NEW)</td>
<td>Monday, Mar 7</td>
<td>1:00 PM to 2:00 PM</td>
<td>Convention Center</td>
<td>Exhibit Hall</td>
</tr>
<tr>
<td>Toxicologic and Exploratory Pathology Specialty Section Meeting/Luncheon</td>
<td>Monday, Mar 7</td>
<td>12:00 NOON to 1:30 PM</td>
<td>Convention Center</td>
<td>Room 149</td>
</tr>
<tr>
<td>Toxicologic and Exploratory Pathology Specialty Section Officers Meeting</td>
<td>Monday, Mar 7</td>
<td>6:30 AM to 7:45 AM</td>
<td>Convention Center</td>
<td>Room 302</td>
</tr>
<tr>
<td>Toxicological Sciences/Associate Editors Meeting</td>
<td>Sunday, Mar 6</td>
<td>12:00 NOON to 3:00 PM</td>
<td>Renaissance</td>
<td>Meeting Room 5</td>
</tr>
<tr>
<td>Toxicological Sciences/Oxford University Press Appreciation Dinner (By Invitation Only)</td>
<td>Monday, Mar 7</td>
<td>6:00 PM to 9:00 PM</td>
<td>Clydes of Gallery Place</td>
<td>Piedmont Room</td>
</tr>
<tr>
<td>Toxicologists of African Origin Special Interest Group Meeting/Reception</td>
<td>Monday, Mar 7</td>
<td>6:00 PM to 8:00 PM</td>
<td>Embassy Suites</td>
<td>Capital Ballroom B</td>
</tr>
<tr>
<td>Toxicologists without Borders, Inc. Information Meeting</td>
<td>Monday, Mar 7</td>
<td>5:15 PM to 6:30 PM</td>
<td>Renaissance</td>
<td>Meeting Room 4</td>
</tr>
<tr>
<td>Toxicology and Applied Pharmacology Associate Editors Meeting</td>
<td>Monday, Mar 7</td>
<td>12:00 NOON to 2:00 PM</td>
<td>Renaissance</td>
<td>Meeting Room 4</td>
</tr>
<tr>
<td>Toxicology Editorial Board Meeting</td>
<td>Wednesday, Mar 9</td>
<td>11:45 AM to 1:30 PM</td>
<td>Renaissance</td>
<td>Meeting Room 3</td>
</tr>
<tr>
<td>Toxicology Education Foundation Board of Trustees Meeting</td>
<td>Sunday, Mar 6</td>
<td>8:00 AM to 12:00 NOON</td>
<td>Renaissance</td>
<td>Meeting Room 2</td>
</tr>
<tr>
<td>Toxicology In Vitro Editorial Board Meeting</td>
<td>Wednesday, Mar 9</td>
<td>7:00 AM to 8:00 AM</td>
<td>Renaissance</td>
<td>Meeting Room 3</td>
</tr>
<tr>
<td>Toxicology Letters Editorial Board Meeting</td>
<td>Tuesday, Mar 8</td>
<td>11:45 AM to 1:30 PM</td>
<td>Renaissance</td>
<td>Meeting Room 3</td>
</tr>
<tr>
<td>ToxLearn Work Group</td>
<td>Tuesday, Mar 8</td>
<td>10:30 AM to 11:30 AM</td>
<td>Convention Center</td>
<td>Room 303</td>
</tr>
<tr>
<td>Translational Impact Award Lecture: Integration of Bioinformatics into Regulatory Decision Making, Lecturer: Weida Tong</td>
<td>Wednesday, Mar 9</td>
<td>12:15 PM to 1:05 PM</td>
<td>Convention Center</td>
<td>Room 151</td>
</tr>
<tr>
<td>Undergraduate Education Program: Orientation for SOT Hosts, Peer Mentors, and Advisors</td>
<td>Saturday, Mar 5</td>
<td>4:15 PM to 5:45 PM</td>
<td>Convention Center</td>
<td>Room 302</td>
</tr>
<tr>
<td>Undergraduate Education Program: Opening Event (By Invitation Only)</td>
<td>Saturday, Mar 5</td>
<td>5:45 PM to 9:00 PM</td>
<td>Convention Center</td>
<td>Room 103</td>
</tr>
<tr>
<td>Undergraduate Education Program: Toxicology Lectures</td>
<td>Sunday, Mar 6</td>
<td>8:00 AM to 11:30 AM</td>
<td>Convention Center</td>
<td>Room 156</td>
</tr>
<tr>
<td>Undergraduate Education Program: Lunch and Networking (Ticket Required)</td>
<td>Sunday, Mar 6</td>
<td>11:30 AM to 12:45 PM</td>
<td>Convention Center</td>
<td>Room 103</td>
</tr>
<tr>
<td>Undergraduate Education Program—Students: Planning for Graduate School</td>
<td>Sunday, Mar 6</td>
<td>12:45 PM to 1:45 PM</td>
<td>Convention Center</td>
<td>Rooms 301, 302, 303</td>
</tr>
<tr>
<td>Undergraduate Education Program: Host Mentor and Peer Mentor Meeting</td>
<td>Sunday, Mar 6</td>
<td>3:00 PM to 3:30 PM</td>
<td>Convention Center</td>
<td>Room 303</td>
</tr>
<tr>
<td>Undergraduate Education Program: Academic Toxicology Programs and Internships</td>
<td>Sunday, Mar 6</td>
<td>3:00 PM to 5:00 PM</td>
<td>Convention Center</td>
<td>Room 102</td>
</tr>
<tr>
<td>Undergraduate Education Program: Meeting for Student, Advisor, Peer Mentors and SOT Hosts</td>
<td>Monday, Mar 7</td>
<td>9:30 AM to 10:50 AM</td>
<td>Convention Center</td>
<td>Room 102</td>
</tr>
<tr>
<td>Undergraduate Education Program: Poster Session for Visiting Students</td>
<td>Monday, Mar 7</td>
<td>9:30 AM to 10:50 AM</td>
<td>Convention Center</td>
<td>Exhibit Hall</td>
</tr>
<tr>
<td>Undergraduate Education Program Wrap Up</td>
<td>Monday, Mar 7</td>
<td>11:00 AM to 11:45 AM</td>
<td>Convention Center</td>
<td>Room 102</td>
</tr>
<tr>
<td>Undergraduate Toxicology Faculty Meeting</td>
<td>Tuesday, Mar 8</td>
<td>3:00 PM to 4:15 PM</td>
<td>Convention Center</td>
<td>Room 103</td>
</tr>
<tr>
<td>University of Iowa Toxicology Center Alumni 50th Anniversary Gathering</td>
<td>Monday, Mar 7</td>
<td>5:00 PM to 8:00 PM</td>
<td>Hamilton Crown</td>
<td>Lobby Lounge</td>
</tr>
<tr>
<td>Wi-Fi Lounges (Wireless Internet Access)</td>
<td>Monday, Mar 7</td>
<td>9:00 AM to 4:30 PM</td>
<td>Convention Center</td>
<td>Exhibit Hall</td>
</tr>
<tr>
<td>Wi-Fi Lounges (Wireless Internet Access)</td>
<td>Tuesday, Mar 8</td>
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<td>Convention Center</td>
<td>Exhibit Hall</td>
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<tr>
<td>Wi-Fi Lounges (Wireless Internet Access)</td>
<td>Wednesday, Mar 9</td>
<td>8:30 AM to 4:30 PM</td>
<td>Convention Center</td>
<td>Exhibit Hall</td>
</tr>
<tr>
<td>Women in Toxicology Special Interest Group Meeting/Reception</td>
<td>Wednesday, Mar 9</td>
<td>4:30 PM to 6:30 PM</td>
<td>Renaissance</td>
<td>Ballroom West A and B</td>
</tr>
</tbody>
</table>
Toxicological Sciences

The Official Journal of the Society of Toxicology

• New Impact Factor of 4.814*
• Ranked in the top 4 most-cited journals in Toxicology!

Congratulations to the Society of Toxicology on their 50th Anniversary!

www.toxsci.oxfordjournals.org

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*ISI Journal Citation Reports 2009 Edition, published in 2010

OXFORD UNIVERSITY PRESS

up-to-date information at www.toxicology.org
Second Level

CE Course Rooms, Scientific Sessions, and ToxExpo™

ToxExpo™ Exhibition Entrance (see pages 36–37 for ToxExpo™ Floor Plan)

Escalators down to CE Courses and Scientific Sessions

Scientific Sessions

Speaker Ready Room

Awards Ceremony

Mount Vernon Place

Third Level

Plenary Lectures and Celebration Event (Tuesday)

Plenary Lectures and Celebration Event

Seating Available

Mount Vernon Place
## Washington, D.C. Hotel Accommodations

<table>
<thead>
<tr>
<th><strong>1)</strong> Courtyard by Marriott Convention Center</th>
<th><strong>4)</strong> Embassy Suites D.C. Convention Center</th>
<th><strong>7)</strong> Hampton Inn Convention Center</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SOT Co-Headquarters Hotel</strong>&lt;br&gt;$299 Single/Double&lt;br&gt;900 F Street NW&lt;br&gt;Washington, D.C. 20004&lt;br&gt;Tel: 202.638.4600&lt;br&gt;Fax: 202.638.4610&lt;br&gt;Web site: <a href="http://www.marriott.com/wascn">www.marriott.com/wascn</a>&lt;br&gt;Club: Marriott Rewards&lt;br&gt;Check in: 3:00 PM&lt;br&gt;Check out: 12:00 NOON&lt;br&gt;5 blocks from Convention Center&lt;br&gt;$32/day valet parking&lt;br&gt;Complimentary wireless Internet in guest rooms, public spaces</td>
<td><strong>SOT</strong>&lt;br&gt;$284 Single/$314 Double&lt;br&gt;900 Tenth Street NW&lt;br&gt;Washington, D.C. 20001&lt;br&gt;Tel: 202.739.2001&lt;br&gt;Fax: 202.739.2099&lt;br&gt;Web site: <a href="http://www.washingtoconventioncenter.embassysuites.com">washingtoconventioncenter.embassysuites.com</a>&lt;br&gt;Club: Hilton HHonors&lt;br&gt;Check in: 4:00 PM&lt;br&gt;Check out: 12:00 NOON&lt;br&gt;1.5 blocks from Convention Center&lt;br&gt;$33/day valet parking&lt;br&gt;Wired Internet in guest rooms, public spaces ($9.95/day)&lt;br&gt;Complimentary Breakfast</td>
<td><strong>SOT</strong>&lt;br&gt;$249 Single/Double&lt;br&gt;901 Sixth Street NW&lt;br&gt;Washington, D.C. 20001&lt;br&gt;Tel: 202.842.2300&lt;br&gt;Fax: 202.842.4100&lt;br&gt;Web site: <a href="http://www.hamptoninn.com">www.hamptoninn.com</a>&lt;br&gt;Club: Hilton HHonors&lt;br&gt;Check in: 4:00 PM&lt;br&gt;Check out: 12:00 NOON&lt;br&gt;1.5 blocks from Convention Center&lt;br&gt;$34/day valet parking&lt;br&gt;Complimentary wireless Internet in guest rooms, public spaces&lt;br&gt;Complimentary breakfast</td>
</tr>
<tr>
<td><strong>2)</strong> Donovan House</td>
<td><strong>5)</strong> Grand Hyatt*&lt;br&gt;$309 Single/Double&lt;br&gt;1000 H Street NW&lt;br&gt;Washington, D.C. 20001&lt;br&gt;Tel: 202.582.1234&lt;br&gt;Fax: 202.637.4781&lt;br&gt;Web site: <a href="http://www.grandwashington.hyatt.com">www.grandwashington.hyatt.com</a>&lt;br&gt;Club: Hyatt Gold Passport&lt;br&gt;Check in: 3:00 PM&lt;br&gt;Check out: 12:00 NOON&lt;br&gt;3 blocks from Convention Center&lt;br&gt;$30/day self parking and $35/day valet parking&lt;br&gt;Wireless Internet in guest rooms and public space ($9.95/day)</td>
<td><strong>SOT</strong>&lt;br&gt;$272 Single/Double&lt;br&gt;926 Massachusetts Avenue NW&lt;br&gt;Washington, D.C. 20001&lt;br&gt;Tel: 202.638.5200&lt;br&gt;Fax: 202.638.6740&lt;br&gt;Web site: <a href="http://www.henleypark.com">www.henleypark.com</a>&lt;br&gt;Club: None&lt;br&gt;Check in: 3:00 PM&lt;br&gt;Check out: 12:00 NOON&lt;br&gt;1 block from Convention Center&lt;br&gt;$33/day valet parking&lt;br&gt;Complimentary wireless Internet in guest rooms, public spaces</td>
</tr>
<tr>
<td><strong>3)</strong> Eldon Suites**&lt;br&gt;$239 Single/Double&lt;br&gt;915 L Street NW&lt;br&gt;Washington, D.C. 20001&lt;br&gt;Tel: 202.540.5000&lt;br&gt;Fax: 202.290.1460&lt;br&gt;Web site: <a href="http://www.eldonsuites.com">www.eldonsuites.com</a>&lt;br&gt;Club: None&lt;br&gt;Check in: 4:00 PM&lt;br&gt;Check out: 12:00 NOON&lt;br&gt;0.5 block from Convention Center&lt;br&gt;$25/day valet parking&lt;br&gt;Complimentary wireless Internet in guest rooms, public spaces&lt;br&gt;Complimentary breakfast (no room service available)</td>
<td><strong>SOT</strong>&lt;br&gt;$279 Single/Double&lt;br&gt;1001 14th Street NW&lt;br&gt;Washington, D.C. 20005&lt;br&gt;Tel: 202.682.0111&lt;br&gt;Fax: 202.682.3801&lt;br&gt;Web site: <a href="http://www.hiltonhotelhdc.com">www.hiltonhotelhdc.com</a>&lt;br&gt;Club: None&lt;br&gt;Check in: 3:00 PM&lt;br&gt;Check out: 12:00 NOON&lt;br&gt;5 blocks from Convention Center&lt;br&gt;$33/day overnight parking and $16 for daily parking&lt;br&gt;Wireless Internet in guest rooms ($12.95/day)</td>
<td><strong>SOT</strong>&lt;br&gt;$289 Single/Double&lt;br&gt;815 14th Street&lt;br&gt;Washington, D.C. 20005&lt;br&gt;Tel: 202.783-7800&lt;br&gt;Fax: 202.783-7801&lt;br&gt;Web site: <a href="http://www.washingtonondcdowntown.stayhi.com">www.washingtonondcdowntown.stayhi.com</a>&lt;br&gt;Club: Hilton HHonors&lt;br&gt;Check in: 3:00 PM&lt;br&gt;Check out: 12:00 NOON&lt;br&gt;4 block from Convention Center&lt;br&gt;$35/day valet parking&lt;br&gt;Complimentary wireless Internet in guest rooms, public space</td>
</tr>
</tbody>
</table>

* SOT Co-Headquarters Hotel | ** No ADA Accessibility

All hotel accommodations, rates, Internet access, and parking pricing are subject to change. Early departures are subject to penalty fees set by the hotels.

Although we understand that making your reservations outside of the SOT hotel block can sometimes be more economical, it decreases the money available to the Society to carry out its strategic goals and may cause the Society to have to pay attrition fees for unutilized hotel rooms. In addition, the Society is unable to assist you if you have any difficulties with your room reservation, such as the hotel over-booking or misplacing your reservation.

SOT depends on the Annual Meeting revenue (hotel room commissions and rebates) to fund other programs throughout the year and to keep future registration fees low. Please assist the Society by making your hotel room reservation through Destination D.C.
## Washington, D.C. Hotel Accommodations (Continued)

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<tr>
<th>Hotel Name</th>
<th>Address</th>
<th>Phone Numbers</th>
<th>Website</th>
<th>Club</th>
<th>Check-in</th>
<th>Check-out</th>
<th>Complimentary Break</th>
<th>Additional Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>10) Hotel Monaco D.C.</strong></td>
<td>700 F Street NW</td>
<td>202.628.7177</td>
<td><a href="http://www.monaco-dc.com">www.monaco-dc.com</a></td>
<td>Kimpton InTouch</td>
<td>3:00 PM</td>
<td>12:00 NOON</td>
<td>Complimentary Wireless Internet</td>
<td>Wired Internet in guest rooms and public space ($10/day)</td>
</tr>
<tr>
<td><strong>11) Madison Hotel</strong></td>
<td>1177 15th Street NW</td>
<td>202.785.1255</td>
<td><a href="http://www.brownhotels.com">www.brownhotels.com</a></td>
<td>None</td>
<td>3:00 PM</td>
<td>12:00 NOON</td>
<td>Complimentary Wireless Internet</td>
<td>Wireless Internet in lobby, wired in guest rooms ($12.95/day)</td>
</tr>
<tr>
<td><strong>12) Marriott Metro Center</strong></td>
<td>775 12th Street NW</td>
<td>202.737.2200</td>
<td><a href="http://www.marriott.com/wasmc">www.marriott.com/wasmc</a></td>
<td>Marriott Rewards</td>
<td>4:00 PM</td>
<td>12:00 NOON</td>
<td>Complimentary Wireless Internet in lobby</td>
<td>Wired Internet in guest rooms and public space ($10/day)</td>
</tr>
<tr>
<td><strong>13) Renaissance</strong>*</td>
<td>999 Ninth Street NW</td>
<td>202.898.9000</td>
<td><a href="http://www.marriott.com/wasrb">www.marriott.com/wasrb</a></td>
<td>Marriott Rewards</td>
<td>3:00 PM</td>
<td>12:00 NOON</td>
<td>Complimentary Wireless Internet in lobby</td>
<td>Wired Internet in guest rooms</td>
</tr>
<tr>
<td><strong>14) Sheraton Four Points</strong></td>
<td>1201 K Street NW</td>
<td>202.349.2215</td>
<td><a href="http://www.fourpointsdc.com">www.fourpointsdc.com</a></td>
<td>Starpoints</td>
<td>3:00 PM</td>
<td>12:00 NOON</td>
<td>Complimentary Wireless Internet in lobby</td>
<td>Wired Internet in guest rooms</td>
</tr>
<tr>
<td><strong>15) Washington Plaza Hotel</strong></td>
<td>10 Thomas Circle NW</td>
<td>202.842.1300</td>
<td><a href="http://www.washingtonplazahotel.com">www.washingtonplazahotel.com</a></td>
<td>None</td>
<td>3:00 PM</td>
<td>12:00 NOON</td>
<td>Complimentary Wireless Internet in lobby</td>
<td>Wireless Internet in guest rooms is $12.95, an additional charge of $12.95 per usage in public areas</td>
</tr>
<tr>
<td><strong>16) Westin City Center</strong></td>
<td>1400 M Street NW</td>
<td>202.429.1700</td>
<td><a href="http://www.westinwashingtondc.com">www.westinwashingtondc.com</a></td>
<td>Starpoints</td>
<td>3:00 PM</td>
<td>12:00 NOON</td>
<td>Complimentary Wireless Internet in lobby</td>
<td>Wired Internet in guest rooms and public space ($10/day)</td>
</tr>
</tbody>
</table>

### Housing Bureau Information until February 3, 2011

You may make your housing reservations through the on-line reservation system, Destination D.C., found on the SOT Annual Meeting Web site.

You may also make a reservation by the following method(s):

- **Fax:** 506.433.3033 (International and Domestic)
- **Mail:** Destination D.C./SOT 901 7th Street NW, Suite 400 Washington, D.C. 20001 United States
- **Toll-Free (USA and Canada):** 866.805.4508
- **Phone (International):** 506.637.0320
- **Hours of Operation:** 9:00 AM–7:00 PM (EST) Monday–Friday

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**Legend:**
- **Fitness Center**
- **Complimentary Breakfast**
- **In-Room Wireless**
- **In-Room Safe**
- **Restaurant**
- **Swimming Pool**
- **Business Center**
- **Gift Shop**

All hotels have Internet access. Hotel sales tax is currently 14.5%

---

* SOT Co-Headquarters Hotel | ** No ADA Accessibility
Map of Washington, D.C. Hotel Locations

* SOT Co-Headquarters Hotel | ** No ADA Accessibility
Map of Washington, D.C. Hotel Locations (Continued)
Renaissance Hotel Map

Meeting Room Level
(One Level below Lobby)

Ancillary Meetings
(Sunday–Wednesday)

Ballroom Level
(One Level below Breakout Rooms)

Second Level
Guest/Spouse Hospitality Room—Penn Quarter Room

Lunch with an Expert
(Monday–Wednesday)
(Bring your meal)
Important contributions to toxicology will be celebrated in each issue of *Toxicological Sciences* in 2011. Topics in the regular monthly issue to include mechanisms of cell death, genetic polymorphism, epigenetics, flame retardants, and the toxicology of climate change.
## Washington, D.C. Restaurant Listings

### Restaurants within Seven Blocks of the Convention Center, Listed Alphabetically

<table>
<thead>
<tr>
<th>Name</th>
<th>Address</th>
<th>Telephone</th>
<th>Type</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>1400 North</td>
<td>1400 M Street NW</td>
<td>202.429.1700</td>
<td>BLD</td>
<td>$$$</td>
</tr>
<tr>
<td>14K Restaurant and Lounge</td>
<td>1001 14th Street NW</td>
<td>202.218.7524</td>
<td>BLD</td>
<td>$$</td>
</tr>
<tr>
<td>15 Ria</td>
<td>1515 Rhode Island Avenue NW</td>
<td>202.742.0015</td>
<td>BLD</td>
<td>$$$</td>
</tr>
<tr>
<td>15 Squares</td>
<td>999 9th Street NW</td>
<td>202.898.9000</td>
<td>BL</td>
<td>$$</td>
</tr>
<tr>
<td>Acadiana Restaurant</td>
<td>901 New York Avenue NW</td>
<td>202.408.8848</td>
<td>BLD</td>
<td>$$$</td>
</tr>
<tr>
<td>Adour</td>
<td>923 16th &amp; K Sts. NW</td>
<td>202.509.8000</td>
<td>BD</td>
<td>$$$$</td>
</tr>
<tr>
<td>AGAINN D.C.</td>
<td>1099 New York Avenue NW</td>
<td>202.639.9830</td>
<td>LD</td>
<td>$$</td>
</tr>
<tr>
<td>Aria Trattoria</td>
<td>1300 Pennsylvania Avenue NW</td>
<td>202.312.1250</td>
<td>LD</td>
<td>$$$$</td>
</tr>
<tr>
<td>Asia Nine Bar &amp; Lounge</td>
<td>915 E Street NW</td>
<td>202.629.4355</td>
<td>LD</td>
<td>$$</td>
</tr>
<tr>
<td>Asian Spice Restaurant</td>
<td>717 H Street NW</td>
<td>202.589.0700</td>
<td>LD</td>
<td>$$</td>
</tr>
<tr>
<td>Avenue Cafe &amp; Lounge</td>
<td>1501 Rhode Island Avenue NW</td>
<td>202.483.2000</td>
<td>BLD</td>
<td>$$$</td>
</tr>
<tr>
<td>Avenue Grill</td>
<td>1331 Pennsylvania Avenue NW</td>
<td>202.393.2000</td>
<td>BLD</td>
<td>$$$</td>
</tr>
<tr>
<td>Azi’s Café</td>
<td>1336 Ninth Street NW</td>
<td>202.232.0001</td>
<td>BL</td>
<td>$$</td>
</tr>
<tr>
<td>Bar Louie</td>
<td>701 7th Street NW</td>
<td>202.638.2460</td>
<td>LD</td>
<td>$$</td>
</tr>
<tr>
<td>Ben &amp; Jerry’s Ice Cream</td>
<td>1100 Pennsylvania Avenue NW</td>
<td>202.842.5882</td>
<td>Sweets</td>
<td>$</td>
</tr>
<tr>
<td>Bobby Van’s Grill</td>
<td>1201 New York Avenue NW</td>
<td>202.589.1504</td>
<td>LD</td>
<td>$$$$</td>
</tr>
<tr>
<td>Bobby Van’s Steakhouse</td>
<td>809 15th Street NW</td>
<td>202.589.0060</td>
<td>LD</td>
<td>$$$$</td>
</tr>
<tr>
<td>Brasserie Beck</td>
<td>1101 K Street NW</td>
<td>202.408.1717</td>
<td>LD</td>
<td>$$$$</td>
</tr>
<tr>
<td>Buddha-Bar D.C.</td>
<td>455 Massachusetts Avenue NW</td>
<td>202.377.5555</td>
<td>LD</td>
<td>$$</td>
</tr>
<tr>
<td>Burger King</td>
<td>501 G Street NW</td>
<td>202.682.0497</td>
<td>BLD</td>
<td>$$</td>
</tr>
<tr>
<td>Café Atlantic</td>
<td>405 8th Street NW</td>
<td>202.393.0812</td>
<td>LD</td>
<td>$$$</td>
</tr>
<tr>
<td>Café Mozart/German Deli</td>
<td>1331 H Street NW</td>
<td>202.347.5732</td>
<td>BLD</td>
<td>$$$</td>
</tr>
<tr>
<td>California Tortilla</td>
<td>728 7th Street NW</td>
<td>202.638.2233</td>
<td>LD</td>
<td>$$</td>
</tr>
<tr>
<td>Camille’s Sidewalk Café</td>
<td>650 F Street NW</td>
<td>202.639.9727</td>
<td>BLD</td>
<td>$$</td>
</tr>
<tr>
<td>Capitol City Brewing Company—Downtown</td>
<td>1100 New York Avenue NW</td>
<td>202.628.2222</td>
<td>LD</td>
<td>$$$$</td>
</tr>
<tr>
<td>Capitol Q BBQ</td>
<td>707 H Street NW</td>
<td>202.347.8396</td>
<td>LD</td>
<td>$$</td>
</tr>
<tr>
<td>Carmine’s</td>
<td>425 7th Street NW</td>
<td>202.737.7770</td>
<td>LD</td>
<td>$$$</td>
</tr>
<tr>
<td>The Caucus Room</td>
<td>401 9th Street NW</td>
<td>202.393.1300</td>
<td>LD</td>
<td>$$$$</td>
</tr>
<tr>
<td>Chipotle</td>
<td>601 F Street NW</td>
<td>202.347.4701</td>
<td>LD</td>
<td>$$</td>
</tr>
<tr>
<td>Clyde’s of Gallery Place</td>
<td>707 7th Street NW</td>
<td>202.349.3700</td>
<td>BLD</td>
<td>$$</td>
</tr>
<tr>
<td>Co Co. Sala</td>
<td>929 F Street NW</td>
<td>202.347.4265</td>
<td>D</td>
<td>$$$$</td>
</tr>
<tr>
<td>Cuba Libre Restaurant &amp; Rum Bar</td>
<td>801 9th Street NW</td>
<td>202.408.1600</td>
<td>BLD</td>
<td>$$$$</td>
</tr>
<tr>
<td>Cure Bar &amp; Bistro</td>
<td>1000 H Street NW</td>
<td>202.637.4906</td>
<td>D</td>
<td>$$$$</td>
</tr>
<tr>
<td>D.C. Coast</td>
<td>1401 K Street NW</td>
<td>202.216.5988</td>
<td>BLD</td>
<td>$$</td>
</tr>
<tr>
<td>District ChopHouse &amp; Brewery</td>
<td>509 7th Street NW</td>
<td>202.347.3434</td>
<td>LD</td>
<td>$$$$</td>
</tr>
<tr>
<td>Eat First</td>
<td>609 H Street NW</td>
<td>202.289.1703</td>
<td>LD</td>
<td>$$</td>
</tr>
<tr>
<td>Ella’s Woodfired Pizza</td>
<td>901 F Street NW</td>
<td>202.638.3434</td>
<td>LD</td>
<td>$$</td>
</tr>
</tbody>
</table>

$ = Under $12  $$$ = $18-$30  $$$$ = over $30

B=Breakfast, L=Lunch, D=Dinner
### Washington, D.C. Restaurant Listings (Continued)

<table>
<thead>
<tr>
<th>Restaurants within Seven Blocks of the Convention Center, Listed Alphabetically</th>
<th>$ = Under $12</th>
<th>$$ = $12–$18</th>
<th>$$$ = $18-$30</th>
<th>$$$$ = over $30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fado Irish Pub &amp; Restaurant</td>
<td>808 7th Street NW</td>
<td>202.789.0066</td>
<td>BLD</td>
<td>$$</td>
</tr>
<tr>
<td>The Federalist</td>
<td>1177 15th Street NW</td>
<td>202.862.1600</td>
<td>BLD</td>
<td>$$$$</td>
</tr>
<tr>
<td>Finemondo Italian Country Kitchen</td>
<td>1319 F Street NW</td>
<td>202.737.3100</td>
<td>LD</td>
<td>$$$$</td>
</tr>
<tr>
<td>Finn &amp; Porter Restaurant</td>
<td>900 10th Street NW</td>
<td>202.719.1600</td>
<td>LD</td>
<td>$$</td>
</tr>
<tr>
<td>Firehook Bakery - National Building Museum</td>
<td>441 4th Street NW</td>
<td>202.347.1760</td>
<td>BL</td>
<td>$</td>
</tr>
<tr>
<td>Five Guys</td>
<td>808 H Street NW</td>
<td>202.393.2900</td>
<td>LD</td>
<td>$</td>
</tr>
<tr>
<td>The Fourth Estate at the National Press Club</td>
<td>529 14th Street NW, 13th Floor</td>
<td>202.662.7638</td>
<td>BLD</td>
<td>$$$$</td>
</tr>
<tr>
<td>Fuddruckers</td>
<td>737 7th Street NW</td>
<td>202.628.3380</td>
<td>LD</td>
<td>$</td>
</tr>
<tr>
<td>Gordon Biersch Brewery</td>
<td>900 F Street NW</td>
<td>202.783.5454</td>
<td>LD</td>
<td>$$</td>
</tr>
<tr>
<td>Grand Cafe</td>
<td>1000 H Street NW</td>
<td>202.637.4903</td>
<td>BL</td>
<td>$$$$</td>
</tr>
<tr>
<td>Grand Slam</td>
<td>1000 H Street NW</td>
<td>202.637.4789</td>
<td>LD</td>
<td>$$</td>
</tr>
<tr>
<td>Greene Turtle</td>
<td>601 F Street NW</td>
<td>202.637.8889</td>
<td>LD</td>
<td>$$</td>
</tr>
<tr>
<td>Hard Rock Cafe</td>
<td>999 E Street NW</td>
<td>202.737.7625</td>
<td>LD</td>
<td>$$$$</td>
</tr>
<tr>
<td>Harriet's Family Restaurant</td>
<td>432 11th Street NW</td>
<td>202.628.8024</td>
<td>BLD</td>
<td>$$$$</td>
</tr>
<tr>
<td>Jackey Cafe</td>
<td>611 H Street NW</td>
<td>202.408.1288</td>
<td>LD</td>
<td>$$$$</td>
</tr>
<tr>
<td>Jaleo</td>
<td>480 7th Street NW</td>
<td>202.628.7949</td>
<td>LD</td>
<td>$$</td>
</tr>
<tr>
<td>Kanlaya Thai</td>
<td>740 6th Street NW</td>
<td>202.393.0070</td>
<td>LD</td>
<td>$$</td>
</tr>
<tr>
<td>Kushi</td>
<td>465 K Street NW</td>
<td>202.682.3123</td>
<td>LD</td>
<td>$$$$</td>
</tr>
<tr>
<td>La Tasca</td>
<td>722 7th Street NW</td>
<td>202.347.9190</td>
<td>LD</td>
<td>$$$$</td>
</tr>
<tr>
<td>Market to Market</td>
<td>740 5th Street NW</td>
<td>202.589.0141</td>
<td>BLD</td>
<td>$$</td>
</tr>
<tr>
<td>Marrakesh Restaurant</td>
<td>617 New York Avenue NW</td>
<td>202.393.9393</td>
<td>LD</td>
<td>$$$$</td>
</tr>
<tr>
<td>Matchbox</td>
<td>713 H Street NW</td>
<td>202.289.4441</td>
<td>LD</td>
<td>$$</td>
</tr>
<tr>
<td>McCormick &amp; Schmick's Seafood</td>
<td>901 F Street NW</td>
<td>202.639.9330</td>
<td>LD</td>
<td>$$$$</td>
</tr>
<tr>
<td>McCormick &amp; Schmick's Seafood</td>
<td>1652 K Street NW</td>
<td>202.861.2233</td>
<td>LD</td>
<td>$$$$</td>
</tr>
<tr>
<td>McDonald's</td>
<td>601 F Street NW</td>
<td>202.737.2090</td>
<td>BLD</td>
<td>$</td>
</tr>
<tr>
<td>Mehak Indian Restaurant</td>
<td>817 7th Street NW</td>
<td>202.408.9292</td>
<td>LD</td>
<td>$$$$</td>
</tr>
<tr>
<td>miXX Lounge</td>
<td>999 9th Street NW</td>
<td>202.898.9000</td>
<td>D</td>
<td>$$$$</td>
</tr>
<tr>
<td>Morrison-Clark Inn Restaurant</td>
<td>1015 L Street NW</td>
<td>202.898.1200</td>
<td>BLD</td>
<td>$$$$</td>
</tr>
<tr>
<td>Occidental</td>
<td>1475 Pennsylvania Avenue NW</td>
<td>202.783.1475</td>
<td>BLD</td>
<td>$$$$</td>
</tr>
<tr>
<td>Old Ebbitt Grill</td>
<td>675 15th Street NW</td>
<td>202.347.4801</td>
<td>BLD</td>
<td>$$$$</td>
</tr>
<tr>
<td>OYA Restaurant &amp; Lounge</td>
<td>777 9th Street NW</td>
<td>202.393.1400</td>
<td>LD</td>
<td>$$$$</td>
</tr>
<tr>
<td>Oyamel</td>
<td>401 7th Street NW</td>
<td>202.628.1005</td>
<td>LD</td>
<td>$</td>
</tr>
<tr>
<td>P.O.V. Rooftop Lounge and Terrace</td>
<td>515 15th Street NW</td>
<td>202.661.2478</td>
<td>LD</td>
<td>$$$$</td>
</tr>
<tr>
<td>Ping Pong Dim Sum</td>
<td>900 7th Street NW</td>
<td>202.506.3740</td>
<td>BLD</td>
<td>$$$$</td>
</tr>
<tr>
<td>Poste</td>
<td>555 8th Street NW</td>
<td>202.783.6060</td>
<td>BLD</td>
<td>$$$$</td>
</tr>
<tr>
<td>Potbelly</td>
<td>726 7th Street NW</td>
<td>202.478.0070</td>
<td>LD</td>
<td>$</td>
</tr>
<tr>
<td>Potenza Trattoria</td>
<td>1430 H Street NW</td>
<td>202.638.4444</td>
<td>LD</td>
<td>$$$$</td>
</tr>
</tbody>
</table>

B=Breakfast, L=Lunch, D=Dinner

up-to-date information at [www.toxicology.org](http://www.toxicology.org)
### Washington, D.C. Restaurant Listings (Continued)

<table>
<thead>
<tr>
<th>Restaurants within Seven Blocks of the Convention Center, Listed Alphabetically</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>President's Sports Bar</td>
</tr>
<tr>
<td>PS 7's</td>
</tr>
<tr>
<td>Quiznos</td>
</tr>
<tr>
<td>Rasika</td>
</tr>
<tr>
<td>RFD Restaurant</td>
</tr>
<tr>
<td>Rosa Mexicano</td>
</tr>
<tr>
<td>Ruby Tuesday</td>
</tr>
<tr>
<td>Ruth’s Chris Steakhouse</td>
</tr>
<tr>
<td>Spy City Cafe and Zola Kitchen Catering</td>
</tr>
<tr>
<td>Subway</td>
</tr>
<tr>
<td>Sushi Go-Round</td>
</tr>
<tr>
<td>Ten Penh</td>
</tr>
<tr>
<td>Thai Chili</td>
</tr>
<tr>
<td>Tony Cheng’s Mongolian and Seafood Restaurants</td>
</tr>
<tr>
<td>Tuscana West</td>
</tr>
<tr>
<td>Wok n’ Roll</td>
</tr>
<tr>
<td>Zaytinya</td>
</tr>
<tr>
<td>ZENGO Restaurant</td>
</tr>
<tr>
<td>Zentan Restaurant</td>
</tr>
<tr>
<td>Zephyr Deli</td>
</tr>
<tr>
<td>Zola</td>
</tr>
</tbody>
</table>

*B=Breakfast, L=Lunch, D=Dinner*
**ToxExpo Hours:**

- **Monday, March 7**
  9:00 AM – 4:30 PM
- **Tuesday, March 8**
  8:30 AM – 4:30 PM
- **Wednesday, March 9**
  8:30 AM – 4:30 PM

**ToxExpo™ Prize Drawing $500!**

Drawings to take place on Monday, Tuesday, and Wednesday in the Exhibit Hall

- $500 American Express Gift card awarded each day
- Drop your business cards in the ToxExpo™ prize drawing boxes found in all Diamond Level Sponsor booths

**New This Year: ToxExpo™ Time!**

In addition to the standard Exhibit Hall hours and poster presentation times, one hour of dedicated ToxExpo™ Time has been allotted in the scientific program for attendees to visit with exhibitors. ToxExpo™ Time will take place on Monday, March 7 from 1:00 PM – 2:00 PM.

**You probably know ToxExpo™ as the exhibition associated with the Society of Toxicology’s Annual Meeting—it’s that—but it’s also a great deal more.**

**ToxExpo.com is:**

- A 24/7 comprehensive on-line resource, searchable by company name or by product or service.
- A comprehensive approach to organizing the wealth of ideas and insights in cross-disciplinary areas of toxicology.
- The toxicology market place—your source for product information and resources to keep your lab competitive.
- The place where professionals will learn how to explore a rapidly changing science.
- A chance to think outside the box—find out how your work relates to research in other disciplines.
- Up-to-date information on state-of-the-art research equipment, technology, and the latest publications.
- A unique environment to research products and services of exhibiting companies and keep you informed of new cutting-edge science and technology.

**Looking for a particular product or service?**

Check the category listing in the ToxExpo™ Directory or on www.ToxExpo.com to see which companies offer the best product or service for your needs.

**ToxExpo™ Directories are available at Registration and just inside the entrance of the Exhibit Hall.**
Exhibit Hall Second Level

ToxExpo™ Hours:
Monday 9:00 AM–4:30 PM
Tuesday 8:30 AM–4:30 PM
Wednesday 8:30 AM–4:30 PM

Concession Stand Hours:
Monday ................................................................. 9:00 AM–4:30 PM
Tuesday ................................................................. 8:30 AM–4:30 PM
Wednesday ......................................................... 8:30 AM–4:30 PM

Exhibitors please note: The Coffee & Snack Cart in the 700 aisle will open one hour before show opening for your convenience.

ToxExpo™ Directories are available at Registration and just inside the entrance of the Exhibit Hall.

ToxExpo™—24/7 throughout the year
Exhibit Hall Second Level

**ToxExpo™ 2012 Exhibit Space Meeting**
Exhibiting companies should plan on attending the ToxExpo™ 2012 Space Selection Meeting on Tuesday, March 8 at 4:45 PM in Room 156 on First Level.

**ToxExpo™ Prize Drawing Win $500!**

Drawings to take place on Monday, Tuesday, and Wednesday in the Exhibit Hall

$500 American Express Gift card awarded each day

Drop your business cards in the ToxExpo™ prize drawing boxes found in all Diamond Level Sponsor booths

---

**ToxExpo™ Directories** are available at Registration and just inside the entrance of the Exhibit Hall.

at [www.toxexpo.com](http://www.toxexpo.com)
ToxExpo™ 2011 Exhibitors

(As of January 10, 2011)

Please visit www.ToxExpo.com or the ToxExpo™ Directory for product/service descriptions, a map of booth locations, and other information.

☆ 2011 Annual Meeting Sponsors are indicated by the star. See listing of complete sponsors on page 432 and Back Cover.

Companies that have been ToxExpo™ Exhibitors for 25 years or more are in bold.

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Booth Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Daigger &amp; Co.</td>
<td>223</td>
</tr>
<tr>
<td>Absorption Systems</td>
<td>1125</td>
</tr>
<tr>
<td>Accelera S.r.l.</td>
<td>120</td>
</tr>
<tr>
<td>Access Technologies</td>
<td>545</td>
</tr>
<tr>
<td>ACGIH</td>
<td>902</td>
</tr>
<tr>
<td>ACS Publications</td>
<td>906</td>
</tr>
<tr>
<td>Advanced Chemistry Development, Inc. (ACD/Labs)</td>
<td>221</td>
</tr>
<tr>
<td>Advinus Therapeutics, Limited</td>
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<td>Sysmex America, Inc.</td>
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<td>Thermo Fisher Scientific</td>
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<td>TNO</td>
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<td>toXcel, LLC</td>
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<td>Toxicology Education Foundation (TEF)</td>
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<td>Toxicology Excellence for Risk Assessment (TERA)</td>
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<td>Transparent Inc.</td>
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<td>Trevigen Inc.</td>
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<td>Vertox, Inc.</td>
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<td>Zyxel Limited</td>
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*ToxExpo™ Directories are available at Registration and just inside the entrance of the Exhibit Hall.*

*ToxExpo™—24/7 throughout the year*
**EXHIBITOR HOSTED SESSIONS**

Listed by date and time, then alphabetically by presenter.

Exhibitor Hosted Sessions are informative sessions developed by an exhibiting company.

### Monday

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<tr>
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<tbody>
<tr>
<td>Charles River</td>
<td>Phototoxicology: Current Practices and Regulatory Status</td>
<td>140A</td>
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<tr>
<td>MPI Research</td>
<td>Logistic and Technical Challenges of Conducting Developmental Toxicity Studies in Nonhuman Primates</td>
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<tbody>
<tr>
<td>Harlan Laboratories, Inc.</td>
<td>From Guidelines to Protocol: Lessons from EDSP Validation</td>
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<td>Huntingdon Life Sciences</td>
<td>First in Human Monoclonal Antibody Development Strategies for the Treatment of Cancer Patients</td>
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<tbody>
<tr>
<td>Porsolt &amp; Partners Pharmacology</td>
<td>Nonclinical Evaluation of Drug-Abuse Liability</td>
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<td>Rules-Based Medicine, Inc.</td>
<td>Urine and Blood Based Biomarkers for Detecting Nephrotoxicity</td>
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<td>Sigma Life Science</td>
<td>Knockout Rats As More Effective Preclinical Models</td>
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<tbody>
<tr>
<td>SNBL USA, Ltd</td>
<td>Nonhuman Primate (NHP) Infant Age and Relevance of Postnatal and Juvenile Assessments: Principles for Understanding Specific Endpoints in Study Designs Supporting Biologics Regulatory Submissions</td>
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<tr>
<td>STEMCELL Technologies Inc.</td>
<td>Utility of Hematopoietic Colony Forming Cell (CFC) Assays in Drug Development</td>
<td>156</td>
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<tr>
<td>WIL Research Laboratories</td>
<td>How to Comply with the EPA’s Endocrine Disruption Screening Program</td>
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### Tuesday

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<tbody>
<tr>
<td>In Vitro ADMET Laboratories, LLC (IVAL)</td>
<td>Screening of Drug Candidates with Idiosyncratic Hepatoxic Potential: Concepts and Approaches</td>
<td>140A</td>
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<tr>
<td>U.S. Environmental Protection Agency</td>
<td>Announcing EPA’s Clean Air Research Centers: Science to Protect Health in a Multipollutant Atmosphere</td>
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<tr>
<td>Celsis In Vitro Technologies</td>
<td>LiverPool: Pooled Human Cryopreserved Hepatocytes and Their Advantages Across Diverse ADME-Tox Applications</td>
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<tr>
<td>MPI Research</td>
<td>Predicting the Human Clinical Dose</td>
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<tr>
<td>Harlan Laboratories, Inc.</td>
<td>Diets for GLP Studies, Including Those for REACH</td>
<td>140B</td>
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<tr>
<td>Huntingdon Life Sciences</td>
<td>Developing a Novel Vaccine/ Adjuvant Combination for the Prophylaxis and Treatment of Infectious Disease</td>
<td>156</td>
<td>229</td>
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<tr>
<td>National Toxicology Program</td>
<td>National Toxicology Program Chemical Effects in Biological Systems</td>
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<tr>
<td>Data Sciences International</td>
<td>New Applications of Latest Telemetry Technology in Toxicology and Safety Pharmacology</td>
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<tr>
<td>Ingenuity Systems, Inc.</td>
<td>A Systems Toxicology Approach to Understanding Drug Toxicity and Compound Prioritization</td>
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<tr>
<td>LAB Research, Inc.</td>
<td>A Battery of Toxicity Screening Assays for Selection of Dermal Drug Candidates</td>
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ToExpo™ Directories are available at Registration and just inside the entrance of the Exhibit Hall.

at www.toxexpo.com
### Exhibitor Hosted Session Index (Continued)

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<tr>
<td>emka TECHNOLOGIES, INC.</td>
<td>Latest Advances in Arrhythmia Detection and in Non-Invasive Blood Pressure Monitoring from Ambulatory Animals</td>
<td>156 262</td>
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<td>RTC—Research Toxicology Centre</td>
<td>The Marmoset As an Experimental Model for the Development of Biopharmaceuticals</td>
<td>140B 262</td>
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<td>WIL Research Laboratories, LLC</td>
<td>Uses for Stereology in Toxicologic Pathology</td>
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<tr>
<td>Cyprotec Discovery Ltd</td>
<td>Machine Learning and Exposure to Modeling in the Prediction of \textit{In Vivo} Toxicity from High Content Screening (HCS) Data</td>
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<td>Instech Solomon</td>
<td>Automated GLP Infusion Studies: Improved Process Quality and Labor Utilization</td>
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<td>Promega</td>
<td>Predictive Analysis of Cell Viability, Apoptosis and ADME/Tox Properties Using</td>
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<tr>
<td>Biopredic International</td>
<td>HepaRG, Novel Human Hepatic Cells for \textit{In Vitro} Tox</td>
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<td>Ellegaard Gottingen Minipigs A/S</td>
<td>The Use of Minipigs in the Development of New Medicines</td>
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<td>Life Technologies</td>
<td>Cryopreserved HepaRG: An Alternative \textit{In Vitro} Screening Tool for Human Hepatic Drug</td>
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### Wednesday

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<tr>
<td>Charles River Laboratories, Inc.</td>
<td>Reproductive and Developmental Toxicity Testing of Vaccines and Biologics</td>
<td>140A 305</td>
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<tr>
<td>Harlan Laboratories, Inc.</td>
<td>Key Six Sigma Methods Applied to Surgical Services for Operational Excellence</td>
<td>140B 305</td>
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<td>Huntingdon Life Sciences</td>
<td>Developing Local and Systemic Biologics to Treat Inflammation of the Lung</td>
<td>156 305</td>
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<tbody>
<tr>
<td>BioReliance Corporation</td>
<td>Overview, Design, and Review of Transgenic Carcinogenicity Studies</td>
<td>140B 305</td>
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<td>InSphero AG</td>
<td>Drug Testing Using 3D Microtissues</td>
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<td>MPI Research</td>
<td>Challenges of Assessing Biologics for Efficacy and Safety</td>
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<tr>
<td>Taconic</td>
<td>Humanized Mouse Models for PK and Safety Profiling of Compounds</td>
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Additional sessions may be scheduled after print deadline. Please see ToxoExpo™ Directory for the most current schedule.

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**ToxoExpo™ Prize Drawing $500!**

- **Drawings to take place on Monday, Tuesday, and Wednesday in the Exhibit Hall**
- **$500 American Express Gift card awarded each day**
- **Drop your business cards in the ToxoExpo™ prize drawing boxes found in all Diamond Level Sponsor booths**

**ToxoExpo™ Directories** are available at Registration and just inside the entrance of the Exhibit Hall.
Founded in 1961, the Society of Toxicology (SOT) includes more than 6,700 members from nearly 60 countries worldwide. SOT members are drawn from academic institutions, industry, and government service, among others, and are active in a myriad of related fields and professions. All members partner with SOT in advancing science to enhance human, animal, and environmental health. You may apply to join the SOT at the following membership levels:

**Student**—you must be enrolled in a graduate degree program related to toxicology.

**Postdoctoral Fellow**—you must hold a Ph.D. or other doctoral degree (e.g., M.D., D.V.M.) with an interest in toxicology and be under the direction of a research mentor.

**Associate**—you must be engaged in continuing professional scientific activities in toxicology.

**Full**—you must demonstrate a continuing professional interest in toxicology and have conducted and published original research and/or are generally recognized as expert in some phase of toxicology.

Apply for the level of membership that’s right for you! Please see the “Join SOT” section of the SOT Web site at www.toxicology.org/ms/join.asp for further information.

Undergraduate students may become SOT Undergraduate Student Affiliates.

**As an SOT member you can …**

- Communicate, Connect, and Collaborate with colleagues via ToXchange, the professional, secure SOT member network, and keep current at www.toxicology.org with member-only information
- Qualify for reduced SOT member rates for the SOT Annual Meeting, Continuing Education Courses, and Current Concepts in Toxicology topical meetings
- Receive SOT publications including the official journal of the SOT, Toxicological Sciences; the Toxicologist; the SOT newsletter, Communiqué, and the SOT Membership Directory
- Utilize Career Resources such as the SOT Job Bank and register for Mentor Match as a mentor or mentee
- Qualify for exclusive SOT member awards—from Graduate Student Travel Support and Research Training to Postdoctoral Fellowships, Traveling Lectureships, SOT Awards, and more!

**Membership Fees:**

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<th>Membership Level</th>
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<td>Student Membership</td>
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Members from Developing Countries are eligible for reduced dues.*

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Easy on-line membership application takes approximately 15 minutes to complete.

50th Anniversary Annual Meeting and ToxExpo™

2011

Celebrating 50 Years of Service in Science

Membership

www.toxicology.org

*For complete information about membership in the Society of Toxicology, visit the SOT Web site at www.toxicology.org and select Member Information.
Registration

Annual Meeting Registration Fees

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<td>SOT Retired/Emeritus Member</td>
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( Guests do not have access to the Scientific Sessions or the Exhibit Hall.)

Continuing Education Sunrise Mini-Course Fees

(includes continental breakfast)

(Only Annual Meeting Registrants may enroll in CE Courses.)

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Continuing Education Course Fees

(per morning or afternoon course)

(Only Annual Meeting Registrants may enroll in CE Courses.)

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Annual Meeting Registration Includes:

- Awards Ceremony, Sunday, March 6 from 5:15 PM–6:30 PM.
- Plenary Opening Lecture, Monday, March 7 from 8:00 AM–9:00 AM.
- All Scientific Sessions (see Program Description beginning on page 113) 9:15 AM, Monday, March 7 through 12:00 NOON, Thursday, March 10 for additional start times.
- ToxExpo™ Exhibit Hall, 9:00 AM–4:30 PM Monday, March 7; 8:30 AM–4:30 PM Tuesday, March 8 and Wednesday, March 9.

Participants are also encouraged to register for the Continuing Education Courses. These are available during three time intervals on Sunday, March 6: the Sunrise Mini-Course is from 7:00 AM–7:45 AM, morning courses are 8:15 AM–12:00 NOON, and afternoon courses are from 1:15 PM–5:00 PM.

Registration Desk

The Registration Desk is located in the East Salon of the Grand Lobby in the Walter E. Washington Convention Center.

Registration Desk hours:

- Saturday ........................................... 4:00 PM–7:00 PM
- Sunday ............................................ 6:30 AM–8:00 PM
- Monday ............................................. 7:00 AM–5:00 PM
- Tuesday ........................................... 6:00 AM–4:30 PM
- Wednesday ........................................ 6:00 AM–4:00 PM
- Thursday ........................................... 6:00 AM–11:30 AM

Registration Materials

For those of you who registered before January 21, 2011, your badge, Program, and The Toxicologist on CD-ROM will be sent to you prior to the Annual Meeting. If you have registered and have NOT received your badge by mail, or need a replacement badge, go to the “Badge Pick Up Only” registration counter located in the East Salon. Your 2011 Annual Meeting Registration badge must be presented to obtain access to SOT functions.

When you arrive at the Walter E. Washington Convention Center, you will need to pick up your ToxExpo™ Directory and badge holder. If you have not already registered, please go to the registration counter in the East Salon in the Grand Lobby to obtain these materials. If you already have your registration badge and event/CE course tickets, simply stop by a handout table and present your badge to obtain the other registration materials (i.e., The Toxicologist on CD-ROM, the ToxExpo™ Directory, and other supplementary materials). The printed version of The Toxicologist will be available to purchase in the East Salon next to the registration desk.
General Information

Registration Confirmation
You should receive a registration confirmation/receipt via e-mail regardless of whether you registered on-line, by mail, or by fax. If you don’t receive your confirmation within 2 weeks, please contact SOT Headquarters at sothq@toxicology.org or call 703.438.3115.

Accessibility for Persons with Disabilities
The Walter E. Washington Convention Center and most of the SOT hotels (with the exception of the Eldon Suites and Henley Park Hotel) are accessible to persons with disabilities. If you require special services, please mark the appropriate box on the Annual Meeting Registration Form.

Scooters can also be rented from Scoot Around. For more information, please go to www.scootaround.com or call 888.441.7575. They will deliver to your hotel. If you require a sign language interpreter, please contact the Sign Language Associates via e-mail: info@signlanguage.com or call 301.946.9710.

If you require more information about accessibility, please contact Heidi Prange at SOT Headquarters: 703.438.3115 ext. 1424.

Attire
The official attire for the Annual Meeting is business casual. No coat or tie is required! We encourage you to bring comfortable clothing and shoes. Because meeting rooms may seem cold, please bring a sweater or jacket and/or dress in layers.

Badges
Annual Meeting attendees who register by January 21, 2011, will receive badges and registration materials in the mail. Attendees who already have their 2011 Annual Meeting badges do not need to wait in the registration line. If you have registered and have NOT received your badge by mail, or need a replacement badge, go to the “Badge Pick Up Only” registration counter to pick up your badge. You will be asked to show a photo ID.

All on-site badges will be issued on gold badge paper to assist with the registration auditing process.

If you have not registered for the meeting before you arrive in D.C., please complete the on-site Registration Form found at the kiosks in the registration area and proceed to the appropriate registration line.

For security reasons badges may not be altered. Please go to SOT Registration to update information on your badge.

Business Center
Telephone: 202.289.5233
Fax: 202.289.0299
E-mail: info@capitalbusinesscenter.com

The Walter E. Washington Convention Center’s Capital Business Center is conveniently located on First Level and offers services such as UPS, FedEx, USPS shipping and receiving, common office supplies, Internet access, high-quality copying and printing for brochures, fliers, and posters, binding and various finishing options, enlargements and reduction prints, and uploading documents from a disk, memory stick, or CD. You may also e-mail your files before arrival and have your documents ready for you at the start of the meeting.

Business Center hours:
Monday–Sunday ........................................ 9:00 AM–5:00 PM

Career Resources and Development Services
As part of the Career Resources and Development (CRAD) services, the on-site Job Bank Center is located in the Walter E. Washington Convention Center in Rooms 157 and 158 on the First Level.

The Job Bank Center hours:
Sunday .................................................. 1:00 PM–4:30 PM
Monday .................................................. 9:00 AM–4:30 PM
Tuesday .................................................. 8:30 AM–4:30 PM
Wednesday ............................................. 8:30 AM–4:30 PM

Full CRAD details may be found on page 60.

Climate
In March, D.C.’s typical temperature range is an average low of 37.4°F/3°C and an average high of 55.7°F/13.2°C. For an up-to-date and more detailed weather forecast, visit the National Weather Service Forecast Office at www.erh.noaa.gov/er/lwx.

Coat/Luggage Check
For your convenience, a coat/luggage check will be available in Salon F in the Grand Lobby near Registration on the First Level. The coat/luggage check will be open Sunday, March 6 through Thursday, March 10. There will be a fee of $3 per item checked. Laptops, cameras, and other electronics will not be accepted.

Hours of operation:
Sunday .................................................. 7:00 AM–8:00 PM
Monday .................................................. 7:00 AM–8:00 PM
Tuesday ................................................. 6:00 AM–10:00 PM
Wednesday ........................................... 6:00 AM–8:00 PM
Thursday ............................................... 6:00 AM–1:00 PM

Coat/Luggage check hours are subject to change.
General Information (Continued)

Exhibitor Information
Full exhibit information details may be found on pages 35–42.

Exhibit Hall (Hours/Location)
Exhibit hours at the Convention Center:
Monday .............................................. 9:00 AM–4:30 PM
Tuesday .............................................. 8:30 AM–4:30 PM
Wednesday ........................................ 8:30 AM–4:30 PM

The ToxExpo™ Exhibition is located on the Second Level of the Convention Center. A map of the Exhibit Hall is located on pages 36–37. Exhibitor personnel may enter the hall one hour before the Exhibit Hall opens with appropriate identification. Poster presenters may enter the hall at the poster set-up times specified in the Event Calendar. ToxExpo™ Directories are available at Registration and just inside each entrance of the Exhibit Hall.

New This Year: ToxExpo™ Time!
In addition to the standard Exhibit Hall hours and poster presentation times, one hour of dedicated ToxExpo™ Time has been allotted in the scientific program for attendees to visit with exhibitors. ToxExpo™ Time will take place on Monday, March 7 from 1:00 PM–2:00 PM.

2012 Exhibit Space Selection Meeting
Exhibiting companies should plan on attending the 2012 Space Selection Meeting on Tuesday, March 8, at 4:45 PM in Room 156 on the First Level of the Convention Center.

Food Services
Coffee Breaks
The exhibiting companies are pleased to sponsor complimentary coffee in the Exhibit Hall between 9:00 AM–10:00 AM Monday—Wednesday. See Exhibit Hall signage for locations.

Concessions
Concession stands are available in the Exhibit Hall Monday 9:00 AM–4:30 PM and Tuesday and Wednesday from 8:30 AM–4:30 PM. Breakfast and lunch items will be available for purchase, as well as coffee, soda, bottled water, and snacks. Seating is available in the Concession areas in the Exhibit Hall. Please see the map on pages 36–37 for location.

ToxExpo™ Prize Drawing $500!
Drawings to take place on Monday, Tuesday, and Wednesday in the Exhibit Hall
$500 American Express Gift card awarded each day
Drop your business cards in the ToxExpo™ prize drawing boxes found in all Diamond Level Sponsor booths

Take a Break!
Grab a bite! Check e-mail! Plenty of seating is available in the Wi-Fi Lounges in the Exhibit Hall where wireless Internet access is available. See map on pages 36–37 for location.

First Aid and Emergency Services at the Convention Center
If an emergency should occur while at the Walter E. Washington Convention Center, proceed directly to the nearest house phone, located throughout the facility and in most meeting rooms, and dial 3333 for security. You will be connected directly to the 24-hour manned security department at the Convention Center. Dialing 202.249.3333 from your cell phone will also connect you directly to security.

A First Aid room will be located in Exhibit Hall D and accessible from inside the hall and from the loading dock.

The First Aid Administrator will be on duty:
Sunday .................................................... 7:00 AM–8:00 PM
Monday ..................................................... 7:00 AM–8:00 PM
Tuesday .................................................... 6:30 AM–10:00 PM
Wednesday ............................................ 6:30 AM–8:00 PM
Thursday ................................................ 6:30 AM–12:00 NOON

Please note that in accordance with District of Columbia regulations, the First Aid Administrator is not permitted to dispense any medication.
Green in Washington, D.C.
Seventy percent of land in Washington, D.C., is controlled by the National Park Service. There are 250,000 acres of parkland in the Greater Washington Metropolitan area. In 2007, D.C. was named the most walkable city in the U.S. in a study by the Brookings Institute. In late 2006, the D.C. City Council passed an initiative making the nation’s capital the first major city to require developers to adhere to guidelines established by the U.S. Green Building Council.

The Walter E. Washington Convention Center is a green meeting facility, with earth-friendly features like low emission glass that controls heat gain and loss and maximizes natural lighting; energy-conserving heating, ventilation and air conditioning systems that operate in zones; high-efficiency lighting; automatic controls on restroom fixtures; plus recycling programs and easy public transportation access.

The following lists some of the ways the Center is going green:

- The Center’s infrastructure supports storm water management. The extensive roof system feeds rain water into nine (9) large underground collection tanks around the property. The tanks collect, filter, then release rainwater into the District of Columbia’s storm system at a slower rate.
- The Center recycles cardboard/mixed paper, glass, aluminum, plastic bottles and cans, fluorescent bulbs, toner cartridges, and batteries.
- In addition to a food composting program, Centerplate (caterer for the Convention Center) offers organic and locally grown food and donates excess to the D.C. Central Kitchen, a nationally recognized, nonprofit organization.
- Lighting in restrooms is controlled by a light sensor system. The restrooms also have infrared flush commodes, low flow urinals, and faucet sensors.
- The lighting system in over a mile of the service corridors is sensored.
- There are carbon dioxide sensors throughout the Center to ensure that appropriate levels of fresh air are being circulated.
- Bike racks are available for guests and staff.
- “Metrochecks” are provided as a transit benefit to all employees for daily commute on Metrorail and Metrobus.

Guest/Spouse Hospitality Room
The SOT Guest/Spouse Hospitality Room provides guest participants (non-scientists) with a place to meet and socialize with other guests. To visit the Hospitality Room, guests must register for the Annual Meeting with the person they are accompanying. Guests will not have access to the scientific sessions or the Exhibit Hall. Please remember to wear your badge to all SOT events. The Guest Hospitality Room will be located in the Renaissance Hotel.

Guest/Spouse Hospitality Room hours:
Sunday ........................................ 8:00 AM–5:00 PM
Monday ........................................ 8:00 AM–5:00 PM
Tuesday ........................................ 8:00 AM–5:00 PM
Wednesday .................................. 8:00 AM–5:00 PM
Thursday ..................................... 8:00 AM–11:30 AM

Housing Desk
Destination D.C.
The deadline date for new housing reservations is February 3, 2011. Continue to make any requests through Destination D.C., through February 3. Beginning February 8, you may call the hotels directly for any housing requests. For information regarding your hotel room reservation on-site, please visit the SOT Housing Desk located in the registration area of the Walter E. Washington Convention Center.

Housing Desk hours:
Saturday ........................................ 4:00 PM–7:00 PM
Sunday ........................................ 8:00 AM–5:00 PM
Monday ........................................ 7:00 AM–5:00 PM
Tuesday ........................................ 8:00 AM–4:00 PM
Wednesday .................................. 8:00 AM–4:00 PM

Housing desk hours are subject to change.

Internet Access at the Convention Center
SOT knows the importance of staying connected to your daily activities while attending the Annual Meeting, and provides several ways for you to access the Internet while at the Walter E. Washington Convention Center.

Computers with Internet Access/E-mail Center
SOT will provide computers you can use to access the Internet. These computers are available to attendees in the E-mail Center located in the registration area.

Free Wireless Internet Access
Free wireless Internet access is available through open “Wi-Fi Lounges” in designated areas in the Exhibit Hall. See map on pages 36–37 for locations.

The Cost of Big Gatherings
Meetings can have a tremendous impact on the environment in ways you can’t imagine. For example, during a five-day conference, 7,000 attendees will use 175,000 plates, 245,000 napkins, 75,000 cups/glasses, and 252,000 cans/bottles!
Free wireless Internet access is also available in the complimentary Convention Center Connect Lounges located in the Grand Lobby, Concourse A, Concourse B, Metro Entrance, L Street Entrance near rooms 156 and 140, across from 143C, Uptown Cafe and Downtown Cafe, and 2nd and 3rd floor Wing seating areas.

**Secure Wireless Internet Access**

The Walter E. Washington Convention Center Wi-Fi is a self-service wireless network that is available to all event attendees. The cost is $24.95 per day based on a 24-hour time frame, and can be purchased directly from any wireless capable computer. This service allows Internet access in the public space and meeting rooms only, but not in the Exhibit Hall.

To access Internet in areas that are not designated for Wi-Fi in the Exhibit Hall, meeting rooms, and public space, the cost is $16.95 per hour or $99 per day.

**Letter of Attendance**

Please stop by the SOT Annual Meeting Registration Desk after Tuesday morning if you would like a letter of attendance for your participation in the 2011 SOT Annual Meeting and/or the Continuing Education Course(s).

**Lost and Found**

Lost and found articles may be taken to the SOT Headquarters Office, Room 101, of the Walter E. Washington Convention Center. Any items left in the SOT Headquarters Office after 11:30 AM, Thursday, March 10 will be taken back to SOT Headquarters Office. If you do not remove your poster at the end of your session, you will find it on the “Poster Reclamation Tables” at the end of the 1600 aisle in the Exhibit Hall (back right corner of hall).

**Lunch with an Expert Information Board**

The Lunch with an Expert (LWAE) events are informal gatherings of small groups of students and a Toxicology Expert over a meal or social hour. The Student Advisory Council sponsors these events to provide students an opportunity to network with well-established toxicologists while obtaining career advice and meeting new colleagues. The groups are matched by research interests and the Expert for each group identifies a time and place to assemble. The LWAE Information Bulletin Board provides all the details for the group meetings and is located in the registration area. Groups meet at the Board before proceeding to their meal.

**Media Support Services**

The Society of Toxicology welcomes accredited representatives of media organizations. Journalists may receive complimentary credentials for all meeting sessions, as well as a media kit, by contacting Martha Lindauer, Media Contact at SOT Headquarters: 703.438.3115 or e-mail martha@toxicology.org. Speaker interviews can be arranged on-site and media kits can be picked up at the SOT Headquarters Office, Room 101, in the Walter E. Washington Convention Center.

**Memorabilia**

Shirts, hats, coffee mugs, and other items customized for SOT are available for sale at the Annual Meeting in the Memorabilia Booth located in Registration area. Commemorative 50th Annual Meeting items will also be available for purchase.

**Parking Information**

Parking is at a premium throughout the entire city. There are over 3000 parking spaces in a three block radius of the Convention Center. There are also approximately 100 metered parking spaces within close proximity to the Convention Center. These spaces are available on a first-come, first-served basis.

For those driving into Washington, D.C., and staying overnight, please check with the hotel or use the map with the locations of parking and price list found on www.toxicology.org/ai/meet/am2011.

**Photography Policy and Session Etiquette for Attendees**

Out of courtesy for the scientific presenters, we appreciate your compliance with the following policies:

- Cell phones and other electronic devices should be set on mute.
- Electronic capture of scientific sessions by any method is prohibited.
- Children under the age of 15 are not allowed in scientific sessions unless the session chair gives consent.
- Photograph of poster presentations is prohibited without the specific consent of the presenter(s)/author(s).
- Photography of exhibitor booths is prohibited.
- Children under the age of 15 are prohibited from entering the Exhibit Hall at any time.

If you have any questions regarding these policies, please contact the SOT Headquarters staff at the Registration Desk.
General Information  (Continued)

Poster Printing Service (NEW)
SOT is pleased to offer our poster presenters a convenient poster printing service through Shepard Exposition Services, the official general service contractor for the Annual Meeting. No need to worry about traveling with your poster or having your poster lost in shipping. Simply fill out the on-line form, e-mail or upload your poster using the link provided, review and approve the final layout of your poster, and then pick up your poster on-site at the “Poster Pick Up Desk” near the Exhibitor Service Center (900 Aisle). Shepard will produce the materials for a reasonable price, which will include production, transportation, and storage for the show. It’s as simple as that! Please call 410.737.9270 or send an e-mail to rstaub@shepardes.com for more information. More information and the order form can also be found on the SOT Web site at www.toxicology.org/ai/meet/am2011/present.asp.

Safety and Security
The possibility of demonstrators is very real given the nature of our conference. Events of this nature range from verbal confrontations, protests, strikes, to riots. We recommend the following procedures in the event of demonstrations:

- Have your name badge available upon entering the Convention Center. Wear your name badge in the Convention Center. When leaving the facility, remove it so as to blend with other people.
- If you see a demonstration or protest beginning, please contact any member of the SOT Annual Meeting staff and they will initiate an SOT response. If you see actions that appear threatening, notify the nearest security officer.
- Do not engage, defend either side, or subdue person(s) in any type of disturbance. Demonstrators are usually trying to attract media attention. Don’t help them!
- SOT representatives will respond to media inquiries. Do not participate in interviews or other media responses.
- In the unlikely event that outsiders disrupt a scientific session or other event, SOT security officials have developed a contingency plan. Please follow directions from the chairperson and avoid becoming involved in the situation.

Safety Tips
Walk “smart” when you leave the Convention Center:

- Know your destination and the best way to reach it.
- Travel along sidewalks in lighted areas at night, and don’t walk alone.
- Establish a “buddy” system with another attendee to walk to and from the Convention Center.
- Share schedules and check up on each other periodically.
- Build your awareness of unknown surroundings by reviewing local information.
- Laptop computers are attractive, easy targets for thieves. Be sure your laptop is in a secure place.
- Jackets with pockets provide a convenient alternative to reduce the chance for lost or stolen handbags.

Our first priority is safety. The best way to stay safe is to be aware of your surroundings and to avoid situations where you feel uncomfortable.

Registration Desk Hours
The Annual Meeting Registration Desk is located in the Walter E. Washington Convention Center, East Salon in the Grand Lobby.

Registration Desk hours:
Saturday ...................................................... 4:00 PM–7:00 PM
Sunday ...................................................... 6:30 AM–8:00 PM
Monday ...................................................... 7:00 AM–5:00 PM
Tuesday ...................................................... 6:00 AM–4:30 PM
Wednesday .................................................. 6:00 AM–4:00 PM
Thursday ...................................................... 6:00 AM–11:30 AM

Full registration details may be found on page 44.

ToxExpo™ Prize Drawing $500!
Drawings to take place on Monday, Tuesday, and Wednesday in the Exhibit Hall
$500 American Express Gift card awarded each day
Drop your business cards in the ToxExpo™ prize drawing boxes found in all Diamond Level Sponsor booths

up-to-date information at www.toxicology.org
**General Information (Continued)**

**SOT Headquarters Office**

The SOT Headquarters Office is located in the Walter E. Washington Convention Center Room 101 on First Level.

**SOT Headquarters Office hours:**

- Saturday ........................................ 4:00 PM–7:00 PM
- Sunday ........................................ 7:00 AM–5:30 PM
- Monday ........................................ 7:00 AM–5:00 PM
- Tuesday ........................................ 7:00 AM–4:30 PM
- Wednesday .................................... 7:00 AM–4:30 PM
- Thursday ........................................ 7:00 AM–11:30 AM

**SOT Pavilion**

Do you know all the resources available through SOT and where to find them? Stop by the SOT Pavilion, Booth #464, centrally located in the Exhibit Hall and learn about SOT services and membership benefits, and SOT Regional Chapters, Specialty Sections, and Special Interest Groups. Find out about the SOT Endowment Fund, *Toxicological Sciences*, awards and fellowships, educational resources, and more. Special presentations will be given on SOT activities and membership benefits, including ToXchange, so be sure to stop by for the schedule of SOT Pavilion events. The SOT Pavilion is the one-stop shop for all of your SOT questions and membership needs. Make the SOT Pavilion your meeting place on the exhibit floor.

**Pavilion hours:**

- Monday ........................................ 9:00 AM–4:30 PM
- Tuesday ........................................ 8:30 AM–4:30 PM
- Wednesday .................................... 8:30 AM–4:30 PM

**Speaker Ready Room**

The Speaker Ready Room will be located in Room 208 and is available during the SOT Headquarters Office hours listed above. SOT will provide all confirmed presenters in scientific sessions log-in credentials to access the submission site to preload your presentations. All presentations should be preloaded in advance of the meeting, but not less than 30 minutes prior to the start of the sessions in the Speaker Ready Room only. Presenters will not be able to upload a presentation in the session room.

**Sponsorship**

The SOT Annual Meeting is the largest scientific gathering of toxicologists in the world, and our Annual Meeting Sponsors play an integral role in the success of this important event. Becoming an Annual Meeting Sponsor demonstrates your organization’s commitment to SOT’s vision of “creating a safer and healthier world by advancing the science of toxicology.”

Sponsorship also provides an opportunity for better name recognition of your company among SOT members and the Annual Meeting attendees. In addition, your support allows the Society to keep registration fees low, thereby enabling us to attract nearly 7,000 attendees to the Annual Meeting.

**There are four levels of sponsorship available:**

- Diamond ($10,000 or more), Platinum ($5,000–$9,999), Gold ($2,500–$4,999), and Silver ($1,000–$2,499).

You will find a complete menu of sponsorships designed to assist your organization in establishing a leadership position at the SOT 2011 Annual Meeting on the Web site at [www.toxicology.org](http://www.toxicology.org).

Sponsor names are prominently displayed on the Annual Meeting Web site, as well as in print materials that are distributed before and during the Annual Meeting. Sponsorship is also recognized through signage displayed around the Convention Center during the Annual Meeting.

Annual Meeting sponsorship contributions are tax deductible per IRS regulations. For detailed information about SOT sponsorship opportunities, please contact Liz Kasabian at SOT Headquarters: 703.438.3115 or e-mail: liz@toxicology.org.

For a complete list of our 2011 Annual Meeting Sponsors (as of press time), please see page 480 and the back cover.

**Tour Information**

For tour information, visit the Tour Desk located in the Registration area, Grand Lobby on the First Level.

**Tour Desk hours:**

- Saturday, March 6 .......................... 4:00 PM–7:00 PM
- Sunday, March 7 ............................ 8:00 AM–1:00 PM
- Monday, March 8 ........................... 8:00 AM–1:00 PM
- Tuesday, March 9 ........................... 8:00 AM–1:00 PM
- Wednesday, March 10 ..................... 8:00 AM–9:30 AM

*Tour desk hours are subject to change.*

**Tour Tickets**

Pre-purchased ticket holders will receive an e-mail confirmation up until February 25. Your e-mail confirmation will serve as the ticket for admission. Tickets are also sold on-site on a first-come, first-served basis at the tour desk. After February 25, call ETS Tours for availability of tickets at 888.447.4387 ext. 340 or e-mail: sue@eventtrans.com. No refunds will be made after February 25, 2011.

**Tour Departures**

Tour departure information will be available at the Tour Desk located in the Grand Lobby. All tours will leave from the L Street entrance of the Walter E. Washington Convention Center. Please arrive at least 15 minutes prior to your scheduled tour departure time.
General Information (Continued)

The Toxicologist (Print and CD-ROM)/Itinerary Planner and the Program

All Annual Meeting registrants receive a copy of this Program and The Toxicologist on CD-ROM, a special issue of Toxicological Sciences that includes all meeting abstracts and SOT Annual Meeting events. Special software on the CD, the Itinerary Planner, allows the meeting attendee to search the meeting abstracts, events, and create a personalized schedule for the meeting.

1. SOT Members in the U.S. and Canada will receive the printed Program and The Toxicologist on CD-ROM (with Itinerary Planner) prior to the Annual Meeting.

SOT Members outside of the U.S. and Canada may pick up the printed Program and The Toxicologist on CD-ROM at the meeting or may request that these be mailed following the Annual Meeting. Send e-mail requests to jimd@toxicology.org.

2. Non-SOT Members in the U.S. and Canada, who register on or before January 21 will receive the printed Program and The Toxicologist on CD-ROM (with Itinerary Planner) prior to the Annual Meeting.

All Non-SOT Members who register after January 21 (and non-SOT Members from outside of the U.S. or Canada) will receive the Program and The Toxicologist on CD-ROM (with Itinerary Planner) at the meeting.

3. Registrants will receive the Annual Meeting abstracts in The Toxicologist on CD-ROM as part of the Annual Meeting registration fee. Annual Meeting attendees may purchase a printed version of The Toxicologist for $20 per copy. You may preorder using the Registration Form and pick up a copy on-site or wait to purchase a copy on-site (while supplies last). The Toxicologist will be available for download (beginning February 2011) free-of-charge on the SOT Web site.

4. The Annual Meeting Itinerary Planner is available on the SOT Web site January–April.

NOTE: Please bring your copy of the Program with you to the Annual Meeting.

On-Line Itinerary Planning Tool Enhancements

SOT is excited about the improved functionality of the on-line customizable Itinerary Planner. We invite you to use this tool to plan your Annual Meeting experience.

Choose the presentations, featured lectures, meetings, or special event functions you wish to add to your personal itinerary. After you’ve selected your schedule of sessions, you’ll be able to export this information to your default calendar program for reference using iCal, a calendar software application that functions with Windows on the PC (www.brownbearsw.com), the Mac (www.apple.com), and most mobile devices. The downloaded information will contain specific details for these sessions or events such as date, time, and the location. Additionally, each presentation downloaded provides you with access to detailed abstract information including authors, institutions, and the full abstract.

More information available on the SOT Web site.

Transportation

Washington, D.C., is served by three major airports, Amtrak, and a world-class subway system (Metro). Ronald Reagan Washington National Airport (DCA) is approximately 6 miles from the Convention Center. Washington Dulles International Airport (IAD) is approximately 27 miles away, and the Baltimore-Washington International Thurgood Marshall Airport (BWI) is approximately 30 miles from the Convention Center. Amtrak’s Union Square station is approximately 2 miles from the Convention Center.
Special Airfare Discounts

SOT has established discounted rates through American and Delta Airlines for flights originating in the United States and Canada. Be sure to use the reference numbers when making your reservations to receive the discount. You may purchase your ticket on-line, call the airline directly using the toll free numbers, or provide your travel agent with the reference/discount numbers listed below.

**American Airlines**
800.433.1790
www.aa.com
Discount Code: 2931AX

American Airlines is offering a 10% discount off the lowest applicable fare. The discount is valid March 3–14, 2011, for travel to Washington, D.C., and surrounding airports. You may make reservations by calling the Meeting Services Desk at 800.433.1790 from anywhere in the United States or Canada and referring to the Star File discount code 2931AX. A reservation service fee per ticket will apply for each ticket booked over the phone. You may also book your ticket on-line at www.aa.com (no service fee applies). Under the promotion code, type 2931AX to receive the SOT discount.

**Delta Airlines**
800.328.1111
www.delta.com
Discount Code: NM5UY

Delta Airlines is offering up to a 5–7% discount off full/non-restricted fares to Washington, D.C. The discount is valid March 3–13, 2011, for travel to Washington, D.C., and surrounding airports. You may make reservations by calling the Meeting Services Desk at 800.328.1111 from anywhere in the United States or Canada and refer to discount code NM5UY. Delta does not charge a reservation service fee. No discount applies if you book your ticket on-line at www.delta.com.

SOT Travel Agent—Carlson Wagonlit

Carlson Wagonlit is the official travel management firm for SOT’s 50th Annual Meeting. To take advantage of their services and savings, call toll-free 800.535.9117 Monday through Friday, 9:00 AM–5:30 PM (Eastern Standard Time) and ask to speak to anyone on our SOT dedicated team, or e-mail: washington.remote@carlsonwagonlit.com. To obtain the maximum discounted fares, call at least 60 days prior to departure. Lower fares are still obtainable up to 14 days in advance. Please note that Carlson Wagonlit charges a $42 service fee per ticket.

**Before calling Carlson Wagonlit, please gather the following information:**

- The desired dates of arrival to and departure from Washington, D.C.
- Your home city or originating airport
- Your approximate time of departure from the originating airport
- The number of persons traveling (adults/children)
- Your method of payment, either credit card or check
- Your airline frequent flyer number(s)
- Your name as it appears on your ID and your date of birth

Identify yourself as a Society of Toxicology attendee. Carlson Wagonlit will find the best fare for you and e-mail an itinerary to you.

Ronald Reagan Washington National Airport (DCA)

Ronald Reagan Washington National Airport (DCA) is located in Arlington, Virginia, just across the Potomac River from the Nation’s Capital. Reagan National is directly linked to the region’s Metrorail system which is adjacent to Terminal B/C. For more information, call 703.417.8000 or visit www.metwashairports.com/reagan.

**Metrorail:** The Washington Metrorail system has an elevated Metrorail station connected to the concourse level of terminals B and C at Reagan National Airport. Metrorail fare cards may be purchased at machines located at all entrances to the Airport Metrorail station. The station is also fully accessible via elevators. Terminal B and C: Use either of two enclosed pedestrian bridges on the concourse level which connect directly to the station. Terminal A: Exit the terminal to the streetside curb and board any “Airport Shuttle” bus. At the stops for Parking Garages B and C (bus shelter #3 and bus shelter #5) you may access an enclosed bridge which connects to the Metrorail station.
General Information (Continued)

**Taxicabs:** Taxicab stands are conveniently located near the Arrivals (baggage claim) exits of each terminal. Dispatchers at each stand will help you select a taxicab based on your destination. Taxis to the SOT Hotels average around $14.

**Washington Dulles International Airport (IAD)**
Washington Dulles International Airport (IAD) is located in Chantilly, Virginia, 27 miles from downtown Washington, D.C. The airport is connected to the region's highway system via an Authority-operated, 16-mile Airport Access Highway dedicated to airport users. For more information, call 703.572.2700 or visit [www.metwashairports.com/dulles](http://www.metwashairports.com/dulles).

**Metrorail:** Purchase a ticket (one-way or round-trip) at the Washington Flyer Coach ticket counter located at Arrivals Door #4 in the Main Terminal. Travelers will also board the Coach from this location. The buses depart approximately every 30 minutes, but please listen for announcements for exact bus departure times. The Washington Flyer bus takes you to West Falls Church—VT/UVA station on the Orange Line. You may purchase a Metrorail fare card inside the train station at the West Falls Church Metro stop where you will board the train. Trains bound for “New Carrollton” will take you towards Downtown Washington, D.C. For more information, go to the Washington Flyer Web site at [www.washfly.com](http://www.washfly.com).

**Taxicabs:** Washington Flyer Taxicabs serve Dulles International Airport exclusively with 24-hour service from the airport. Taxicabs accept American Express, Diners Club, MasterCard, Discover Card, and Visa, and provide transportation at metered rates to any destination in metropolitan Washington. Approximate one way fares to Washington, D.C., range from $51 to $58. No reservation is required. Simply go to the “Taxi Passengers” area on the lower level of the Main Terminal, where a Taxicab Dispatcher is on duty 24 hours a day. Wheelchair-accessible minibuses can accommodate one person in his/her wheelchair plus three additional passengers. If paying by credit card, please confirm with the driver that credit is accepted before entering the taxi.

**Baltimore Washington International Airport (BWI)**
Baltimore Washington International Airport (BWI) is located in Baltimore, Maryland, 30 miles from downtown Washington, D.C. For more information call 410.859.7992 or 1.800.1 FLY BWI (435.9294) or visit [www.bwiairport.com](http://www.bwiairport.com).

**Metrorail:** BWI Express Metro bus service provides a direct connection between BWI and the Greenbelt Metro Station. The BWI Express/B30 service runs every 40 minutes, 7 days a week to the Greenbelt Metro Station, which is located on the Green Line of the Washington Metro System. There are two Express Bus Stops. One is located on the lower level of the International Concourse and the other stop is located on the lower level of Concourse A/B. The B30 will pick you up outside at the bus shelter.

**Taxicabs:** BWI Airport Taxi is the exclusive supplier of taxi transportation services from Baltimore-Washington International Airport. No reservations are needed and cabs are on-site waiting for you at the curb just outside of the baggage claim areas. Many of the vehicles are equipped to transport wheelchairs. There are manned service desks located at the baggage claim areas at A-Pier and D-Pier. Most cabs accept major credit cards. Ask your driver before departure to verify that the vehicle is credit card capable. Approximate one-way fare to Washington, D.C., is $90.

**Ground Transportation**
Washington, D.C., has one of the safest, cleanest, and most efficient transportation systems in the world. Metrorail and Metro Bus are the most convenient ways to get around Washington, D.C., with its logically laid-out streets and easy-to-use public transportation system. Washington, D.C., has one of the highest ratios of taxis per citizen in the country. Details about public transportation in Washington, D.C., are available at [www wmata com](http://www.wmata.com).

**SuperShuttle**
SuperShuttle provides ground transportation service between all major hotels in Washington, D.C., and Baltimore (BWI), Dulles (IAD), and Reagan (DCA) Airports. In order to receive an SOT discount of $3 one-way or $7 round trip, go to [www.supershuttle.com/default.aspx?gc=dgbk2](http://www.supershuttle.com/default.aspx?gc=dgbk2) and enter the group discount code DGBK2. You may also call in reservations at 800.258.3826 and mention DGBK2. Fares are subject to change without notice. Depending on the current price of fuel, there may be a fuel surcharge in place. Discount is valid for reservations made on the Web site or by phone, prepaid by credit card, for travel March 1–20, 2011. Note: You do not have to have an advance reservation to ride SuperShuttle, but without a reservation, you will pay the full fare at the ticket counter.

**Train**
800.872.7245
Discount Code: X42C-988
Amtrak offers 10% discount off the lowest available rail fare to Washington, D.C., from March 4–15, 2011. Includes travel up to three days prior to the convention start date and three days following the last day of the meeting. To book your reservation call Amtrak at 800.872.7245 or contact your local travel agent. Please refer to Convention Fare Code X42C-988 when making your reservation. Discount does not apply when booking on the Internet. This offer is not valid on the Auto Train and Acela service. Offer valid with sleepers, business class, or first class seats with payment of the full applicable accommodation charges.

**SuperShuttle**
SuperShuttle provides ground transportation service between all major hotels in Washington, D.C., and Baltimore (BWI), Dulles (IAD), and Reagan (DCA) Airports. In order to receive an SOT discount of $3 one-way or $7 round trip, go to [www.supershuttle.com/default.aspx?gc=dgbk2](http://www.supershuttle.com/default.aspx?gc=dgbk2) and enter the group discount code DGBK2. You may also call in reservations at 800.258.3826 and mention DGBK2. Fares are subject to change without notice. Depending on the current price of fuel, there may be a fuel surcharge in place. Discount is valid for reservations made on the Web site or by phone, prepaid by credit card, for travel March 1–20, 2011. Note: You do not have to have an advance reservation to ride SuperShuttle, but without a reservation, you will pay the full fare at the ticket counter.
General Information (Continued)

Union Station, 50 Massachusetts Avenue NE, Washington, D.C., is home to Amtrak and multiple commuter rail services; 3.8 million Amtrak passengers travel through D.C., each year. For more information, go to www.amtrak.com.

Metrorail and Metrobus
The Metro system is the nation’s third-largest (with 5 rail lines, 106 miles of track and 86 stations) and the second-most utilized transport system (carrying 206 million riders each year). For hours, fares, and station information, visit www.wmata.com. The Walter E. Washington Convention Center even has a dedicated Metro station serviced by the Yellow and Green lines and many hotels are conveniently located near Metro stations or bus routes. Metro bus runs a total of 338 routes throughout the city and the greater Washington, D.C., area, with more than 485 buses using compressed natural gas or a hybrid electric drive system helping to maintain D.C. as an eco-friendly city. Metro operates from 5:30 AM to MIDNIGHT on weekdays and to 3:00 AM on weekends.

D.C. Circulator
D.C. Circulator provides bus routes servicing 2.2 million riders each year, connecting Union Station with Adams Morgan, Georgetown, Capitol Riverfront, the Washington Convention Center and Southwest Waterfront, as well as seasonal service around the National Mall.

Fares range from $1 for passengers, 50 cents for Senior Citizens and Disabled persons, and free for children under 5 years old. Exact change is required unless you are using a SmartTrip Card (rechargeable) or an unlimited, multi-day, or weekly pass which are available at www.commuterdirect.com.

Five different color route options can get you around Washington D.C., and the on-line circulator map can suggest restaurants, shopping, attractions and entertainment near each bus stop. For hours and route maps, visit www.dccirculator.com.

• Orange line: Georgetown to Union Station
• Green line: Woodley Park–Adams Morgan–McPherson Sq
• Red line: Convention Center–SW Waterfront
• Dark blue line: Union Station–Navy Yard via Capitol Hill
• Light blue line: Rosslyn–Georgetown–Dupont

Taxis
Taxicabs are abundant throughout the District of Columbia. With more than 6,000 servicing the city, D.C. has one of the highest ratios of taxis per person. Taxi cabs are equipped with meters. If paying by credit card, please confirm with the driver that credit is accepted before entering the taxi.

SOT Ride Share
SOT is offering a Ride Sharing Program in conjunction with the Annual Meeting. For those that live close enough to the Washington, D.C., area or those that do not wish to fly, you may want to consider the Ride Share Program. Avoid airport hassles by driving and make it easier for other scientists to attend by sharing rides. Students especially appreciate ways to make the meeting even more economical.

Once you have registered for the Annual Meeting, you can access the Ride Sharing Program on-line at the Annual Meeting Web site. You can indicate whether you want to drive or be a passenger, and then see a list of others who have signed up. You will be responsible for matching your plans with another registrant, and removing your names when you have travel plans in place.

Washington, D.C. Area Activities
Here are just a few of the many popular attractions in Washington D.C.

International Spy Museum
800 F Street NW
202.EYE SPY U (393.7798)
www.spymuseum.org

The International Spy Museum is the first and only public museum in the United States solely dedicated to espionage, and the only one in the world to provide a global perspective on this all-but-invisible profession. It features the largest collection of international spy-related artifacts ever placed on public display. The stories of individual spies, told through film, interactive, and state-of-the-art exhibits, provide a dynamic context to foster an understanding of espionage and its impact on current and historic events. In addition to the Museum, the Complex includes a Museum Store, private dining and event facilities, and two restaurants: Zola and Spy City Cafe.
General Information (Continued)

John F. Kennedy Center for the Performing Arts
2700 F Street NW
202.467.4600
www.kennedy-center.org

The Kennedy Center, located on 17 acres overlooking the Potomac River, is America’s living memorial to President Kennedy as well as the nation’s busiest arts facility. Touring Kennedy Center productions and its television, radio, and Internet broadcasts reach millions around the world. As part of the Kennedy Center’s Performing Arts for Everyone program, more than 400 free performances are offered each year featuring international, national, and local artists. These include daily 6:00 PM concerts on the Millennium Stage. During March, the Kennedy Center will be featuring Madama Butterfly, Shear Madness, and the National Symphony Orchestra.

Library of Congress
1st Street SE between Independence Avenue and East Capitol Street
202.707.8000
www.loc.gov

The Library of Congress is the nation’s oldest federal cultural institution and serves as the research arm of Congress. It is also the largest library in the world, with millions of books, recordings, photographs, maps and manuscripts in its collections.

Mount Vernon Estate and Gardens
3200 Mount Vernon Memorial Highway, Mount Vernon, Virginia 703.780.2000
www.mountvernon.org

The estate, gardens, and farm of George Washington’s Mount Vernon totaled some 8,000 acres in the 18th century. Today, roughly 500 acres of this historic estate have been preserved 16 miles south of Washington, D.C., on the banks of the Potomac River. Visitors can see 20 structures and 50 acres of gardens as they existed in 1799.

The estate also includes a museum, the tombs of George and Martha Washington, Washington’s greenhouse, an outdoor exhibit devoted to American agriculture as practiced by Washington, the nation’s most important memorial to the accomplishments of 18th century slaves, and a collection which features numerous decorative and domestic artifacts.

National Air and Space Museum
6th Street and Independence Avenue SW
202.633.1000
www.nasm.si.edu/museum/flagship.cfm

The National Air and Space Museum on the National Mall in Washington, D.C., has hundreds of original historic artifacts on display, including the Wright 1903 Flyer, the Spirit of St. Louis, the Apollo 11 command module Columbia, and a Lunar rock sample that visitors can touch.

The Museum offers 22 exhibition galleries, the Lockheed Martin IMAX Theater, flight simulators, a three-level Museum shop, and a food-court-style restaurant.

National Gallery of Art
Constitution Avenue NW between 3rd and 9th Streets
202.737.4215
www.nga.gov

The National Gallery of Art, one of the world’s preeminent museums, was created for the people of the United States of America by a joint resolution of Congress accepting the gift of financier, public servant, and art collector Andrew W. Mellon in 1937, the year of his death. The Gallery’s collection of some 116,000 paintings, drawings, prints, photographs, sculpture, and decorative arts traces the development of Western art from the Middle Ages to the present.

National Mall and Memorial Parks
202.426.6841
www.nps.gov/nama

The National Mall stretches west from the foot of Capitol Hill at the Ulysses S. Grant Memorial to encompass the original Mall area, the Washington Monument Grounds, the Tidal Basin area, and West Potomac Park before terminating at the Watergate Steps behind the Lincoln Memorial.

National Mall and Memorial Parks includes the following icons:
- National Mall
- Washington Monument
- Thomas Jefferson Memorial
- Lincoln Memorial
- Franklin Delano Roosevelt Memorial
- World War II Memorial
- Korean War Veterans Memorial
- Vietnam Veterans Memorial
General Information (Continued)

**National Museum of American History**
14th Street and Constitution Avenue NW
202.633.1000
www.americanhistory.si.edu

The Smithsonian’s National Museum of American History dedicates its collections and scholarship to inspiring a broader understanding of our nation and its many peoples. It creates opportunities for learning, stimulates imaginations, and presents challenging ideas about our country’s past.

The Museum collects and preserves more than 3 million artifacts—all true national treasures. It takes care of everything from the original Star-Spangled Banner and Abraham Lincoln’s top hat to Dizzy Gillespie’s angled trumpet and Dorothy’s ruby slippers from “The Wizard of Oz.”

**National Museum of the American Indian**
4th Street and Independence Avenue SW
202.633.1000
www.nmai.si.edu

The National Museum of the American Indian is the sixteenth museum of the Smithsonian Institution. It is the first national museum dedicated to the preservation, study, and exhibition of the life, languages, literature, history, and arts of Native Americans. Established by an act of Congress in 1989 (amendment in 1996), the museum works in collaboration with the Native peoples of the Western Hemisphere to protect and foster their cultures by reaffirming traditions and beliefs, encouraging contemporary artistic expression, and empowering the Indian voice.

**National Museum of Natural History**
10th Street and Constitution Avenue NW
www.mnh.si.edu

The National Museum of Natural History is part of the Smithsonian Institution, the world’s preeminent museum and research complex. The Museum is dedicated to inspiring curiosity, discovery, and learning about the natural world through its unparalleled research, collections, exhibitions, and education outreach programs.

**National Zoological Park**
3001 Connecticut Avenue NW
202.633.4800
www.nationalzoo.si.edu

The National Zoo is a 163 acre zoological park set amid Rock Creek Park in the heart of Washington, D.C. Open to the public 364 days a year, it is home to 2,000 individual animals of nearly 400 different species. The best known residents are the giant pandas, Tian Tian and Mei Xiang.

**U.S. Capitol**
100 Constitution Ave NE
202.226.8000
www.visitthecapitol.gov

The U.S. Capitol is among the most architecturally impressive and symbolically important buildings in the world. The Senate and the House of Representatives have met here for more than two centuries.

The U.S. Capitol is open to the public for tours Monday through Saturday. Tickets are required to tour the U.S. Capitol. To guarantee availability, you should reserve your tour in advance on-line at www.visitthecapitol.gov or through your congressional representative or senator.

A limited number of same-day tour tickets may also be available at the U.S. Capitol Visitor Center. Tickets are not required to tour the Capitol Visitor Center, which is open 8:30 AM–4:30 PM, Monday through Saturday. Visit www.aoc.gov for more information.

**White House**
1600 Pennsylvania Avenue NW
202.456.7041
www.whitehouse.gov

Tours of the White House are available by advance arrangement through your member of congress or senator. Tours are arranged for groups of ten or more, but smaller groups and families should not be discouraged from requesting to join a tour. You should submit a request through your congressperson’s office at least one month and up to six months in advance. Visitors who are not U.S. citizens should contact their embassy in D.C. about tours for international visitors, which are arranged through the Protocol Desk at the State Department. The tours are self-guided and will run from 7:30 AM until 12:30 PM Tuesday through Saturday. You can locate your congressperson’s office by visiting www.house.gov. For your senator’s office, visit www.senate.gov.

**Washington, D.C. 100 Free (and Almost Free) Things**

Take a look at some of the fun, free, and almost free experiences that await you in Washington, D.C. Visit www.washington.org for more information.

**Dining and Nightlife**

There’s a reason that D.C. is considered one of the most exciting restaurant towns in the country. Just footsteps from the Walter E. Washington Convention Center, the Penn Quarter section of downtown draws lively crowds to some of
General Information (Continued)

the city’s hottest restaurants, including Oyamel and Brasserie Beck, voted two of 2007’s best new restaurants in the country by Esquire food critic John Mariani.

As local chefs and home-grown talent make names for themselves, some of the world’s leading chefs have also set up shop in the District. Celebrity chefs like Eric Ripert, Wolfgang Puck, and Laurent Tourondel have joined local culinary talents like Jose Andres, Michel Richard, and Robert Wiedmaier, opening new restaurants in the nation’s capital.

While sleek and stylish hotspots add a new twist to the D.C. dining scene, you can’t go wrong by feasting on a steak and martini at a classic power dining spot. Rub elbows with a Representative or spot a Senator at award-winning restaurants like The Palm, Sam & Harry’s, or Capital Grille. When celebrities come to town, their destination is often Georgetown’s Café Milano.

If you’re in the mood for more than just a great meal, you’re in luck. When the sun goes down, D.C. sizzles with great options for nightlife and entertainment. The D.C. music scene is best experienced live, and there are plenty of top-notch venues to check out. The 9:30 Club packs in crowds nightly and earns its reputation as the best live-music venue in the country, according to Esquire. In Georgetown, Blues Alley has hosted its share of musical greats as the nation’s oldest jazz supper club. For a distinctly D.C. live music experience, look for go-go, a fusion of African percussion with hints of Latin, jazz, funk, hip-hop, and soul that got its start in the District.

North of the Convention Center, the U Street/Shaw neighborhood was once known as “Black Broadway,” a popular touring stop for jazz legends like Miles Davis, Cab Calloway, and D.C. native Duke Ellington, who was born on V Street. Today the neighborhood is a must-see for music history buffs and jazz fans who gather for live sets and jam sessions at Polly’s, HR-57, Bohemian Caverns, and other venues.

You can experience D.C.’s international side and travel through a global village of casual, affordable restaurants and lively bars in Adams Morgan, a neighborhood that’s synonymous with late-night entertainment. After dinner, show off your salsa moves or sing along to 80s hits at the bars and clubs that line 18th Street and Columbia Road.

Downtown pulses with its own nightlife scene, drawing fashionable crowds to restaurants and lounges like the Park at Fourteenth, Lima Restaurant and Lounge for chic cocktails, mellow music, dancing, and conversation. There’s more to D.C. after dark than dinner, drinks and dancing. Theatre lovers will discover that there’s almost always something playing at the John F. Kennedy Center for the Arts, Arena Stage, and downtown venues like the Shakespeare Theatre Company, the Woolly Mammoth Theatre Company, the Warner Theatre, and the National Theatre. If you’re a sports fan, check the calendar at the Verizon Center to see who’s playing. Or watch the Washington Nationals take the field at the new Nationals Park in Southeast D.C. Group ticket rates are frequently available for theatre and sporting events.

Shopping

Capitol Hill/Barracks Row

Metro: Union Station, Capitol South, Eastern Market

Circulator: East-West route

The historic neighborhood that sits in the shadows of the Capitol dome offers shoppers a mix of nationally-known retail outlets and neighborhood specialty boutiques. Take Metro to the Eastern Market station and join locals at one of the city’s liveliest open-air weekend arts and crafts markets. On 8th Street SE, also known as Barracks Row, you’ll discover pet shops, antique shops and more. Union Station, D.C.’s glorious Beaux-Arts train station, houses dozens of familiar shops like Victoria’s Secret, The Body Shop, Ann Taylor, and Nine West.

Chevy Chase and Friendship Heights

Metro: Friendship Heights

One of the most elite addresses in metropolitan Washington, Chevy Chase straddles the border of D.C. and Montgomery County, Maryland. Take Metro’s Red Line to the Friendship Heights station to shop for high-end designer fashions at Neiman Marcus, Saks Fifth Avenue and Bloomingdales. A new shopping development, the Collection at Chevy Chase, attracts discerning shoppers to exclusive boutiques like Jimmy Choo, Max Mara, Gucci, and Tiffany. Near the Friendship Heights Metro, you’ll also find budget-friendly favorites like TJ Maxx and Loehmann’s, along with shopping mainstays like J Crew, Pottery Barn, and World Market.

Downtown

Metro: Metro Center, Gallery Place-Chinatown

Circulator: North-South and East-West routes

D.C.’s downtown has welcomed a wave of development in recent years, including the arrival of new shopping destinations. Chinatown’s Gallery Place development includes popular shops like Urban Outfitters, Aveda, and City Sports. Take a walk down F Street to sample gourmet cheeses at Cowgirl Creamery or shop for hip fashions at H&M or Zara. Stock up on stylish home furnishings at West Elm or browse 7th Street’s galleries for showpieces by emerging artists. Downtown is also home to Macy’s, Filene’s Basement and dozens of nationally-known retail outlets.
Dupont Circle  
**Metro:** Dupont Circle

This eclectic, cosmopolitan neighborhood is home to trendy galleries, used bookshops and national retail outlets. Pick up funky accessories at the Proper Topper, one-of-a-kind gift items at the Tiny Jewel Box, or browse gay and lesbian literature at Lambda Rising. Get a taste of D.C. after dark at Kramerbooks, a late-night bookstore and bar. Travel along Connecticut Avenue towards the White House and you’ll pass Brooks Brothers, Thomas Pink, and other leading names in retail. On Sundays, the neighborhood’s farmers market turns the Circle into a veritable feast for the senses.

Georgetown  
**Circulator:** East-West route

Serious shoppers won’t want to miss a trip to Georgetown, one of D.C.’s most celebrated shopping destinations. At once hip and historic, the neighborhood’s cobblestone streets are lined with locally-owned boutiques, antique shops and national retail outlets. Well-known chains like Banana Republic, Coach, and Restoration Hardware are located in the heart of the neighborhood, near the intersection of M Street and Wisconsin Avenue. Stroll up Wisconsin Avenue to shop independently-owned boutiques like Sassanova, Urban Chic, and Piccolo Piggies. On M Street, you’ll find a mix of retailers like Intermix and Anthropologie, along with D.C. exclusives like Hu’s Shoes and Dawn Price Baby.

Logan Circle/U Street/Shaw  
**Metro:** U Street/Afr-Am Civil War Mem’l/Cardozo

Locally-owned retail rules the shopping scene on 14th and U Streets, near Logan Circle. Fun and funky home furnishing shops like Go Mama Go! and Home Rule stock playful kitchen accessories, tableware, and wearable art. Locals gather at the bohemian bookstore and restaurant, Busboys & Poets, to surf the Internet, chat about politics, or participate in open mic nights.

For apparel, check out Pink November, Nana, Destination U, Lettie Gooch, and other uniquely D.C. shopping destinations.

Sports and Recreation

Washington, D.C., is home to six professional sports teams. The Washington Nationals (MLB Baseball), The Washington Redskins (NFL Football), The Washington Capitals (NHL Hockey), The Washington Wizards (NBA Basketball), The Washington Mystics (WNBA Basketball), and D.C. United (MLS Soccer) offer fans a professional sports experience any time of year.

You can combine your exercise regimen with your sightseeing adventures in D.C. by taking part in a walking or bicycle tour, designed with active travelers in mind. D.C.’s wide sidewalks and flat roads make it perfect for exploring on foot or on bicycle; in fact, the District was recently named the most pedestrian-friendly city in the U.S. in a study by the Brookings Institute.

With more than 230,000 acres of parkland within the metro area, D.C. is a nature-lover’s paradise. If you’re looking for a place to picnic or an urban retreat, escape to a beautiful park or garden.

Visitors and locals converge on the capital’s excellent jogging trails and beautiful biking routes—more than 800 miles of them in the region. Put on your sneakers and check out D.C.’s best paths.

Washington, D.C. Information Desks

An information desk is located in the Grand Lobby of the Convention Center and is staffed from 9:00 AM–5:00 PM daily. They can provide information about the Convention Center, general information about the city, and suggestions for dining. Brochures are also available. They cannot make dining reservations. A full listing of restaurants begins on page 32.

Additionally, guest services staff are strategically located throughout the Convention Center. They can assist you in navigating the building, verifying and directing you to meeting locations, and providing information on things to do and places to go while visiting the city. As a part of the Public Safety Team, they also report safety hazards and suspicious activities.
YOUR RECRUITMENT AND EMPLOYMENT RESOURCE

Job Seekers—Jobs Await You in the SOT Job Bank!!!
Employers Are Looking for Candidates through This Service
and You Don’t Want to Be Left Out

• All SOT Members can utilize the SOT Job Bank as a job seeker free-of-charge.
• Register and enter your candidate profile; it only takes 15 minutes to complete.
• Post your resume.
• Review the positions posted by major corporations, academic institutions, government agencies, and private research organizations; positions range from junior to senior level.
• Search by geographic location, employer name, salary, and other criteria.

Employers—Recruit Highly Qualified Candidates through the SOT Job Bank!!!
The SOT Job Bank is the Ideal Place to Streamline Your Recruitment Process and Provides Your Organization with a Valuable Tool

• Search from a pool of distinguished candidates.
• Join the many employers who rely on this cost-effective and efficient database to assist with their employment needs.
• Find the right candidate from among scientists trained in toxicology and the biological sciences with the expertise and right work experience for your position.
• Schedule interviews to hold during the SOT Annual Meeting at the on-site Job Bank Center.
• Reserve interview rooms in advance or on-site.
• SOT Affiliates receive a reduced registration rate in appreciation for supporting the Society in achieving its objectives.

The On-Line SOT Job Bank is available any time, from any place at www.toxicology.org/jobbank

The Society of Toxicology

up-to-date information at www.toxicology.org
Career Resources and Development Services

The Society of Toxicology’s Career Resource and Development (CRAD) services include the on-line Job Bank, special Job Bank activities at the Annual Meeting, career development seminars and resources, and employer ads in SOT’s newsletter, the *Communiqué*, which reaches the entire SOT membership and beyond.

**On-Line Mentor Match Program**

**Career Planning is Never Over: Lend a Hand or Receive One at Mentor Match!**

The Society of Toxicology recognizes the importance of mentoring in the scientific and professional development of its members. The objective of the new on-line mentoring program, Mentor Match, is to provide a service that matches mentees with potential mentors from the SOT membership to provide advice on career path selection, professional development, and life/work balance issues. SOT members are encouraged to share their professional knowledge and experience by serving as mentors for colleagues and for the next generation of toxicologists. The SOT Annual Meeting provides a great opportunity for the mentor and mentee to meet in person. We strongly encourage members of the Society to visit the Mentor Match site and register on-line as mentors and/or mentees. The Mentor Match program will develop as individuals register, allowing the quantity of profiles to increase to a robust combination of both mentors and mentees. The Mentor Match program is accessible to all active SOT members by visiting www.toxicology.org/ai/newcrad/mentormatch.asp.

**SOT On-Line Job Bank**

**Take Advantage of This Free Member Benefit**

SOT Members can register as a job seeker and access the positions posted on the Job Bank at no charge.

The Society’s on-line SOT Job Bank makes it easy for candidates and employers alike to access this resource year-round, any time, any place via the SOT Web site at www.toxicology.org/jobbank.

This forum links job candidates with employment positions in toxicology and related biological sciences. The SOT Job Bank allows you to:

- Register as an employer or candidate
- Post employment positions
- Search the Job Bank database
- Contact candidates or employers

The on-line Job Bank lists positions available at corporations, academic institutions, government agencies, and private research organizations. Employers rely on this on-line service to provide them with a robust database of candidates available for career opportunities, ranging from junior- to senior-level positions.

The Job Bank helps streamline the process for candidates and employers. Candidates can gain access to a variety of positions suited to their experience, areas of expertise, and desired geographical location. In addition, job seekers can see which sectors are hiring and stay abreast of new and emerging areas.

Employers can attract potential candidates in a targeted and cost-effective manner through this SOT service. By having access to detailed candidate resumes, employers can determine the right match for a specific position and expedite the recruitment process. SOT Corporate Affiliates receive a reduced rate for position posting in appreciation for supporting the Society in achieving its objectives.

**Job Seeker Registration for SOT On-Line Job Bank**

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**Employer Registration for SOT On-Line Job Bank**

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Career Resources and Development Services (Continued)

**Annual Meeting On-Site Job Bank Center**

Located in the Walter E. Washington Convention Center, the on-site Job Bank Center provides Annual Meeting attendees with access to the SOT Job Bank system as well as assistance in facilitating interviews at the SOT Annual Meeting. **All users with current registrations at the time of the Annual Meeting will be permitted to use this service.**

A bank of computers will be available in the SOT Job Bank Center for last minute updates to your account information or posting, as well as printers for producing paper copies of candidate profiles and position descriptions. **If you are a candidate attending the Annual Meeting, you should bring multiple copies of your personal resume for interested interviewers.** All candidates and positions will be sought on-line.

Employers recognize and appreciate that the Annual Meeting On-Site Job Bank Center provides a cost-effective and efficient way to interview a distinguished pool of candidates. Employers and candidates may take advantage of the multiple spaces available in Rooms 157 and 158 for interviews. Some rooms were available to be scheduled in advance, and others are on a first-come, first-served basis. To ensure privacy for candidates, the SOT Job Bank Center is located away from the scientific sessions. Also, the Job Bank interview rooms will be fitted with modular hard walls to increase privacy when interviews are conducted.

It is up to the registrants of this service to exercise the confidentiality options that are offered. SOT is not responsible if any information contained in the Job Bank database is released.

Although you are encouraged to pre-register before entering the Job Bank Center, you can register on-site in Rooms 157 and 158.

**The Center is available during the following hours of operation:**

- **Sunday, March 6** 1:00 PM–4:30 PM
- **Monday, March 7** 9:00 AM–4:30 PM
- **Tuesday, March 8** 8:30 AM–4:30 PM
- **Wednesday, March 9** 8:30 AM–4:30 PM

On-line Job Bank access will be available—as always—through your personal computer and at the Annual Meeting E-mail Center. Access to the on-line Job Bank in the Center is limited to short searches for updates or new information.

For additional information, contact John Bae at SOT Headquarters: 703.438.3115 ext. 1660 or e-mail: johnb@toxicology.org.

**Employer Ads in SOT Communiqué**

The Society’s newsletter, the *Communiqué*, is published four times annually. It includes career opportunity advertisements for employers from corporate, university, governmental, and nonprofit organizations wishing to reach the entire SOT membership and beyond. For more information, contact Marcia Lawson at SOT Headquarters: 703.438.3115 ext. 1446 or e-mail: marcia@toxicology.org.

**SOT’s Career Development Program Track**

To help you develop your near-term and long-term career pathway, plan on attending the Education-Career Development Sessions scheduled this year that will be of special interest to you. Sessions include the following:

- **Social Media and Informatics Essentials for Toxicologists—**Monday, March 7, 12:10 PM–1:30 PM, Room 147
- **From Pilot Grants to High-End Journals: The Science of Writing—**Wednesday, March 9, 6:30 AM–7:50 AM, Room 144
- **Polishing Today’s Job Candidate in a Tough Economy—**Wednesday, March 9, 1:30 PM–4:15 PM, Room 202A
- **Bringing Toxicology to the Decision-Makers Table: Opportunities for Science Policy Positions in Washington, D.C.—**Thursday, March 10, 6:30 AM–7:50 AM, Room 145
SOT Encourages the Recruitment of Undergraduates to Toxicology

Undergraduates can sign up on the SOT Web site for special status as Undergraduate Student Affiliates

Special Programs for Undergraduates at the SOT Annual Meeting

These are coordinated by the SOT Education Committee and Committee on Diversity Initiatives.

• Undergraduate Education Program for students from groups underrepresented in the sciences and their advisors
• Undergraduate Education Program for students at institutions that receive low federal funding in science, math, engineering, and technology
• Pfizer Undergraduate Student Travel Award for outstanding students presenting abstracts

Support for toxicology career presentations through the ToxScholar and Guest Lecturer Programs

Toxicologists receive travel support for visits to campuses to present seminars and meet informally with students to introduce toxicology and discuss career pathways. Funds are also available for international career presentation.

SOT Recognizes Undergraduate Educators

Endowment Fund 50th Anniversary Undergraduate Educator Award

—Joan B. Tarloff—

Find more information at www.toxicology.org
SOT 2011 Award Recipients

**Achievement Award**

*Nathan Cherrington, Ph.D.*, Associate Professor of Pharmacology and Toxicology, College of Pharmacy, and Associate Professor, Community Environment and Policy Division, Mel & Enid Zuckerman College of Public Health, University of Arizona, is the recipient of the SOT 2011 Achievement Award for his significant early career contributions to toxicology.

Dr. Cherrington’s research focuses primarily on the role of disease states such as non-alcoholic steatohepatitis in the inter-individual variability in drug metabolism and disposition. He has also extended his interest to examine the critical role that transporters play in the blood-testis barrier. Dr. Cherrington’s acclaim as an expert in transporter research has resulted in his inclusion as a member of various NIH Study Sections (NIDDK, NCCAM, XNDA, HBPP). For his studies, he has garnered support from NIH (NIDDK, NIAID, NICHD, NIEHS) and the Arizona State Disease Control Commission, as well as industrial support from AstraZeneca. The value of his research studies are further demonstrated in the competitive awards that his students have received via pre-doctoral NIH Awards and in student poster sessions at regional and national SOT meetings, including both Mechanisms and Drug Discovery Toxicology Specialty Sections.

Dr. Cherrington is an active member of SOT, serving on the Committee on Diversity Initiatives as well as having Regional Chapter assignments. He also serves on the Editorial Boards of *Toxicological Sciences* and other prominent journals in the field. He is an outstanding teacher and a prodigious author with numerous articles and a book chapter to his credit.

Dr. Cherrington earned his B.S. from Brigham Young University (1993), a Ph.D. in Toxicology from North Carolina State University (1997) with Ernst Hodgson, and completed a successful postdoctoral fellowship at the University of Kansas Medical Center (2002) with Curtis Klaassen. He was recruited to the University of Arizona as an Assistant Professor in 2002 where, in addition to his current responsibilities as Associate Professor, he serves as the Director of the Pharmacology-Toxicology Graduate Program and as a Council member of the University’s Graduate College. For the significant contributions to toxicology that he has made in the early stages of his career, the Society of Toxicology is pleased to present the SOT 2011 Achievement Award to Dr. Nathan Cherrington.

**Arnold J. Lehman Award**

*Bette Meek, Ph.D.*, is recognized as the 2011 Arnold J. Lehman Award recipient for her contributions to risk assessment and regulation of chemical agents.

Dr. Meek is Associate Director, Chemical Risk Assessment, McLaughlin Centre for Population Health, University of Ottawa, having recently completed an Interchange from Health Canada, where she continues to develop opportunities for mutually beneficial interactions among the regulatory and academic communities and agencies such as the World Health Organization regarding health risk assessment, risk management, and risk communication.

Widely recognized as a major driving force for the development and application of new technologies and approaches for improving the practice of human health risk assessment, Dr. Meek is especially distinguished as one of the key individuals who have consistently led international efforts to move human health risk assessment forward scientifically. A prime example of her leadership has been her role in fostering the use of science-based methods including weight of evidence frameworks for incorporation of mode of action information and pharmacokinetic data and physiologically based pharmacokinetic (PBPK) modeling for determining the relationship between external exposure and internal (target tissue) exposure.

A tireless, motivated, and committed contributor and leader, Dr. Meek has clearly demonstrated sustained and outstanding contributions to the knowledge and practice of hazard characterization, dose response assessment, exposure assessment and risk characterization. Her efforts have led to major progress in the use of new methodologies in the health assessments conducted by Health Canada, and, through her work for national and international agencies, around the world. Among other attributes Bette is articulate, erudite, humorous, forward thinking, tenacious, and steely, making her a savvy opponent in any argument using well thought out, logical, and consistent thinking with the latest science or the appropriate application of the newer methods.

Dr. Meek has moved the field of regulatory toxicology and risk assessment significantly forward though innovative thinking and principled risk assessment practice. In recognition of her achievements, the SOT Awards Committee is pleased to announce Dr. Bette Meek as the recipient of the 2011 Arnold J. Lehman Award.
SOT 2011 Award Recipients (Continued)

**Best Postdoctoral Publication Awards**

The Postdoctoral Assembly recognizes these three recipients of their 2011 awards:

**Dieldrich S. Bermudez, Ph.D., U.S. EPA/NCSU, Raleigh, NC**
Bermudez, D.S., Gray, L.E., and Wilson, V.S.
Modeling the Interaction of Binary and Ternary Mixtures of Estradiol with Bisphenol A and Bisphenol AF in an In Vitro Estrogen-Mediated Transcriptional Activation Assay (T47D-KBluc)

**Joshua A. Harrill, Ph.D., U.S. EPA, Research Triangle Park, NC**
Harrill, J.A., Freudenrich, T.M., Machacek, D.W., Stice, S.L., and Mundy, W.R.
Quantitative Assessment of Neurite Outgrowth in Human Embryonic Stem Cell Derived hN2 Cells Using Automated High-Content Image Analysis
*Neurotoxicology* 201, 31(3):277–90

**Jordan Ned Smith, Ph.D., Pacific Northwest National Laboratory, Richland, WA**
Smith, J. N., Wang, J., Lin, Y., and Timchalk, C.
Pharmacokinetics of the Chlorpyrifos Metabolite 3,5,6-Trichloro-2-Pyridinol (TCPy) in Rat Saliva
*Toxicological Sciences* 2010, 113(12):315–325

**Board of Publications Award for the Best Paper in Toxicological Sciences**


The authors of the paper are Kun Lu, Leonard B. Collins, Hongyu Ru, Edilberto Bermudez, and James A. Swenberg.

In this paper, the authors used high performance liquid chromatographic-electrospray ionization-tandem mass spectrometry methods with selective ion monitoring (LC-ESI-MS/MS-SRM) to quantify formaldehyde-DNA adducts in various tissues. Furthermore, by exposing rats to [13CD2]-formaldehyde, they distinguished endogenous formaldehyde-DNA adducts from those resulting from inhalation exposure. With this approach, the authors determined that DNA adducts in the respiratory nasal epithelium resulting from exogenous exposure to formaldehyde (10 ppm; 5 days at 6 hr/day) were similar in abundance to those formed via endogenous formation of formaldehyde. The relative abundance of the exogenous and endogenously-formed adducts is notable new information as no previous research differentiated the precise source of DNA damage in the nose, and confirmation of DNA adducts from [13CD2]-formaldehyde support a causal role for genotoxicity in nasal carcinoma. In addition, whereas adducts from the inhaled stable-labeled formaldehyde were detected in the nasal epithelium, no adducts attributed to exogenous exposure to formaldehyde were detected in other tissues, including bone marrow. These observations offer important perspective on whether DNA adducts can be associated with the potential risk of formaldehyde-induced leukemia.

The paper is being recognized because it provides important new data that is both timely and salient to enhancing the mechanistic understanding of the carcinogenic mode of action of inhaled formaldehyde in respiratory nasal epithelium. The results are also directly applicable to improving the scientific basis of human health risk assessment.
Oliver Hankinson, Ph.D., Professor, Department of Pathology and Laboratory Medicine, and Director, Interdepartmental Doctoral Program in Molecular Toxicology, at the University of California, Los Angeles, is the recipient of the 2011 Distinguished Toxicology Scholar Award.

For over thirty years, Dr. Hankinson has had a record of making seminal contributions to research in Toxicology. One of his most outstanding contributions being the identification, cloning and functional characterization of the Aryl Hydrocarbon Receptor Nuclear Translocator (ARNT) protein, which presaged a transformational explosion in our understanding of the mechanisms of 2,3,7,8-tetrachlorodibenzo-p-dioxin (dioxin) and polycyclic aromatic hydrocarbon carcinogenesis and toxicity, and the organism’s response to hypoxia.

Dr. Hankinson is the founding and current Director of the UCLA Molecular Toxicology interdepartmental Ph.D. program (IDP). In 2000 he secured a training grant for the Molecular Toxicology program from the University of California Toxic Substances Research and Teaching Program (UC TSR&TP). This grant was considered seed funding, and expired in June, 2008, when he was awarded a training grant in Molecular Toxicology from the National Institutes of Environmental Health Sciences (NIEHS) in July, 2008. The NIEHS grant supports 4 pre-docs and 2 postdocs. This was the only new training grant awarded by the NIEHS in 2008.

The research of Dr. Hankinson’s laboratory has provided, and continues to provide, fundamental insights into the mechanisms whereby mammals respond to chemical carcinogens and hypoxia. For example, his recent research has documented roles for coactivator proteins and for chromatin modification during the activation of gene transcription by dioxin and hypoxia. The observations his group has made are highly relevant to diseases responsible for a major proportion of human mortality in the U.S.A, including cancer, heart attack, stroke, asthma and chronic lung disease. Furthermore, his laboratory has been an important source of reagents for other research groups.

In recognition of his substantial and seminal scientific contributions to our understanding of the science of toxicology, Dr. Hankinson is presented the 2011 SOT Distinguished Toxicology Scholar Award.

Michael Gallo, Ph.D., ATS, DABT, Professor, Environmental and Occupational Medicine; Adjunct Professor, Pharmacology and Toxicology, and Member of the Graduate Faculty, Rutgers College of Pharmacy, is the recipient of the SOT 2011 Education Award. Professor Gallo continues to enjoy a long and distinguished career in Toxicology. His pre-doctoral and postdoctoral training were conducted at the Albany Medical School of Union University, Albany, New York, under the tutelage of Professor Fred Coulston, a Founding member and Past President of the SOT.

Having begun his career in 1972 as a toxicologist in the drug industry, he was appointed Director of the Toxicology Division in the Department of Occupational and Environmental Medicine at the Rutgers (now Robert Wood Johnson) Medical School of the University of Medicine and Dentistry of New Jersey (UMDNJ), New Brunswick, NJ, in 1980. Most of his research career has focused on dioxin, its receptor, and its biological activities and he has authored more than 90 research articles. Among his most significant contributions to toxicology are as a mentor and role model to graduate students. Among his many accomplishments, he was instrumental in the inception, development, and success of the Joint Graduate Program in Toxicology sponsored by Rutgers the State University of New Jersey and the Robert Wood Johnson Medical School of UMDNJ, which has successfully graduated more than 100 Ph.D. candidates in Toxicology.

Professor Gallo’s educational activities go beyond the university. He has been very active in resurrecting the Gordon Conference on Toxicology, one of the most important educational opportunities available to the toxicological community. He has also served on numerous national committees, including NAS/NRC Committees, the EPA Science Advisory Board, and the National Toxicology Program Board of Scientific Counselors, among others. He brings his experiences on these panels directly to the students to insure that they have an appreciation of the part that their own research may play in deciding upon national policies relating to chemicals.
SOT 2011 Award Recipients (Continued)

As he truly represents the best and most important aspects of the toxicology educator, the Society is pleased to name Dr. Michael Gallo the recipient of the SOT 2011 Education Award.

Endowment Fund
50th Anniversary Undergraduate Educator Award

Joan B. Tarloff, Ph.D., Professor, Department of Pharmaceutical Sciences, Philadelphia College of Pharmacy, University of the Sciences in Philadelphia, is the recipient of the 2011 SOT Endowment Fund 50th Anniversary Undergraduate Educator Award.

Throughout her career, Dr. Tarloff has exemplified the philosophy that in order to build for the future of toxicology, one must first excite the students at the undergraduate level. As one of the few programs offering a B.S. level program in toxicology, the University of the Sciences in Philadelphia (USP) has provided many opportunities for Dr. Tarloff to influence undergraduates. She has been active in shaping this program, especially the core coursework in Biochemical Pharmacology and Toxicology, Research Techniques in Pharmacology and Toxicology and Biometrics in Pharmacology and Toxicology, and has served as Program Director from 1988 to 1996.

Dr. Tarloff traditionally has carried a heavy teaching load for several course classes at USP. She is the course coordinator and a lecturer for Pharmacology I and II, and is an integral lecturer in Physiology, with approximately 20 contact hours teaching in renal physiology. In addition, Dr. Tarloff is a course coordinator and lecturer for Principles of Medicinal Chemistry and Molecular Pharmacology.

Dr. Tarloff is consistently accessible and works with the students to solidify concepts that are critical to their success as pharmacists and scientists. For those students in the Pharm/Tox program, Dr. Tarloff invests additional time mentoring them, preparing them for careers and encouraging them to pursue graduate degrees. Dr. Tarloff also has an active research program and has received NIH grant support. She inspires people, and this is evident in the quality of her former students that have completed graduate school.

Dr. Tarloff has also been active in the Society of Toxicology, serving in the Mechanisms Specialty Section, and the Communications Committee. In appreciation and recognition of her achievements, the Society is pleased to present Dr. Joan Tarloff with the 2011 SOT Endowment Fund 50th Anniversary Undergraduate Educator Award.

Founders Award

Joseph Borzelleca, Ph.D., is presented the SOT 2011 Founders Award in recognition of his outstanding leadership in fostering the role of toxicological sciences in safety decision-making through the development and application of state-of-the-art approaches that elucidate, with a high degree of confidence, the distinctions for humans between safe and unsafe levels of exposures to chemical and physical agents.

One of the early leaders in the Society and an enthusiastic participant in all of its affairs, Dr. Borzelleca has served as a Councilor, Secretary, and President (1973–1974) of the Society.

As an effective and persuasive spokesman for our discipline, he has represented SOT and our discipline in various governmental agencies—including the Food and Drug Administration, Environmental Protection Agency, National Cancer Institute, Occupational Safety and Health Administration and National Institute for Mental Health—and has been a vigorous proponent for good science and toxicology in several prominent roles in the National Academy of Sciences, the World Health Organization and a variety of other national and international organizations.

He has served as the editor of *Food and Chemical Toxicology* since 1992 and is on the editorial board of nine other journals. His contributions to food safety are especially noteworthy. A review of his many publications in the peer-reviewed literature reveals many that deal with food additives or contaminants. His work did not stop with the publication of the results of well-designed and conducted studies. He regularly took the next step and championed the use of the science in safety evaluations. He personally contributed to evaluations of the health aspects of over 100 compounds used as food ingredients or having the potential to contaminate foods.

A passionate and dedicated teacher of graduate and medical students and an advocate for toxicology in all of his many scientific activities, Dr. Borzelleca is recognized both nationally and internationally as a distinguished expert in food toxicology. He is a mentor to his fellow toxicologists, an example to follow for his students and a joy for all who know and work with him.
For his extraordinary achievements and contributions to ensuring the safety of food, the Society recognizes Joseph F. Borzelleca as the 2011 Founders Award recipient. His career epitomizes the use of toxicological science to create a healthier world.

Leading Edge in Basic Science Award

Masayuki Yamamoto, M.D., Ph.D., is awarded the 2011 SOT Leading Edge in Basic Science Award for his discovery and characterization of the Keap1-Nrf2 signaling pathway, a seminal scientific advance that is having a profound and pervasive impact on the field of toxicology. Currently Vice President, Tohoku University, and Dean of the Tohoku University Graduate School of Medicine, Sendai, Japan, he is an incredibly productive scientist, publishing regularly in high impact journals.

Over the past decade, the transcription factor Nrf2 has become recognized as a master regulator of adaptive responses to oxidative and electrophilic stresses. Expression levels, polymorphisms and mutations in the pathway all affect susceptibility of mammals to a wide range of toxicants. Dr. Yamamoto has been at the forefront of defining both the molecular details of signal transduction via Nrf2 and the mechanisms underlying cell survival via this pathway. He and his colleagues have recently used the tools of molecular biology, mouse genetics and structural biology to describe the intricate details of how chemical signals are transduced through Keap1 to allow Nrf2 to accumulate in the nucleus and activate or repress its target genes.

Dr. Yamamoto has identified and characterized to a remarkable level of depth and detail, in a short period of time, a signaling pathway that influences the toxicological responses of a wide range of agents. The importance of this pathway in human disease, especially that with underlying environmental etiologies, is only beginning to emerge, but will be a topic of intense investigation over the next few years.

Dr. Yamamoto has clearly shown his dedication to basic toxicological research throughout his scientific career. He has published more than 400 research articles, including 199 Nrf2 papers, in which 113 are toxicology related. He continues to make seminal and significant contributions to the Nrf2 field, having published 124 papers (71 with toxicology topics) in the past five years alone.

Human Development.

Dr. Aschner is a worldwide authority in the field of metal neurotoxicity, particularly with regard to methylmercury and manganese. Over the years, he has characterized the molecular mechanisms of methylmercury neurotoxicity, particularly in glial cells. His pioneer work has allowed shifting the “neuronocentric” theory of neurotoxicity to the understanding of the important roles that glial cells play in modulating the neurotoxicity of this organometal and of other compounds. His research in this area has been supported continuously by NIEHS for the past twenty years, and his major R01 grant on this topic was recently renewed for another five years.

In addition to another NIEHS grant that has supported his research on manganese over the years, Dr. Aschner has also served as the Principal Investigator of a major Department of Defense Research Program (Manganese Health Research Program) which has funded his research as well as that of several other laboratories under his guidance and administration. He has also made many other innovative contributions in related fields, showing his ability to identify new trends and needs in neurotoxicology. His early recognition of the potential of “omics” technologies in neurotoxicology has led to important and thought-provoking commentaries on this topic. An extremely productive scientist, he has authored almost 300 peer-reviewed publications, dozens of book chapters, and several books, among other publications.
Dr. Aschner’s contributions to toxicology go beyond his successful research and mentoring of students and younger colleagues; his service to the profession, and organizations involved in toxicology and risk assessment, including the Society of Toxicology, have been highly remarkable. It is a distinct pleasure to honor and recognize Dr. Michael Aschner with the 2011 SOT Merit Award.

**Merit Award Lecture: Living with Passion—Neurotoxicology Goes Global: Scientific Collaboration and Mentorship, Monday, March 7, 12:15 PM–1:05 PM, Room 201**

**Perry J. Gehring**

**Diversity Student Travel Award**

**Eva A. Amouzougan**,
Boise State University, Boise, ID

*Abstract Number: 1855
Poster Board Number: 139
Abstract Title: Regulation of Carbonyl Reductase Activity by Ah Receptor Ligands*

**SOT/AstraZeneca/IUTOX Travel Fellowship**

Sonali Das, Ph.D., Strand Life Sciences Pvt. Ltd., Bangalore, India

David K. Essumang, M.Phil., University of Cape Coast, Cape Coast, Ghana

Rawiwan Maniratanachote, Ph.D., National Nanotechnology Center, Klong Luang, Thailand

Anoka A. Njan, Ph.D., Aiida-4 Medical Consultants, Abuja, Nigeria

Osman S. Shaik, Ph.D., Strand Life Sciences Pvt. Ltd., Bangalore, India

Songsak Srianujata, Ph.D., Institute of Nutrition, Mahidol University, Bangkok, Thailand

Dexter Tugwiryi, Ph.D., University of Zimbabwe, Harare, Zimbabwe

Qinli Zhang, Ph.D., Shanxi Medical University, Taiyuan, China

Bin Zhao, Ph.D., State Key Laboratory of Environmental Chemistry and Ecotoxicology, Beijing, China

**SOT Endowment Fund/IUTOX Travel Fellowship**

Daam Settachan, Ph.D., Chulabhorn Institute, Bangkok, Thailand

Omoniyi Kayode Yemitan, Ph.D., State University College of Medicine, Lagos, Nigeria
Translational Impact Award

Weida Tong, Ph.D., Director, Center for Bioinformatics, Division of Systems Biology, National Center for Toxicological Research (NCTR), Food and Drug Administration, is the 2011 Translational Impact Award recipient. Dr. Tong is internationally recognized for his leadership in the area of computer modeling and bioinformatics which are areas critical to the development of “omic” biomarkers. These evolving classes of biomarkers generate large quantities of data which must be digested and translated into useful information for risk assessment purposes. One clear example of his leadership in this area as the Director of the Center for Bioinformatics in the Division of Systems Biology, NCTR, has been the development of the Array-Track™ system for managing genomic data sets which has gained acceptance and been adopted by a number of Federal agencies, universities, and the private sector. With this software, FDA has been able to analyze animal and clinical genomic data submitted as part of the Voluntary Genomic Data Submissions (VGDS) process and in regulatory filings. This system, developed under his leadership, has hence had a major public health impact as a translational tool for genomic data sets.

Dr. Tong has been involved in many cross-agency and intra-FDA center efforts. His ability to work between the realm of molecular biology and computational methods has been critical to the ongoing success of interagency/interdisciplinary collaborative projects involving scientists from U.S. FDA, ATSDR, U.S. EPA, and NIH/NCGC.

Dr. Tong has a long history of successfully organizing large groups of individuals from different backgrounds to address areas of common concern relevant to the use of genomic data in translational medicine. He is well-known and respected within the genomics community and has been invited to present at many national and international meetings. Based on his exemplary leadership and accomplishments and considerable contributions, the Society recognizes Dr. Weida Tong as the recipient of the 2011 SOT Translational Impact Award.

Translational Impact Award Lecture: Integration of Bioinformatics into Regulatory Decision Making, Wednesday, March 9, 12:15 PM–1:05 PM, Room 151

Do you know a toxicologist who deserves to be recognized?

SOT recognizes distinguished toxicologists and students with many prestigious awards each year. In addition to receiving the specific award, recipients are honored at a special Awards Ceremony at the SOT Annual Meeting and their names are listed in SOT publications. Most award nominations and applications are submitted through a quick on-line process.

Applications for 2012 national SOT awards are due October 9, 2011.

Regional Chapter Awards, Special Interest Group Awards, and Specialty Section Awards have various deadlines throughout the year.

Visit the Awards and Fellowships section of the Web site for award descriptions, additional information, and to make nominations.

www.toxicology.org
2011 Award Recipients

**AstraZeneca Traveling Lectureship Award**

*Saber Hussain, Ph.D., ATS,* is the 2011 AstraZeneca Traveling Lectureship Award recipient. The award recognizes excellence in research and service in toxicology and enables a lecture tour of Europe to promote collaborations between European and North American toxicologists.

Dr. Hussain is Group Leader for the Nanotoxicology Section at the Air Force Research Laboratory where he leads a team of fifteen members in conducting *in vitro* toxicity evaluation of nanomaterials. His current research assesses toxicity of engineered nanomaterials in unique *in vitro* co-culture models representative of potential target organs using a spectrum of toxicity end points.

Since 1999, Dr. Hussain has been an adjunct faculty member at the Wright State University (WSU), University of Dayton (UD) and Air Force Institute of Technology (AFIT) where he has been involved in teaching toxicology courses and presenting training courses. He is a recognized mentor at the Wright State University and University of Dayton where he is affiliated as faculty, and in the Wright Scholar program, NRC, and DAGSI.

Dr. Hussain's lecture itinerary will serve to familiarize research related to nanotoxicity at both industrial and academic institutions in Europe with the objective to establish productive relationships and collaborations with European Scientists. His goal is to gain a better understanding of the European view points on nanotoxicity testing using *in vitro* models, risk assessment and policy of nanomaterials in particular; strengthen collaboration with European colleagues; and provide great opportunities to leverage cutting-edge technology that benefits the U.S. The Society recognizes Dr. Saber Hussain with the 2011 AstraZeneca Traveling Lectureship Award.

**Colgate-Palmolive Awards for Student Research Training in Alternative Methods**

*Vijay More, M.S., University of Rhode Island, Kingston, RI*

**Project Title:** Modeling Diabetes, Obesity, and Non-Alcoholic Fatty Liver Disease in Mouse Hepatocytes to Aid in Prediction of Drug-Induced Liver Injury

**Host Institution:** University of North Carolina at Chapel Hill, Chapel Hill, NC

**Colgate-Palmolive Grants for Alternative Research**

*Patrick Allard, Ph.D., Harvard School of Public Health, Boston, MA*

**Project Title:** Design of a High-Throughput Screen for Chemicals That Cause Meiotic Aneuploidy

**Hao Zhu, Ph.D., University of North Carolina at Chapel Hill, Chapel Hill, NC**

**Project Title:** Predictive Quantitative Structure Activity Relationship (QSAR) Modeling of Reproductive and Developmental Toxicity Using Integrated Chemical and Biological (HTS Profiles) Descriptors of Molecules

**Colgate-Palmolive Postdoctoral Fellowship Award in In Vitro Toxicology**

*Cassandra Deering Rice, Ph.D., University of Utah, Salt Lake City, UT*

**Project Title:** TRPA1 As a Molecular Mediator of Toxicities by Diesel Exhaust Particles (DEP)

**Host Institution:** University of Utah, Salt Lake City, Utah
2011 Award Recipients (Continued)

**Pfizer Undergraduate Student Travel Award**

*Brandon Haghverdian*, University of California Irvine, Irvine, CA

*Abstract Number:* 584  
*Poster Board Number:* 422

*Abstract Title:* Changes in Mouse Pulmonary Response As a Function of Methacholine Aerosol Characteristics

*Jessica Hartman*, University of Arkansas, Little Rock, Little Rock, AR

Research conducted at University of Arkansas for Medical Sciences

*Abstract Number:* 1893  
*Poster Board Number:* 127

*Abstract Title:* Butadiene Epoxide Metabolites Inhibit CYP2E1 Activity

*Camilla Odio*, Kenyon College, Gambier, OH

*Abstract Number:* 347  
*Poster Board Number:* 704

*Abstract Title:* Specific Amino Acid Residues within the Ligand Binding Domain Confer Low Responsiveness to 2, 3, 7, 8-Tetrachlorodibenzo-p-dioxin (TCDD) to an Aryl Hydrocarbon Receptor (AHR) from the Frog Xenopus laevis.

*Viviana Vidal Anaya*, University of Puerto Rico Cayey, Cayey, PR

Research conducted at Michigan State University

*Abstract Number:* 1384  
*Poster Board Number:* 230

*Abstract Title:* Different Susceptibilities to MeHg-Induced Cell Death between Non-Neuronal and Neuronal Cells

**Syngenta Fellowship Award in Human Health Applications of New Technologies**

*Michele C. DeSimone, B.S.*, University of North Carolina at Chapel Hill, Chapel Hill, NC

*Project Title:* Using Population-Based Genetic Models to Investigate Mode-of-Action and Susceptibility to Environmentally-Linked Kidney Disease

**The following scientist was selected for a fellowship at the 2010 SOT Annual Meeting.**

**2010 Novartis Graduate Student Fellowship**

*Eric N. Liberda, B.E.S, M.E.S, M.A.Sc.*, New York University School of Medicine, Tuxedo, NY

*Abstract Number:* 2058  
*Poster Board Number:* 708

*Abstract Title:* Inhaled Nickel Nanoparticles and Murine Endothelial Progenitor Cells
Honorary membership is awarded by the Society of Toxicology to persons who are not members of the Society in recognition of outstanding and sustained contributions to advancing the science and field of toxicology. The 2011 SOT Honorary Members are William C. Hays, Esq., and Dr. Frances Oldham Kelsey.

William (Bill) C. Hays Esq., has represented the Society of Toxicology as Councilor for five decades and has been central to all the activities of the Society. As a Counsellor-at-Law with offices in Boston, Massachusetts, he has extensive experience in all aspects of estate planning, the administration of trusts, and in the settlement of estates. His practice, Hays & Skerry, also extends into the fields of real estate and general business law. Bill acts as trustee on many family trusts and also serves on the boards of numerous charitable and civic organizations. As Counsellor for the Society, he has studiously reviewed all changes to the Constitution and By-Laws of the Society, making key recommendations and providing judicious guidance and astute advice in all matters, from the development of new Membership classes to the shaping of the strategic vision of the Society to create a safer and healthier world by advancing the science of toxicology. Bill’s influence can be traced to the very forming and foundations of the Society and will no doubt extend to the future well being of the Society as well.

Mr. Hays has lectured extensively in eastern Massachusetts on estate planning and affordable housing. He is a past chairman of the Regional Planning Subcommittee and the Land-Use Committee of the Boston Bar Association. He is a 1955 graduate of Bowdoin College and earned his law degree from Harvard Law School in 1960. The Martindale Hubbell National Law Directory has awarded Mr. Hays an AV rating, the highest rating for legal ability and professional ethics.

Frances Oldham Kelsey, Ph.D., M.D., is a pharmacologist who is famous for her diligence in evaluating the drug Thalidomide while a physician at the U.S. FDA. The U.S. FDA withheld approval of the drug based on her recommendations and the drug was later found to cause birth defects. Born on Vancouver Island in British Columbia on June 24, 1914, she graduated from high school at 15 and enrolled at McGill University, Montreal, Canada, where she would receive both a Bachelors (1934) and Masters (1935) of Science in pharmacology. In 1938, she earned her Ph.D. in Pharmacology from the University of Chicago where she later taught from 1938 to 1950. During this period Dr. Frances Oldham married Dr. Fremont Ellis Kelsey, a faculty member at the University of Chicago, (becoming Dr. Frances Kelsey) and had two daughters. Also, it was during this time that Dr. Frances attended the University of Chicago’s Medical School and received her M.D. (1950). She interned at Sacred Heart Hospital in Yankton, South Dakota, and from 1954 to 1957 was an associate professor of pharmacology at the University of South Dakota. In 1955 she became a nationalized citizen. From 1957 to 1960 she ran a private practice in South Dakota.

During her first month at the U.S. Food and Drug Administration, Dr. Frances Oldham Kelsey took a bold stance against inadequate testing and corporate pressure when she refused to approve release of thalidomide in the United States. For this she was awarded the highest honor given to a civilian in the United States, the President’s Award for Distinguished Federal Civilian Service, by President John F. Kennedy. She went on to help shape and enforce amendments to U.S. FDA drug regulation laws to institutionalize protection of the patient in drug investigations. These regulations required that drugs be shown to be both safe and effective, that informed consent be obtained from patients when used in clinical trials, and that adverse reactions be reported to the U.S. FDA.

In 2005, Dr. Kelsey retired from the U.S. FDA at the age of 90. She was recently honored by the U.S. FDA by presenting her with the first annual “Dr. Frances O. Kelsey Award for Excellence and Courage in Protecting the Public Health.”
Over 30 Endowment Fund Awards Given in 2010  
Plans to Fund Nine Additional Awards in 2011  
The Endowment Fund Needs Your Support to Achieve This Goal

Our thanks and deep appreciation to all the members and friends of the Society who have contributed to our previous goal of reaching $1 million in donations by the 50th Anniversary year.

The number of named funds has grown to 30 at the time of this printing. Students are the main beneficiaries of the awards from the various Funds.

Help exhaust the SOT Council Approved $750,000 50th Anniversary Match. Your contribution can have twice the IMPACT.

Matches will be made for all contributions to the four General Purpose Funds:
- Educational Activities Fund
- International Activities Fund
- SOT Priorities Fund
- Student Travel Fund

<table>
<thead>
<tr>
<th>INDIVIDUAL CONTRIBUTIONS</th>
<th>Recognition Level</th>
<th>Contribution in a Fiscal Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paracelsus Circle</td>
<td>$500 or more</td>
<td></td>
</tr>
<tr>
<td>Gold</td>
<td>$250–$499</td>
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<tr>
<td>Silver</td>
<td>$100–$249</td>
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<tr>
<td>Bronze</td>
<td>$40–$99</td>
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</tbody>
</table>

For a full listing of all the Funds and to make a contribution today to the SOT Endowment Fund of your choice, please visit www.toxicology.org/ai/csot/contributions.asp

Endowment Fund Contribution Donor Form can be found on page 415.
SOT Endowment Fund 2010 Award Recipients

Mary Amdur Student Award Fund


Laxman S. Desai Association of Scientists of Indian Origin Student Award Fund

Arun Kumar Asaitthambi, B.S., Iowa State University, Ames, IA

Founders Fund

James S. Bus, Ph.D., DABT, ATS, Dow Chemical Company, Midland, MI

Perry J. Gehring Biological Modeling Student Award Fund

Sheppard A. Martin, B.S., M.P.H., University of Georgia, Athens, GA

Marc-André Verner, M.Sc., University of Québec, Montréal, QC, Canada

Young Soo Choi Student Scholarship Award Fund

Do Hyung Kim, M.S.P.H., San Diego State University, San Diego, CA

Join Us for the Announcement of 2011 Endowment Fund Award Recipients

2011 Endowment Fund Awards

Awarded by

Mary Amdur Student Award

Young Soo Choi Student Scholarship Award

Laxman S. Desai ASIO Student Award

Diversity Initiatives

John Doull Student Award

Founders Fund

Perry J. Gehring Biological Modeling Student Award

Perry J. Gehring Diversity Student Travel Award

Health and Environmental Science Institute Immunotoxicology Young Investigator Student Award

Vera W. Hudson and Elizabeth K. Weisburger Scholarship

Frank C. Lu Food Safety Student Award

Jean Lu Student Scholarship Award

Roger O. McClellan Student Award

Harihara Mehendale ASIO Student Award

Metals Specialty Section Graduate Student/Postdoc Award

Molecular Biology Student Award

Pacific Northwest Toxicology Development

Emil A. Pfitzer Drug Discovery Student Award

Gabriel L. Plaa Education Award

Renal Toxicology Fellowship Award

Robert J. Rubin Student Travel Award

Dharm V. Singh ASIO Student Award

Dharm V. Singh Carcinogenesis Award

Carl C. Smith Student Mechanisms Award

Please refer to the Daily Pocket Calendar, Event Listing, or Program Description for date, time, and location of the Committee on Diversity Initiative Reunion, Regional Chapter, Special Interest Group, and Specialty Section receptions where the Endowment Fund Awards are conferred.
SOT Endowment Fund 2010 Award Recipients (Continued)

Perry J. Gehring Diversity Student Travel Award Fund
Nygerma L. Dangleben, B.S., University of California Berkeley, Berkeley, CA

Frank C. Lu Food Safety Student Award Fund
Alicia Marroquin-Cardona, D.V.M., M.Sc., Texas A&M, College Station, TX

Molecular Biology Student Award Fund
Jill Franzosa, M.S., Oregon State University, Corvallis, OR

Perry J. Gehring Risk Assessment Student Award Fund
Anne Loccisano, Ph.D., The Hamner Institutes, Research Triangle Park, NC

Jean Lu Student Scholarship Award Fund
Haitian Lu, M.S., Michigan State University, East Lansing, MI

Raymond Lo, B.Sc., University of Toronto, Toronto, ON, Canada

Kun Lu, M.S., University of North Carolina at Chapel Hill, Chapel Hill, NC

Roger O. McClellan Student Award Fund
Yogesh Saini, M.S., B.V.Sc., Michigan State University, East Lansing, MI

Lauren Mordasky Markell, B.S., Penn State University, University Park, PA

Health and Environmental Science Institute Immunotoxicology Young Investigator Student Award Fund
Megumi Maeda, Ph.D., Kawasaki Medical School, Kurashiki, Okayama, Japan

Harihara Mehendale Association of Scientists of Indian Origin Student Award Fund
Indira Devi Jutooru, B.V.Sc., Texas A&M, College Station, TX

Melissa Barhoover, Ph.D., The Hamner Institutes for Health Sciences, Research Triangle Park, NC

Vera W. Hudson and Elizabeth K. Weisburger Scholarship Fund
Natalie Malek Johnson, B.S., Texas A&M, College Station, TX

Tamara Tal, Ph.D., Oregon State University, Corvallis, OR

Peili Yao, Ph.D., University of Texas at Austin, Austin, TX
SOT Endowment Fund 2010 Award Recipients (Continued)

Emil A. Pfitzer Drug Discovery Student Award Fund

Arunkumar Asaithambi, B.S., Iowa State University, Ames, IA
Peter Bui, B.S., University of California Los Angeles, Los Angeles, CA
David Castro, Ph.D., Sanford-Burnham Medical Research Institute, La Jolla, CA
Harriet Kamendi, Ph.D., AstraZeneca, Wilmington, DE

Renal Toxicology Fellowship Award Fund

Jennifer Cohen, Ph.D., University of Arizona, Tucson, AZ
Xiaoling Zhang, MS, University of Georgia, Athens, GA

Dharm V. Singh Carcinogenesis Award Fund

Lauren Mordasky Markell, B.S., Penn State University, University Park, PA

Emil A. Pfitzer Drug Discovery Student Fund

David Szabo, Ph.D., University of North Carolina at Chapel Hill, Chapel Hill, NC

Dharm V. Singh Association of Scientists of Indian Origin Student Award Fund

Mayurranjan S. Mitra, B.Pharm, Ph.D., Washington University, Saint Louis, MO

Robert J. Rubin Student Travel Award Fund

Dharm V. Singh Carcinogenesis Award Fund

Dharm V. Singh Carcinogenesis Award Fund

Robert J. Rubin Student Travel Award Fund

Donald S. Backos, B.S., M.P.H., University of Colorado, Denver, CO
Neal S. Gould, B.S., University of Colorado, Denver, CO

Carl C. Smith Student Mechanisms Award Fund

Bradley P. Sullivan, B.S., University of Kansas Medical Center, Kansas City, KS

(not pictured)
Christina Powers, B.A., Duke University, Durham, NC and
Sumitra Sengupta, B.S., M.Sc., Oregon State University, Corvallis, OR
Recognition and Special Events

All activities will be held at the Walter E. Washington Convention Center in Washington, D.C., unless otherwise noted.

50th Anniversary Silent Auction

Live on SOT Website on February 1
(Access on-site in the E-mail Center or via your Internet connection)

Chairperson(s): Anne Loccisano, The Hamner Institutes for Health Sciences, Research Triangle Park, NC.

Sponsor:
Postdoctoral Assembly

In honor of the 50th Anniversary of SOT, the Postdoctoral Assembly is organizing the 50th Anniversary Silent Auction. Bid on vacation get-a-ways or purchase items of historical significance to SOT and toxicology (such as books, laboratory items, memorabilia, photographs) as well as other items of general interest. Bids for some items will close in the E-mail Center Monday, March 7, from 4:45 PM–5:45 PM. Join the excitement! Cash bar available. Bring your laptop or smart phone to join in the bidding.

Bids for remaining items will close beginning at 10:00 AM Wednesday and conclude at 1:00 PM. All proceeds from the Silent Auction will go to the Endowment Priorities Fund.

Regional Chapter, Special Interest Group, and Specialty Section Receptions

Sunday, March 6 through Wednesday, March 9, Various Times

Many of the SOT RC, SIG, and SS meet during the SOT Annual Meeting. All current and prospective RC, SIG, and SS members are encouraged to attend. More information can be found on pages 80–82.

SPECIAL EVENTS

Smithsonian Seminar: Poisons: When Good Chemicals Turn Bad

Saturday, March 5, 9:30 AM–4:30 PM
S. Dillon Ripley Center

To commemorate SOT’s 50th Anniversary, the Smithsonian Institution is holding an all day seminar for the public featuring the latest research in the science of toxicology, and information about the positive and adverse effects that chemical, biological, and physical substances can have on people, animals, and the environment. We are surrounded by chemicals that may be beneficial, harmful, or neither depending on the dose.

This day-long session, which features several SOT Members, is open to the public and requires separate registration. SOT members receive the Smithsonian member discount. To learn more please visit www.toxicology.org/ai/meet/am2011.

Protecting You and Your Pet through the Science of Toxicology: Paracelsus Goes to Washington

Saturday, March 5, 10:00 AM–5:00 PM
Marian Koshland Science Museum of the National Academy of Sciences


Sponsors:
Education Committee
K–12 Task Force

SOT is sponsoring a free Family Day at the Marion Koshland Science Museum of the National Academy of Sciences. We invite meeting attendees and their families, as well as D.C. visitors and residents, to experience this science museum near the Walter E. Washington Convention Center. In addition to the activities that are on display, SOT will supplement the topic areas of Wonders of Science, Safe Drinking Water, Global Warming, and Infectious Disease with toxicology-related activities. Toxicologists from a variety of employment sectors will be available to engage with visitors to learn more about toxicology.

Dr. Reimschuessel, V.M.D., Ph.D., is Program Director of the Veterinary Laboratory Response Network, Center for Veterinary Medicine, U.S. FDA. She will speak at 12:00 NOON on “Poisoned Pet Food—Unraveling the Melamine Mystery.” Prior to 2007 melamine was considered a relatively non-toxic chemical. During 2007, many dogs and cats became ill, developing kidney failure. When food testing laboratories found melamine in the pet food, scientists were puzzled. First, why was this chemical in the food, and second, was it the melamine that was causing the kidney failure?

She will describe her investigation into these questions and how her scientific background in both human and veterinary medicine helped her recognize key aspects of the pathology to solve this mystery. She will also describe the difference between the pet food recall and the Chinese infant formula melamine events, and the studies U.S. FDA is conducting to gain more insight into this unusual form of toxicity.

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Recognition and Special Events (Continued)

Dr. Reimschuessel was co-author on the paper published from these investigations that was recognized as the 2010 SOT Board of Publications Award for the Best Paper in Toxicological Sciences, “Identification and Characterization of Toxicity of Contaminants in Pet Food Leading to an Outbreak of Renal Toxicity in Cats and Dogs” (Toxicological Sciences 2008, 106: 251–262).

More information about the Koshland Science Museum event is on the Web Site, including how to volunteer to assist that day.

Committee on Diversity Initiatives Reunion
Saturday, March 5, 8:00 PM–9:00 PM
Room 103

Hosted by:
Committee on Diversity Initiatives

The Committee on Diversity Initiatives (CDI) will host the CDI Reunion from 8:00 PM–9:00 PM on Saturday, March 5. Whether as a student, peer mentor, host mentor, speaker, or organizer, anyone who has ever been involved in the SOT Undergraduate Program is invited to attend. Visit with colleagues who have been involved in the program over the last 22 years, meet with program alums, and greet the undergraduate students who are attending the program this year. The 2011 Endowment Gehring Diversity Student Travel Award will be presented. Enjoy dessert, coffee, and tea. Start off your 50th Anniversary meeting celebration by joining with the special people who have contributed to the diversity in SOT through this important activity.

Awards Ceremony Music
Perform by Gail Shanta
Sunday, March 6, 4:45 PM–5:15 PM
Room 207

Gail Shanta was raised and educated in England, Germany and France. She began playing piano at the age of four and later studied organ while attending the University of Aix-en-Provence in southern France. Gail began studying the harp while working on a doctorate at the University of Colorado. She has been performing with Mount Vernon Orchestra and Fairfax City Band. In addition, she has played for fund-raising events such as Alexandria Symphony, The Lyceum, Ronald McDonald House, and others.

Awards Ceremony
Sunday, March 6, 5:15 PM–6:30 PM
Room 207

SOT will recognize our prestigious award recipients at the SOT Awards Ceremony (pages 63–71). Please refer to the Awards and Fellowships section of the SOT Web site for complete details about the award recipients and criteria. In commemoration of the 50th Anniversary, two individuals who have significantly and positively influenced the fields of toxicology will be inducted as Honorary Members: William Hays, Esq. and Dr. Frances Kelsey.

Endowment Fund 50th Anniversary Undergraduate Educator Award
Sunday, March 6, 5:15 PM–6:30 PM
Room 207

The new Endowment Fund Undergraduate Educator Award is being sponsored by the Endowment Education Fund and the Endowment SOT Priorities Fund in honor of the 50th Anniversary and outstanding undergraduate education. The awardee, Joan B. Tarloff, will be recognized at the Sunday, March 6, Awards Ceremony. To learn more about the award criteria, please visit www.toxicology.org/ai/af/awards.aspx.

25-Year (or More) Member Reception
Sunday, March 6, 6:30 PM–7:30 PM
Room 103

If you have been a member of the Society of Toxicology for 25 years or more, please join your colleagues to celebrate and recognize the scientists who established the Society. Be sure to sport your 25-year, 35-year, 45-year, or 50-year member pin.
MONDAY

Landmarks Program Presentation to the National Academy of Science

Monday, March 7, 7:45 AM–8:00 AM
Grand Ballroom

Michael P. Holsapple, SOT President, will present a landmark plaque to the leaders of the Committee on Toxicology, National Academy of Sciences (NAS), where the Society of Toxicology was founded March 4, 1961, and subsequently re-defined, fostered, and supported. The plaque represents the gratitude and appreciation of the leadership and membership of the Society of Toxicology.

In Vitro Toxicology Lecture and Luncheon for Students: Full Speed into an Alternative Future

Monday, March 7, 12:00 NOON–1:20 PM
Salon G
(Ticket Required)

Lecturer: Robert E. Chapin, Pfizer, Groton, CT.

Sponsor: Colgate-Palmolive Company

Hosted by: Education Committee

Graduate students, undergraduates, postdoctoral scholars, and recipients of Colgate-Palmolive awards are among the guests at the In Vitro Toxicology Lecture and Luncheon. The goal of the In Vitro Toxicology Lecture series is to feature important research using in vitro and alternative techniques to study basic mechanisms, and to illustrate how these test methods benefit animal welfare by refining and reducing animal use. Students and postdocs can reserve a ticket for the luncheon with a $10 deposit when they register for the SOT Annual Meeting. See page 83 for more information.

TUESDAY

Postdoctoral Assembly Luncheon

Tuesday, March 8, 12:00 NOON–1:15 PM
Salon G
(Ticket Required)

Sponsor: Postdoctoral Assembly

Amidst scrambling to attend all of the events at the meeting, this will be time for postdocs to kick back and relax! All postdoctoral scholars are invited to a casual luncheon organized by the Postdoctoral Assembly (PDA). We will announce the recipients of the Best Postdoctoral Publication Awards and acknowledge the postdocs who received awards this year from Regional Chapters, Special Interest Groups, and Specialty Sections. The PDA Board members will present an overview of accomplishments and future directions for the PDA, and will introduce the new board members for 2011–2012. There will be a drawing for prizes. Postdocs can reserve a ticket for $5 when they register for the Annual Meeting.

50th Anniversary Member Celebration Meeting

Tuesday, March 8, 4:30 PM–6:00 PM
Room 207

All members are invited to celebrate the Society’s first 50 years of accomplishments. This fun event will highlight the history and growth of the Society over the past 50 years recognizing the members who are responsible for the Society’s success. Come see what is going in the Time Capsule that will be opened in 2036 by current and future SOT members. Receive your copy of The Society of Toxicology: The First Fifty Years.

Celebration Event

Tuesday, March 8, 6:30 PM–9:30 PM
Grand Ballroom
(Ticket Required)

Come celebrate the 50th Anniversary in style. Dance the night away with tunes from the Beatles as performed by BeatleMania Live. Dress in your favorite decade’s attire (60’s to the future)! Additional entertainment plans include festive decorations, games, delicious food stations, and beverages. This is truly an event you will not want to miss! Purchase your ticket now by signing up on the 2011 Annual Meeting registration form. A limited number of discounted tickets have been set aside for trainees (undergraduate students, graduate students, and postdocs). All tickets will be sold on a first-come, first-served basis and are non-refundable after February 11, 2011.
RC, SIG, and SS Receptions  

Regional Chapter Meetings/Luncheons or Receptions  
Sunday, March 6 through Wednesday, March 9, Various Times

Many of the SOT Regional Chapters meet during the SOT Annual Meeting. All current and prospective Regional Chapter members are encouraged to attend.

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
<th>Time</th>
<th>Location</th>
<th>Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central States Regional Chapter Meeting/Luncheon</td>
<td>Monday, March 7</td>
<td>12:00 NOON to 2:00 PM</td>
<td>Embassy Suites</td>
<td>Capital Ballroom B</td>
</tr>
<tr>
<td>Gulf Coast/South Central Regional Chapters Joint Reception</td>
<td>Monday, March 7</td>
<td>5:00 PM to 6:30 PM</td>
<td>Fado Irish Pub</td>
<td></td>
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<tr>
<td>Michigan Regional Chapter Reception (Happy Hour/Social Gathering)</td>
<td>Wednesday, Mar 9</td>
<td>5:00 PM to 6:30 PM</td>
<td>TBD</td>
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</tr>
<tr>
<td>Mountain West/Southern California Regional Chapters Joint Reception</td>
<td>Monday, March 7</td>
<td>6:00 PM to 7:30 PM</td>
<td>RFD Restaurant</td>
<td></td>
</tr>
<tr>
<td>National Capital Area Regional Chapter/NRC Committee on Toxology Joint Reception</td>
<td>Monday, March 7</td>
<td>5:30 PM to 7:30 PM</td>
<td>Embassy Suites</td>
<td>Capital Ballroom A</td>
</tr>
<tr>
<td>Northeast Regional Chapter Student Luncheon</td>
<td>Tuesday, March 8</td>
<td>12:30 PM to 2:00 PM</td>
<td>Renaissance</td>
<td>Congressional A</td>
</tr>
<tr>
<td>Northern California Regional Chapter Reception</td>
<td>Monday, March 7</td>
<td>6:30 PM to 8:30 PM</td>
<td>District Chophouse Restaurant</td>
<td></td>
</tr>
<tr>
<td>Regional Chapter Governance Committee Meeting</td>
<td>Wednesday, Mar 9</td>
<td>12:00 NOON to 1:30 PM</td>
<td>Convention Center</td>
<td>Room 304</td>
</tr>
<tr>
<td>Regional Chapter Presidents and Officers Meeting</td>
<td>Tuesday, Mar 8</td>
<td>7:00 AM to 8:30 AM</td>
<td>Convention Center</td>
<td>Room 103</td>
</tr>
<tr>
<td>Regional Chapter/Special Interest Group Graduate Committee Meeting</td>
<td>Monday, Mar 7</td>
<td>6:45 AM to 7:45 AM</td>
<td>Convention Center</td>
<td>Room 103</td>
</tr>
</tbody>
</table>

Special Interest Group Meetings or Receptions  
Sunday, March 6 through Wednesday, March 9, Various Times

Each of the six Special Interest Groups will hold a meeting/reception during the 2011 SOT Annual Meeting. All current and prospective SOT Special Interest Group members are encouraged to attend.

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
<th>Time</th>
<th>Location</th>
<th>Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>AACT Distinguished Chinese Toxicologist Lectureship</td>
<td>Monday, March 7</td>
<td>5:00 PM to 6:00 PM</td>
<td>Renaissance</td>
<td>Grand Ballroom South</td>
</tr>
<tr>
<td>American Association of Chinese in Toxicology Special Interest Group Meeting/Reception</td>
<td>Monday, March 7</td>
<td>6:00 PM to 8:00 PM</td>
<td>Renaissance</td>
<td>Grand Ballroom South</td>
</tr>
<tr>
<td>ASIO Lunch and Learn Program</td>
<td>Tuesday, Mar 8</td>
<td>12:00 NOON to 1:30 PM</td>
<td>Convention Center</td>
<td>Room 141</td>
</tr>
<tr>
<td>Association of Scientists of Indian Origin Special Interest Group Meeting/Reception</td>
<td>Monday, March 7</td>
<td>6:00 PM to 7:30 PM</td>
<td>Convention Center</td>
<td>Salon H</td>
</tr>
<tr>
<td>Hispanic Organization of Toxicologists Special Interest Group Meeting/Reception</td>
<td>Sunday, March 6</td>
<td>6:30 PM to 8:30 PM</td>
<td>RFD Restaurant</td>
<td></td>
</tr>
<tr>
<td>Korean Toxicologists Association in America Special Interest Group Meeting/Reception</td>
<td>Monday, March 7</td>
<td>6:30 PM to 8:30 PM</td>
<td>Renaissance</td>
<td>Meeting Room 10</td>
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</table>

(continued to next page)
**RC, SIG, and SS Receptions** (Continued) (as of January 7)

### Special Interest Group Meetings/Luncheons or Receptions (Continued)

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
<th>Time</th>
<th>Location</th>
<th>Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional Chapter/Special Interest Group Graduate Committee Meeting</td>
<td>Monday, Mar 7</td>
<td>6:45 AM to 7:45 AM</td>
<td>Convention Center</td>
<td>Room 103</td>
</tr>
<tr>
<td>Special Interest Group Collaboration Group Meeting</td>
<td>Monday, Mar 7</td>
<td>1:00 PM to 1:30 PM</td>
<td>Convention Center</td>
<td>Room 103</td>
</tr>
<tr>
<td>Special Interest Group Presidents and Officers Meeting</td>
<td>Monday, Mar 7</td>
<td>12:00 NOON to 1:00 PM</td>
<td>Convention Center</td>
<td>Room 103</td>
</tr>
<tr>
<td>Toxicologists of African Origin Special Interest Group Meeting/Reception</td>
<td>Monday, March 7</td>
<td>6:00 PM to 8:00 PM</td>
<td>Embassy Suites</td>
<td>Capital Ballroom B</td>
</tr>
<tr>
<td>Women in Toxicology Special Interest Group Meeting/Reception</td>
<td>Wednesday, March 9</td>
<td>4:30 PM to 6:30 PM</td>
<td>Renaissance</td>
<td>Ballroom West A&amp;B</td>
</tr>
</tbody>
</table>

### Specialty Section Meetings/Luncheons or Receptions

**Sunday, March 6 through Wednesday, March 9, Various Times**

Each of the 26 SOT Specialty Sections will hold either a luncheon or early evening meeting/reception during the SOT 2011 Annual Meeting. All current and prospective SOT Specialty Section members are encouraged to attend.

<table>
<thead>
<tr>
<th>Event</th>
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<th>Room</th>
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<tbody>
<tr>
<td>Biological Modeling Specialty Section Meeting/Reception</td>
<td>Wednesday, March 9</td>
<td>6:00 PM to 7:30 PM</td>
<td>Convention Center</td>
<td>Room 149</td>
</tr>
<tr>
<td>Biotechnology Specialty Section Meeting/Reception</td>
<td>Monday, March 7</td>
<td>6:00 PM to 7:30 PM</td>
<td>Convention Center</td>
<td>Room 140B</td>
</tr>
<tr>
<td>Carcinogenesis Specialty Section Meeting/Reception</td>
<td>Sunday, March 6</td>
<td>6:30 PM to 8:00 PM</td>
<td>Convention Center</td>
<td>Room 146A</td>
</tr>
<tr>
<td>Carcinogenesis Specialty Section Officers Meeting</td>
<td>Monday, March 7</td>
<td>6:30 AM to 8:00 AM</td>
<td>Convention Center</td>
<td>Salon G</td>
</tr>
<tr>
<td>Cardiovascular Toxicology Specialty Section Meeting/Reception</td>
<td>Monday, March 7</td>
<td>6:00 PM to 7:30 PM</td>
<td>Convention Center</td>
<td>Room 102</td>
</tr>
<tr>
<td>Comparative and Veterinary Specialty Section Meeting/ Luncheon</td>
<td>Tuesday, March 8</td>
<td>12:00 NOON to 1:30 PM</td>
<td>Convention Center</td>
<td>Room 149</td>
</tr>
<tr>
<td>Dermal Toxicology Specialty Section Meeting/Reception</td>
<td>Sunday, March 6</td>
<td>6:30 PM to 8:00 PM</td>
<td>Convention Center</td>
<td>Room 203</td>
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<tr>
<td>Dermal Toxicology Specialty Section Officers Meeting</td>
<td>Sunday, March 6</td>
<td>4:00 PM to 6:00 PM</td>
<td>Convention Center</td>
<td>Room 203</td>
</tr>
<tr>
<td>Drug Discovery Toxicology Specialty Section Meeting/Reception</td>
<td>Wednesday, March 9</td>
<td>6:00 PM to 7:30 PM</td>
<td>Convention Center</td>
<td>Room 103</td>
</tr>
<tr>
<td>Ethical, Legal, and Social Issues Specialty Section Meeting/Reception</td>
<td>Wednesday, March 9</td>
<td>6:00 PM to 7:30 PM</td>
<td>Convention Center</td>
<td>Room 156</td>
</tr>
<tr>
<td>Food Safety Specialty Section Meeting/Reception</td>
<td>Sunday, March 6</td>
<td>6:30 PM to 8:00 PM</td>
<td>Convention Center</td>
<td>Room 140A</td>
</tr>
<tr>
<td>Food Safety Specialty Section Officers Meeting</td>
<td>Sunday, March 6</td>
<td>12:00 NOON to 1:30 PM</td>
<td>Convention Center</td>
<td>Room 140A</td>
</tr>
<tr>
<td>Immunotoxicology Specialty Section Meeting/Reception</td>
<td>Wednesday, March 9</td>
<td>6:00 PM to 7:30 PM</td>
<td>Convention Center</td>
<td>Salon H</td>
</tr>
<tr>
<td><em>In Vitro</em> and Alternative Methods Specialty Section Meeting/ Luncheon</td>
<td>Wednesday, March 9</td>
<td>12:00 NOON to 1:30 PM</td>
<td>Convention Center</td>
<td>Salon G</td>
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<tr>
<td><em>In Vitro</em> and Alternative Methods Specialty Section Officers Meeting</td>
<td>Monday, March 7</td>
<td>6:30 AM to 7:45 AM</td>
<td>Convention Center</td>
<td>Salon G</td>
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### Specialty Section Meetings/Luncheons or Receptions (Continued)

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<th>Event</th>
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<th>Room</th>
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<tr>
<td>Inhalation and Respiratory Specialty Section Meeting/Reception</td>
<td>Wednesday, March 9</td>
<td>6:00 PM to 7:30 PM</td>
<td>Convention Center</td>
<td>Room 102</td>
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<tr>
<td>Mechanisms Specialty Section Meeting/Reception</td>
<td>Wednesday, March 9</td>
<td>6:00 PM to 7:30 PM</td>
<td>Convention Center</td>
<td>Salon I</td>
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<tr>
<td>Mechanisms Specialty Section Officers Meeting</td>
<td>Monday, March 7</td>
<td>6:30 AM to 7:45 AM</td>
<td>Convention Center</td>
<td>Salon G</td>
</tr>
<tr>
<td>Medical Device Specialty Section Meeting/Reception</td>
<td>Sunday, March 6</td>
<td>6:30 PM to 8:00 PM</td>
<td>Convention Center</td>
<td>Room 156</td>
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<tr>
<td>Medical Device Specialty Section Officers Meeting</td>
<td>Monday, March 7</td>
<td>6:30 AM to 7:45 AM</td>
<td>Convention Center</td>
<td>Salon G</td>
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<tr>
<td>Metals Specialty Section Meeting/Reception</td>
<td>Sunday, March 6</td>
<td>6:00 PM to 8:00 PM</td>
<td>District Chophouse Restaurant</td>
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<tr>
<td>Mixtures Specialty Section Meeting/Reception</td>
<td>Wednesday, March 9</td>
<td>6:00 PM to 7:30 PM</td>
<td>Convention Center</td>
<td>Room 140A</td>
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<tr>
<td>Mixtures Specialty Section Officers Meeting</td>
<td>Monday, March 7</td>
<td>6:30 AM to 7:45 AM</td>
<td>Convention Center</td>
<td>Salon G</td>
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<tr>
<td>Molecular Biology Specialty Section Meeting/Reception</td>
<td>Monday, March 7</td>
<td>6:00 PM to 7:30 PM</td>
<td>Convention Center</td>
<td>Room 159</td>
</tr>
<tr>
<td>Nanotoxicology Specialty Section Meeting/Reception</td>
<td>Sunday, March 6</td>
<td>6:30 PM to 8:00 PM</td>
<td>Convention Center</td>
<td>Room 143</td>
</tr>
<tr>
<td>Nanotoxicology Specialty Section Officers Meeting</td>
<td>Monday, March 7</td>
<td>6:30 AM to 7:45 AM</td>
<td>Convention Center</td>
<td>Salon G</td>
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<tr>
<td>Neurotoxicology Specialty Section Meeting/Reception</td>
<td>Monday, March 7</td>
<td>6:00 PM to 7:30 PM</td>
<td>Convention Center</td>
<td>Salon G</td>
</tr>
<tr>
<td>Neurotoxicology Specialty Section Officers Meeting</td>
<td>Monday, March 7</td>
<td>6:30 AM to 7:45 AM</td>
<td>Convention Center</td>
<td>Salon G</td>
</tr>
<tr>
<td>Occupational and Public Health Specialty Section Meeting/Reception</td>
<td>Sunday, March 6</td>
<td>6:30 PM to 8:00 PM</td>
<td>Convention Center</td>
<td>Room 144</td>
</tr>
<tr>
<td>Ocular Toxicology Specialty Section Meeting/Reception</td>
<td>Sunday, March 6</td>
<td>6:30 PM to 8:00 PM</td>
<td>Convention Center</td>
<td>Room 142</td>
</tr>
<tr>
<td>Regulatory and Safety Evaluation Specialty Section Meeting/Reception on Capitol Hill—The Great Debate, Sen. Johnny Isakson, Honorary Host (Limited Seating)</td>
<td>Monday, March 7</td>
<td>5:00 PM to 6:30 PM</td>
<td>Russell Senate Building SR-325 (Buses Depart CC at L Street beginning at 4:00 PM)</td>
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<tr>
<td>Reproductive and Developmental Toxicology Specialty Section Meeting/Reception</td>
<td>Wednesday, March 9</td>
<td>6:00 PM to 7:30 PM</td>
<td>Convention Center</td>
<td>Salon G</td>
</tr>
<tr>
<td>Reproductive and Developmental Toxicology Specialty Section Officers Meeting</td>
<td>Monday, March 7</td>
<td>6:30 AM to 7:45 AM</td>
<td>Convention Center</td>
<td>Salon G</td>
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<tr>
<td>Risk Assessment Specialty Section Meeting/Reception</td>
<td>Monday, March 7</td>
<td>6:00 PM to 7:30 PM</td>
<td>Convention Center</td>
<td>Salon I</td>
</tr>
<tr>
<td>Risk Assessment Specialty Section Officers Meeting</td>
<td>Monday, March 7</td>
<td>6:30 AM to 7:45 AM</td>
<td>Convention Center</td>
<td>Salon G</td>
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<tr>
<td>Specialty Section Governance Group Meeting</td>
<td>Monday, March 7</td>
<td>3:00 PM to 4:00 PM</td>
<td>Convention Center</td>
<td>Room 103</td>
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<tr>
<td>Specialty Section Graduate Committee Meeting</td>
<td>Tuesday, March 8</td>
<td>7:00 AM to 8:30 AM</td>
<td>Convention Center</td>
<td>Room 142</td>
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<tr>
<td>Specialty Section Presidents and Officers Meeting</td>
<td>Monday, March 7</td>
<td>4:30 PM to 6:00 PM</td>
<td>Convention Center</td>
<td>Room 103</td>
</tr>
<tr>
<td>Stem Cells Specialty Section Inaugural Meeting/Reception</td>
<td>Monday, March 7</td>
<td>6:00 PM to 7:30 PM</td>
<td>Convention Center</td>
<td>Room 149</td>
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<tr>
<td>Toxicologic and Exploratory Pathology Specialty Section Meeting/Luncheon</td>
<td>Monday, March 7</td>
<td>12:00 NOON to 1:30 PM</td>
<td>Convention Center</td>
<td>Room 149</td>
</tr>
<tr>
<td>Toxicologic and Exploratory Pathology Specialty Section Officers Meeting</td>
<td>Monday, March 7</td>
<td>6:30 AM to 7:45 AM</td>
<td>Convention Center</td>
<td>Room 302</td>
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</table>
Student and Postdoctoral Scholar Events

Lunch with an Expert

**Sunday–Thursday, time varies by group**  
*(Meet at the Lunch with an Expert Bulletin Board in Registration Area)*

**Sponsor:**  
Student Advisory Council

The purpose of Lunch with an Expert is to provide graduate students and postdoctoral scholars the opportunity to network informally with well-established toxicologists while obtaining career advice and meeting new colleagues. Small groups are composed by matching research interests of students and postdocs with those of an Expert. The Expert for each group identifies a time and place for a meal, and the group meets at the Lunch with an Expert Bulletin Board before going to the restaurant. New this year: Meeting Room 16 in the Renaissance Hotel has been reserved for Lunch with an Expert groups from 11:30 AM–1:30 PM. You may pick up food in the food court below the hotel and then proceed to the reserved room if you prefer this option to meeting in a restaurant. Sign up via the Graduate Student section of the SOT Web site. Details for each group meeting will be sent to participants in advance of the meeting.

Student/Postdoctoral Scholar Mixer

**Sunday, March 6, 8:00 PM–9:30 PM**  
**Salon G**  
*(Ticket and Meeting Badge Required)*

**Sponsor:**  
Student Advisory Council

The Student Advisory Council and Graduate Committees host this opportunity for students and postdoctoral scholars to gather, to meet new colleagues, and to reestablish relationships in an informal atmosphere at the beginning of the meeting. Tickets are obtained at no cost by registering for this event on the Annual Meeting Registration Form. Ticket and meeting badge are required. Complimentary refreshments and a cash bar will be available.

Conversation with Dr. Collins

**Monday, March 7, 9:30 AM–10:30 AM**  
**Room 304**  
*(Ticket Required; Postdoctoral Scholars only, limited seating)*

**Chairperson(s):** Michele La Merrill, Mount Sinai School of Medicine, New York, NY.

**Sponsor:**  
Postdoctoral Assembly

Dr. Collins will meet informally for discussion with postdoctoral scholars after his Plenary Lecture. Room size is limited, and participants will be selected by lottery from among postdoctoral meeting registrants who request a ticket by January 21.

In Vitro Toxicology Lecture and Luncheon for Students: Full Speed into an Alternative Future

**Monday, March 7, 12:00 NOON–1:20 PM**  
**Salon G**  
*(Ticket Required)*

**Lecturer:** Robert E. Chapin, Pfizer, Groton, CT.

**Chairperson(s):** Aaron Barchowsky, University of Pittsburgh, Pittsburgh, PA.

**Sponsor:**  
Colgate-Palmolive Company  
*Hosted by:*  
Education Committee

The purpose of this lecture is to discuss the importance of animal research to biomedical sciences and toxicology, and the ethical obligations of the scientific community to follow the “3R’s” of animal testing (refine, reduce, replace) whenever it is feasible.

Graduate students, undergraduates, postdoctoral scholars, and recipients of Colgate-Palmolive awards are among the guests at the *In Vitro* Toxicology Lecture and Luncheon. The goal of the *In Vitro* Toxicology Lecture series is to feature important research using *in vitro* and alternative techniques to study basic mechanisms and to illustrate how these test methods benefit animal welfare by refining and reducing animal use. Students and postdocs can reserve a ticket for the luncheon with a $10 deposit when they register for the SOT Annual Meeting. Lunch is served at the beginning of the event and service concludes before the talk/main program begins. Meal service may not be available to guests who arrive after 12:30 PM.

(continued on next page)
Student and Postdoctoral Scholar Events (Continued)

The “Toxicity Testing in the 21st Century” vision promulgates an in vitro approach to safety assessment based heavily on knowing the pathways responding in a cell and then correctly relating that to an in vivo exposure and response to predict the likely health outcome. But we are now much like Galileo was with our Moon: seeing the goal is many, many times easier than actually getting there. However, given that animal models correctly predict only 40–70% of human responses, in vitro models won’t actually have to do that well to be better than the current in vivo models. Thus, for both animal-use issues and for correct-predictivity issues, an in vitro future is a worthy and achievable goal. Meanwhile, there is much trial and error to pursue. This talk will quickly reprise an in vitro testing vision, and then put it into an industry perspective. It will soon become clear that we’re a long way from where we want to be. After this stage-setting, the audience will be asked to discuss and then present their answers to a set of related questions.

• What are the limitations (and “costs”) of the current approach using animals?

• What are the limitations of the proposed safety assessments using cell cultures and predictive models?

• What are some possible explanations for the less-than-hoped-for predictivity? Which is most likely, and why?

• How long will it take to implement this new paradigm? Why will it take longer than that?

• What role might stem cells play in this future? What are the assumptions (and thus, possible pitfalls) in their playing that role?

• List the benefits and drawbacks of having multiple cell types in the culture vs. having one cell type.

• What would be the motivations of industry to embrace this new toxicity testing vision? What conditions need to be met for that marriage to happen?

• Why might one solution to the predictivity problem be to use multiple predictive models? How would those models have to differ from each other to make that work?

50th Anniversary Silent Auction

Live on SOT Web site by February 1
(Access on-site in the E-mail Center or via your Internet connection)

Chairperson(s): Anne Loccisano, The Hamner Institutes for Health Sciences, Research Triangle Park, NC.

Sponsor: Postdoctoral Assembly

In honor of the 50th Anniversary of SOT, the Postdoctoral Assembly is organizing the 50th Anniversary Silent Auction. Bid on vacation get-a-ways or purchase an item of historical significance to SOT and toxicology (such as books, laboratory items, memorabilia, photographs) as well as other items of general interest. Bids for some items will close in the E-mail Center Monday, March 7, from 4:45 PM–5:45 PM. Join the excitement! Cash bar available. Bring your laptop or smart phone to join in the bidding.

Bids for remaining items will close beginning a 10:00 AM Wednesday and conclude at 1:00 PM. All proceeds from the Silent Auction will go to the Endowment Priorities Fund.

Postdoctoral Assembly Luncheon

Tuesday, March 8, 12:00 NOON–1:15 PM
Salon G
(Ticket Required)

Chairperson(s): Sarah Campion, Brown University, Providence, RI.

Sponsor: Postdoctoral Assembly

Amidst scrambling to attend all of the events at the meeting, this will be time for postdocs to kick back and relax! All postdoctoral scholars are invited to a casual luncheon organized by the Postdoctoral Assembly (PDA). We will announce the recipients of the Best Postdoctoral Publication Awards and acknowledge the postdocs who received awards this year from Specialty Sections and Regional Chapters. The PDA Board members will present an overview of accomplishments and future directions for the PDA and will introduce the new board members for 2011–2012. There will be a drawing for door prizes. Postdocs can purchase a ticket for $5 when they register for the Annual Meeting. The ticket charge is not refundable, reserves your place, and defrays some of the expenses for the luncheon. Lunch is served at the beginning of the event and service concludes before the main program begins. Meal service may not be available to guests who arrive after 12:30 PM.
Outreach Activities and Events

SOT Pavilion
Do you know all the resources available through SOT and where to find them? Stop by the SOT Pavilion, Booth #464, centrally located in the Exhibit Hall and learn about SOT services and membership benefits, and SOT Regional Chapters, Specialty Sections, and Special Interest Groups. Find out about the SOT Endowment Fund, Toxicological Sciences, awards and fellowships, educational resources and more. Special presentations will be given on SOT activities and member benefits, including ToXchange, so be sure to stop by for the schedule of SOT Pavilion events. The SOT Pavilion is the one-stop shop for all of your SOT questions and membership needs. Make the SOT Pavilion your meeting place on the exhibit floor.

Undergraduate Education Program
Saturday, March 5 through Monday, March 7

Chairperson(s): Adrian Nanez, Amgen, Thousand Oaks, CA.

Sponsor: Committee for Diversity Initiatives

Saturday, March 5
This evening event is for undergraduate students and advisors receiving 2011 SOT Travel funding and SOT program volunteers.

4:15 PM–5:45 PM Orientation for SOT Hosts, Peer Mentors, and Advisors Jennifer Rayner, Oak Ridge National Laboratory, Oak Ridge, TN, and Enrique Fuentes-Matei, University of Puerto Rico, San Juan, PR

5:15 PM–5:45 PM Registration for Students Kim Daniel, Texas A&M, College Station, TX

5:45 PM–6:15 PM Opening Event Convenor: Adrian Nanez, Amgen, Thousand Oaks, CA

6:15 PM–6:45 PM Lecture: Introduction to Toxicology José Manautou, University of Connecticut, Storrs, CT

6:45 PM–7:15 PM Dinner (By Invitation Only)

7:30 PM–8:00 PM Perspectives on the History of Toxicology John Doull, University of Kansas Medical Center, Kansas City, MO

8:00 PM–9:00 PM CDI Reunion (Dessert and Networking) Open to all past program participants Presentation of the 2011 Perry J. Gehring Diversity Student Travel Award

Sunday, March 6
The Sunday program is open to undergraduate students who are registered for this event on the Annual Meeting Registration Form, the undergraduate students receiving SOT and Pfizer travel funding, and the SOT program volunteers.

8:00 AM–11:30 AM Introductions and Special Toxicology Lectures
Chairperson(s): Adrian Nanez, Amgen, Thousand Oaks, CA, and Nathan Cherrington, University of Arizona, Tucson, AZ

8:00 AM–8:15 AM Welcome Michael P. Holsapple, SOT President, ILSI Health and Environmental Sciences Institute, Washington, D.C.

8:15 AM–8:55 AM Exposure to Cigarette Smoke In Utero: Fetal Injury and Life Long Consequences Judith Zelikoff, New York University School of Medicine, Tuxedo Park, NY

9:00 AM–9:45 AM Absorption, Distribution, Metabolism, and Excretion Principles in Toxicology Nathan Cherrington, University of Arizona, Tucson, AZ

10:00 AM–10:40 AM Optical Nanotechnologies for Imaging of Cellular Processes and Neurosurgery Martin Philbert, University of Michigan, Ann Arbor, MI

10:45 AM–11:30 AM Identifying the Poison: Case Study in Toxicology Lauren Aleksunes, Rutgers University, Piscataway, NJ

11:45 AM–12:45 PM Lunch and Networking (Ticket Required)

Breakout Sessions
For Students
(3 concurrent sessions)

12:45 PM–1:45 PM What is Graduate School and What Can I Expect? How to Get into Graduate School: An Academic Advisor’s Perspective
Speaker: William D. Atchison, Michigan State University, East Lansing, MI

For Advisors

12:45 PM–1:45 PM Tips for Advising Prospective Graduate Students or How to get your students accepted to graduate school!!
Speaker: William D. Atchison, Michigan State University, East Lansing, MI

Society of Toxicology 2011

up-to-date information at www.toxicology.org
Outreach Activities and Events (Continued)

All Participants

2:00 PM–2:40 PM  
Career Opportunities in Toxicology—Panel Discussion  
*Moderator:* Les Recio, Integrated Laboratory Systems Inc., Research Triangle Park, NC  
*Academic:* Alvaro Puga, University of Cincinnati, OH  
*Industry:* Mari Stavanja, Celanese International Corporation, Dallas, TX

For Host Mentors and Peer Mentors

3:00 PM–3:30 PM  
Host Mentor and Peer Mentor Meeting  
*Chairperson(s):* Jennifer Rayner, Oak Ridge National Laboratory, Oak Ridge, TN, and Adrian Nanez, Amgen, Thousand Oaks, CA

For Students and Advisors

3:00 PM–5:00 PM  
Open time with Academic Toxicology Program Directors and Internship Sponsors  
*Chairperson(s):* Kim Daniel, Texas A&M, College Station, TX

8:00 PM–9:30 PM  
Student/Postdoctoral Scholar Mixer  
*(Ticket and Meeting Badge Required)*

Undergraduate Toxicology Faculty Meeting

Tuesday, March 8, 3:00 PM–4:15 PM  
Room 103

*Chairperson(s):* Aaron Barchowsky, University of Pittsburgh, Pittsburgh, PA.

*Sponsors:*  
Education Committee  
Undergraduate Education Subcommittee

The Education Committee and the Undergraduate Education Subcommittee are hosting the Undergraduate Toxicology Faculty Meeting for all faculty involved in the teaching of toxicology to undergraduates, or for those interested in including toxicology at the undergraduate level. Hear an update on initiatives for undergraduate faculty, provide your input, and network.

High School Research Poster Presentations

Tuesday, March 8 and Wednesday, March 9

*Chairperson(s):* Kathleen Gabrielson, Johns Hopkins University, Baltimore, MD.

*Sponsors:*  
Education Committee  
K–12 Task Force

High school students will display their research posters in a special area in the SOT Pavilion. This activity recognizes student effort and provides the high school students who have engaged in research with scientific meeting experience. A schedule will be available on the SOT Annual Meeting Website.

Monday, March 7

Monday activities are for undergraduate students and advisors receiving 2011 SOT Travel funding and SOT program volunteers.

7:20 AM–7:30 AM  
Meeting for Students, Advisors, Peer Mentors, and SOT Hosts  
*Chairperson(s):* Adrian Nanez, Amgen, Thousand Oaks, CA

8:00 AM–9:00 AM  
Plenary Lecture  
Francis S. Collins, National Institutes of Health, Bethesda, MD

9:30 AM–10:50 AM  
Poster Session for Visiting Students  
*Chairperson(s):* Julio Davila, Chesterfield, MO, Yolanda Banks Anderson, North Carolina Central University, Durham, NC, and Javier Avalos, TopTox, Sacramento, CA

11:00 AM–11:45 AM  
Program Wrap Up

12:00 NOON–1:20 PM  
*In Vitro* Toxicology Lecture and Luncheon for Students—Full Speed into an Alternative Future  
*(Ticket Required)*  
*Speaker:* Robert E. Chapin, Pfizer, Groton, CT
Satellite Meetings

Johns Hopkins Center for Alternatives to Animal Testing—Evidence-Based Toxicology (EBT) Collaboration Kick-Off Meeting

Thursday, March 10, 12:00 NOON–3:00 PM
Room 206

Presented by:
The Johns Hopkins Center for Alternatives to Animal Testing

A group of toxicologists with backgrounds in industry, government oversight, academia, and animal welfare have created the EBT Collaboration to foster the development of a process, based on the Cochrane Collaboration in Evidence-based Medicine (EBM), for quality assurance of new toxicity tests for the assessment of safety in humans and the environment. To start the collaboration and solicit input from the stakeholder community, the EBT Collaboration steering group is organizing a workshop to take place on March 10, 2011, immediately following the Society of Toxicology Annual Meeting in Washington, D.C. At the workshop, speakers will present the concept of EBT as it pertains to decision-making about the utility of new toxicity tests and their implementation into the risk assessment process. EBT promises to provide a quality, science-driven approach to assessing the effects of drugs and chemicals on human health and the environment, and provides principles of how to incorporate published information into the decision-making process. The methods of EBM, to be applied to EBT, include the systematic review of relevant literature, scoring tools to prioritize published reports, and meta-analysis of data. This transparent process will represent another approach toward evaluation and quality assurance of new testing methodologies.

For further information and to register, go to caat.jhsph.edu.
Meeting is open and free to all registrants.
Continuing Education

Continuing Education Courses

The Continuing Education Program offers a wide range of courses that cover established knowledge in toxicology, as well as new developments in toxicology and related disciplines. Courses can be applied toward certifying and licensing board requirements and may also be used for recertification with the American Board of Toxicology (ABT). Both basic and advanced course topics are offered. The basic course is intended to provide a broad overview of an area or to assist individuals in learning new techniques or approaches. The advanced course is intended to be of interest to individuals with previous knowledge of the subject or already working in the field.

All courses will be held on Sunday, March 6, 2011, at the Walter E. Washington Convention Center. Please check the signage in the registration area and at the CE Booths for room assignments. Note: Your course materials will be available in the room immediately prior to the course (they will not be available at the registration area). If you have your course ticket, go directly to the assigned course room. If you have not received your course ticket or have not registered, please go to the registration area on Saturday afternoon/evening or on Sunday morning. If you have misplaced your ticket, please go to a Continuing Education Booth at the Convention Center on Sunday. The booths will be open from 6:30 AM–5:30 PM.

7:00 AM–7:45 AM Continuing Education Sunrise Mini-Course:
1. Biodegradable Materials for Tissue Engineering: Applications and Safety Assessment

8:15 AM–12:00 NOON Continuing Education Morning (AM) Courses:
2. Best Practices for Developing, Characterizing, and Applying Physiologically Based Pharmacokinetic Models in Risk Assessment
3. Current Nonclinical Strategies and Methods for Evaluating Drug-Induced Cardiovascular Toxicity
4. Dealing with the Data Deluge: A Live Data Discovery and Analysis Course (Note: Participants will be asked to supply their own computer with Internet access)
5. Epigenetics in Toxicology: Introduction, Mechanistic Understanding, and Applications in Safety Assessment
6. Protecting Human Health: Use of Toxicological and Epidemiological Data in Determining Safe Levels for Human Exposure
7. Drug Hypersensitivity Reactions: Risk Assessment and Management
8. Toxicology and Risk Assessment of Chemical Mixtures

1:15 PM–5:00 PM Continuing Education Afternoon (PM) Courses:
9. Applications of Computational Systems Biology for Toxicology
10. Evaluating Toxicity of Engineered Nanomaterials: Issues with Conventional Toxicology Approaches
11. New Technologies and Approaches in Genetic Toxicology and Their Expanding Role in General Toxicology and Safety Assessment
12. Practical How-To and Pitfalls Associated with Current Epigenetic Studies
13. Quantitative In Vitro to In Vivo Extrapolation: The Essential Element of In Vitro Assay-Based Risk Assessment
14. Stem Cell Utility in Toxicology Screening
15. The Biology and Toxicology of the Peri- and Post-Natal Development

Registration for the Annual Meeting and a separate CE course ticket are required.

Target Areas

The Continuing Education Program offers a wide range of courses that cover established knowledge in toxicology, as well as new developments in toxicology and related disciplines. Continuing Education courses related to these Target Areas appear under each target description. The Target Areas will be identified throughout the Program with a . Continuing Education Courses will also be tracked by Scientific Program Theme and identified throughout the Program with a . An Overview of the Scientific Thematic Track is located on the Front Fold-Out.

Cardiovascular Toxicology

The cardiovascular system comprises heart muscle and the vascular system. Proper maintenance of blood pressure and flow is a fundamental requirement for life. Insult to the cardiovascular system may occur by direct or indirect mechanisms, such as perturbations of the central nervous system or endocrine system. A basic understanding of cardiovascular toxicology is fundamental for naturally occurring substances, drugs, industrial compounds and environmental contaminants. The importance of this system and a testament to the need for further understanding is supplied by the fact that cardiac toxicity alone has been implicated in 28% of drug withdrawals in the United States over the last 30 years, including 20 major drugs withdrawn in that period. Special consideration will be given to course proposals that present general concepts of cardiovascular toxicology and fundamental understanding of experimental design and data interpretation for toxicity testing that can be extrapolated to humans.

- AM03: Current Nonclinical Strategies and Methods for Evaluating Drug-Induced Cardiovascular Toxicity
- Poster Session: Cardiovascular Toxicology

Epigenetic Mechanisms

The field of epigenetics encompasses the study of heritable changes in gene expression that vary as a result of both mutational and non-mutational events. Histone modification, DNA methylation, and nucleosomal remodeling are a few examples of cellular processes that, when subtly perturbed, may drive or facilitate a critical shift in genotype-phenotype relationship in fundamental physiological processes. Epigenetic mechanisms have been implicated in myriad disease states including cancer, autoimmune disorders, and drug resistance/drug hypersensitivity, and are recognized as key determinants of individual responses to and susceptibility to xenobiotics. Identifying and understanding the relative contribution of epigenetic mechanisms in “normal” and altered cellular function may be a key step in developing new strategies for diagnosing and treating pathological disorders and toxicities. This solicitation is for continuing education courses taught by a panel of experts in the field. A basic course would present fundamentals of epigenetics, including mechanisms, as they relate to “normal” physiological development and function and gender, age and species-specific differences in determining the mode of xenobiotic action and sensitivity to toxic effects, and the relationship between epigenetic changes and the development and progression of certain disease states, and the role of epigenetic changes in determining the mode of action of toxicants. An advanced course would present, in addition to these basic principles, practical applications of epigenetics in toxicological, biomedical research and/or clinical medicine.

- AM05: Epigenetics in Toxicology: Introduction, Mechanistic Understanding, and Applications in Safety Assessment
- Poster Session: Epigenetic Mechanisms
- Platform Session: Epigenetic Mechanisms in Development and Disease
- PM12: Practical How-To and Pitfalls Associated with Current Epigenetic Studies
Continuing Education (Continued)

Systems Biology

In the context of toxicology, a systems-level understanding of biology utilizes ‘a set of principles and methodologies that links the behavior of molecules to system characteristics and functions.’ Simply put, information at different levels of organization within an organism is integrated to obtain an understanding of the organism as a whole and its response to chemical perturbations. Molecules such as DNA, RNA, and proteins are organized through a framework of knowledge into signaling pathways that determine cellular behavior. The cells are organized in the same manner into tissues, tissues organized into organs, and so on until the individual functional components that make up an organism are arranged within multiple, interacting layers. The interrelationships of the individual components and organizational layers dictate the response of the system to chemical perturbation. Due to the diversity in the types of data required for understanding these relationships and the computational tools necessary for assembling and simulating the flow of information through the different levels of organization, an interdisciplinary team and collaborative environment are required. This solicitation is for continuing education courses taught by interdisciplinary teams with expert knowledge in the field. A basic-level course would present an overview of systems biology and demonstrate the types of experimental data, analysis methods, and simulation approaches that are necessary for success. An advanced level course would, in addition, extend this knowledge base by addressing additional technical points like choosing types of data and identifying data sets for evaluation and choosing computational methods for integration. Course proposals should contain sufficient examples to demonstrate key points.

• AM04: Dealing with the Data Deluge: A Live Data Discovery and Analysis Course (Note: Participants are asked to bring their own computer with Internet access)
• Poster Session: ‘Omniscience in Toxicology Research
• AM09: Applications of Computational Systems Biology for Toxicology

Stay Competitive with SOT On-Line Courses

Selected 2009 and 2010 Continuing Education Courses Available On-Line

Toxicology is an ever-changing field. SOT Continuing Education courses are an excellent way to enhance your professional development and learn new techniques. SOT is dedicated to providing such opportunities and resources to the scientific community and the Continuing Education Committee is excited to offer on-line CE courses through the SOT Web site. Currently there are six on-line courses from the 48th Annual Meeting in Baltimore, 2009 and the 49th Annual Meeting in Salt Lake City, 2010. Whether you want a refresher course, or to expand your knowledge, the on-line Continuing Education courses offer you a convenient way to stay competitive!

Visit the SOT Web site for more information.

2011 Continuing Education Courses

Sunday Morning, March 6
7:00 AM to 7:45 AM
First Level
(See signage at CE Booth for room location)

Biodegradable Materials for Tissue Engineering: Applications and Safety Assessment

SR01 CE BASIC

Sponsor: Medical Device Specialty Section

Endorsed by:

In Vitro and Alternative Methods Specialty Section

The incorporation of biodegradable materials as a fundamental component in tissue regeneration strategies began in the early 1980’s and continues today. The function of a biodegradable material is to act as a temporary support matrix for transplanted or host cells so as to restore, maintain, or improve tissue. In order for this function to be achieved, biodegradable materials must undergo a number of critical examinations to define their properties. For example, degradation rate, degradation products, and the tissue response to these products must all be characterized. In this presentation we will introduce a number of natural and synthetic biodegradable materials that are commonly considered in regenerative medicine, as well as some recently developed novel materials. The techniques utilized to describe their physical properties and the relationship between physical properties and tissue response will be examined, and advanced techniques for material characterization and toxicological effects will be considered. Finally, the application of these biodegradable materials in tissue engineering strategies will be described.

• Biodegradable Materials for Tissue Engineering: Applications and Safety Assessment, John P. Fisher, University of Maryland, College Park, MD

Sunday Morning, March 6
8:15 AM to 12:00 NOON
First and Second Level (See signage at CE Booths for room locations)

Best Practices for Developing, Characterizing, and Applying Physiologically Based Pharmacokinetic Models in Risk Assessment

AM02 CE ADVANCED
Chairperson(s): M.E. (Bette) Meek, University of Ottawa, Ottawa, Ontario, Canada, and John C. Lipscomb, U.S. EPA, Cincinnati, OH.

Sponsor: Risk Assessment Specialty Section

Endorsed by:

Biological Modeling Specialty Section

This course is aimed at increasing confidence in the evaluation and application of PBPK models in quantitative health risk assessments, through systematic consideration of relevant criteria for their development and documentation, based on guidance. These principles (Best Practices for PBPK Modeling Applied to Health Risk Assessment) have been recently collected and expanded upon in guidance published by the WHO International Programme on Chemical Safety (2010), and have been the
Continuing Education (Continued)

subject of several other peer-reviewed publications. The course comprises lectures describing the link between mode of action, dose-response character-
acterization and risk assessment, and the role of PBPK models in reducing
and characterizing uncertainty and variability. The course will present
principles for the development, characterization, and communication and
criteria for evaluation of PBPK models for risk assessment applications.
A novel inclusion will be a projected demonstration of real-time changes
in model outcome that depend on choice of model parameter values (e.g.,
breathing rate, metabolic activity). The demonstration of user-friendly
model development software will be demonstrated in the final lecture.
This will show the impact of choices for parameter values, and models
will be exercised and the results interpreted to produce quantitative values
to be used in place of uncertainty factors in health risk assessments.

• Toxicokinetics in Risk Assessment, John C. Lipscomb, U.S. EPA,
Cincinnati, OH

• Developing a PBPK Model, Hugh Barton, Pfizer, Inc., Groton, CT

• Characterizing a PBPK Model, Kannan Krishnan, Université de
Montréal, Montréal, Québec, Canada

• Applying PBPK Models in Risk Assessment, George Loizou, Health
and Safety Laboratory, Buxton, United Kingdom

• Case Study 1, Bette Meek, University of Ottawa, Ottawa, Ontario,
Canada

• Case Study 2, Jos Bessems, RIVM, Bilthoven, Netherlands

Sunday Morning, March 6
8:15 AM to 12:00 NOON
First and Second Level (See signage at CE Booths for room
locations)

• Cardiovascular Toxicology

Current Nonclinical Strategies and Methods for Evaluating
Drug-Induced Cardiovascular Toxicity

AM03 CE BASIC

Chairperson(s): Hong Wang, Genentech Inc., South San Francisco,
CA, and Dennis J. Murphy, GlaxoSmithKline Pharmaceuticals, King of
Prussia, PA.

Sponsor:
Coronary Artery Disease Specialty Section

Endorsed by:
• Drug Discovery Toxicology Specialty Section
• Regulatory and Safety Evaluation Specialty Section

Cardiovascular (CV) toxicity is among the major causes of withdrawal
of drugs or restriction in their labeling and has had an impact on public
health and the rising cost of developing new drugs. Early identification
and characterization of CV liabilities, better understanding of the predic-
tive values of nonclinical models, and an integrated and iterative approach
during drug development could greatly facilitate the development of safe
and effective medicines for patients. This course will describe the current
in vitro and in vivo methods for evaluation of functional and structural
CV liabilities, and discuss the strategies that can be applied at early
stages of drug development to help reduce attrition and to avoid unan-
ticipated liabilities at later development stages in either animal studies
or in the clinic. Study design and data interpretation will be discussed,
as well as the advantages, limitations, and future directions of current
methods involving both functional and structural assessments. Specific
topics such as integration of functional CV endpoints into repeat-dose
toxicity studies, methods for identification and characterization of cardiac
arrhythmia, and special considerations for testing oncology and diabetes
drugs and biologics will be covered. In addition, case study examples
will be provided to highlight how these data can be used to inform deci-
sions at different stages of development. A regulatory perspective on the
challenges and gaps of CV safety evaluations and opportunities avail-
able to improve the overall CV safety assessment paradigm will also be
presented. Overall, this course will provide participants with a broad over-
view of the types of drug-induced CV liabilities, the current nonclinical
strategies and methodologies for early detection of CV liabilities, and a
regulatory perspective on the impact of CV toxicity on the drug-develop-
ment process.

• Opening Remarks and Overview of Cardiovascular Toxicity,
Dennis J. Murphy, GlaxoSmithKline Pharmaceuticals, King of Prussia,
PA

• Early Identification of Cardiovascular Functional Liabilities:
Role of In Vitro Assays, Derek Leishman, Eli Lilly & Company,
Indianapolis, IN

• Integrated Assessment of Cardiovascular Functional Liabilities: In
Vivo Animal Models, R. Dustan Sarazan, Data Sciences International,
St. Paul, MN

• Assessment of Cardiovascular Injury: Morphological Evaluations
and Biomarkers, Brian Berridge, GlaxoSmithKline Pharmaceuticals,
Research Triangle Park, NC

• A Regulatory Perspective on Drug-Induced Cardiovascular
Liabilities: Challenges, Gaps, and Opportunities, John Koerner,
U.S. FDA, Silver Spring, MD

Sunday Morning, March 6
8:15 AM to 12:00 NOON
First and Second Level (See signage at CE Booths for room
locations)

• Systems Biology

Dealing with the Data Deluge: A Live Data Discovery and
Analysis Course

AM04 CE BASIC

Chairperson(s): Marc E. Gillespie, St. Johns University, Jamaica, NY,
and Susan M. Bello, Jackson Laboratory, Bar Harbor, ME.

Sponsor:
Molecular Biology Specialty Section

NOTE: Due to the unique “hands on” nature of this course, it is critical
for AM04 course attendees to bring their own laptop computer as well
as their own Internet network connection. The Walter E. Washington
Convention Center offers Internet service for a nominal fee if attendees
prefer to buy connectivity on-site.

Using Web based resources and tools to gain novel scientific insights
and advance your research is a significant step for all researchers. As
the pace of science accelerates, experimental technologies continue
to evolve and the quantity of data increases. With the evolution in
biological research comes an increasing reliance on database resources
and computational analysis tools to parse and integrate this growing
mass of biological data. The field of toxicology is not exempt from these
challenges. In this course, representatives from a diverse group of data
resources have joined their efforts to present a unique series of hands-
on tutorials. The tutorials follow a hypothetical researcher through the
various stages of experimental design and data analysis, demonstrating
how the different workshop resources can be used to facilitate all steps
of the research process. Participants will identify orthologous biological
information across different species; identify biological trends (pathway,
function, phenotype, xenobiotic interactions) within a submitted data
set; investigate an individual data set with on-line resources, identifying
supplementary information available across multiple data sets; and gain
hands on experience with formatting and submitting data to a diverse set
of on-line data resources.
Continuing Education (Continued)

Today toxicologists must select appropriate model organisms, manage abundant high-throughput data, understand legacy data, and develop pathway-based understanding of environmental factors influencing biological systems. Mastery of these concepts improves toxicity prediction while providing insights into environmentally influenced diseases and phenotypes. A clear understanding of the diverse on-line data resource aims and limitations equips the researcher with the best combination of resources to effectively address their questions.

- **Reactome Knowledgebase**, Marc E. Gillespie, St. Johns University, Jamaica, NY
- **Comparative Toxicogenomics Database (CTD)**, Carolyn J. Mattingly, Mount Desert Island Biological Laboratory, Salisbury Cove, ME
- **PharmGKB**, Teri E. Klein and Li Gong, Stanford University Medical Center, Stanford, CA
- **Mouse Genome Informatics Database**, Susan M. Bello, Jackson Laboratory, Bar Harbor, ME

**Sunday Morning, March 6**
8:15 AM to 12:00 NOON
First and Second Level (See signage at CE Booths for room locations)

- **Epigenetic Mechanisms**

**Epigenetics in Toxicology: Introduction, Mechanistic Understanding, and Applications in Safety Assessment**

**AM05** CE BASIC

**Chairperson(s):** Mayurrnanj S. Mitra, Washington University School of Medicine, St. Louis, MO, and Thomas Sussan, Johns Hopkins University Bloomberg School of Public Health, Baltimore, MD.

**Sponsor:**
Molecular Biology Specialty Section

**Endorsed by:**
Carcinogenesis Specialty Section
Cardiovascular Toxicology Specialty Section
Mechanisms Specialty Section

Epigenetics refers to molecular mechanisms that cause heritable changes in gene expression without altering the DNA sequence. The most widely studied epigenetic mechanisms encompass DNA methylation, histone modifications, and gene regulation by non-coding RNAs, such as microRNAs. Typically, these mechanisms are required for normal cellular development and differentiation; however, perturbations in them can lead to diseases, notably cancer. Increasing evidence suggest that environmental factors such as diet, stress, and exposure to radiation and xenobiotics can induce heritable changes in the epigenetic status, potentially affecting the health of the present and future generations. Importantly, the long-term and life-threatening consequences of environment/chemical-induced changes in epigenetics, makes this field a critical area for future exploration by toxicologists. The course will begin by introducing the fundamental concepts of epigenetics and reviewing the various underlying mechanisms. Methods to assess epigenetic changes will be discussed, followed by a discussion of the role of DNA cytosine methylation in the regulation of carcinogen-inducible CYP450 genes. Mechanistic understanding of the role of microRNAs in the regulation of cellular toxicity and the influence of environment on epigenetics that cause developmental effects will also be presented. Finally, the future of epigenetics in toxicology and its potential applications for safety assessment will be discussed. Students as well as toxicologists working in academia, federal and pharmaceutical industries, and researchers interested in mechanistic toxicology will benefit from taking this course.

- **Introduction**, Mayurrnanj S. Mitra, Washington University School of Medicine, St. Louis, MO
- **Introduction and Overview of Epigenetics**, James G. Herman, The Johns Hopkins School of Medicine, Baltimore, MD
- **Role of Epigenetics in the Regulation of Carcinogen-Metabolizing Enzymes**, Oliver Hankinson, University of California Los Angeles, Los Angeles, CA
- **Retroelements and MicroRNAs in the Epigenetic Regulation of Cellular Differentiation, Proliferation, and Toxicity**, Kenneth S. Ramos, University of Louisville, Louisville, KY
- **Epigenetic Gene Regulation: Linking Early Developmental Environment to Adult Disease**, Dana Dolinoy, University of Michigan, Ann Arbor, MI
- **What We Need to Know Prior to Incorporating an Epigenetic Evaluation into Safety Assessments**, Jay I. Goodman, Michigan State University, East Lansing, MI

**Sunday Morning, March 6**
8:15 AM to 12:00 NOON
First and Second Level (See signage at CE Booths for room locations)

- **Integration of Toxicological and Epidemiological Evidence to Understand Human Risk**

**Protecting Human Health: Use of Toxicological and Epidemiological Data in Determining Safe Levels for Human Exposure**

**AM06** CE BASIC

**Chairperson(s):** Eileen P. Hayes, EP Hayes Toxicology Services LLC, Longmont, CO, and Terry Gordon, New York University School of Medicine, Tuxedo Park, NY.

**Sponsor:**
Occupational and Public Health Specialty Section

Toxicological and epidemiological data are the basis for risk assessment processes used to determine acceptable levels of exposure. This is the case for the general public who may be exposed to pollutants via ambient air and/or drinking water, for workers who may be exposed to chemicals in the workplace, and for patients who may have exposure to both active pharmaceutical ingredients (API) and impurities that may be present in the product. The goal of this course is to provide students with an understanding of the regulatory background and the practical application of both toxicological and epidemiological information in setting exposure levels considered to be protective of public health. The objectives of this course are 1) to describe the regulatory requirements that underlie development of acceptable levels of exposure for either the general population or select populations (workers, patients) via the media described above; and 2) to describe the evaluation of toxicological and epidemiological data in determining acceptable levels of exposure. Case studies of representative compounds will illustrate the processes. The U.S. Environmental Protection Agency (U.S. EPA) has well-defined processes for establishing both National Ambient Air Quality Standards (NAAQS) under the Clean Air Act and drinking water Maximum Contaminant Levels (MCLs) under the Safe Drinking Water Act. The Occupational Health and Safety Administration (OSHA) promulgates permissible exposure limits (PELs) for the workplace. The American Conference of Government Industrial Hygienists (ACGIH), a nonprofit, non-governmental organization publishes Threshold Limit Values (TLVs) that are used globally by many public and private-sector employers to protect the health of their employees. Additionally, many employers have established programs to derive acceptable levels of workplace exposure for compounds not specifically regulated by government agencies. Acceptable identification, reporting, and safety thresholds for impurities in drug products are governed under guidance
documents issued by the International Committee on Harmonization (ICH), the U.S. Food and Drug Administration and the European Medicines Agency. The course will highlight legal and customary definitions of “acceptable risk,” as well as risk assessment methods for evaluating data to estimate risk levels under these programs. The regulations and/or guidelines will be detailed and approaches used to comply with them will be described. This course will begin with a description methods underlying U.S. EPA actions to protect the general public, i.e., establishment of NAAQS and MCLs. The course will then detail requirements, guidance, and processes to protect specific populations, i.e., workers and patients. In each case representative examples will be used to illustrate the processes. The application of toxicological and epidemiological data in these programs will be described.

- **Introduction,** Eileen P. Hayes, EP Hayes Toxicology Services LLC, Longmont, CO
- **Clean Air Regulation: Science and the Process,** Daniel L. Costa, U.S. EPA, Research Triangle Park, NC
- **Setting Occupational Exposure Limits,** Bruce D. Naumann, Merck & Co., Inc., Whitehouse Station, NJ
- **Qualification of Impurities in Drug Products,** Timothy J. McGovern, SciLucent, LLC, Herndon, VA

**Sunday Morning, March 6**
8:15 AM to 12:00 NOON
**First and Second Level (See signage at CE Booths for room locations)**

**Drug Hypersensitivity Reactions: Risk Assessment and Management**

**AM07**

**Chairperson(s):** Marija Popovic, Eli Lilly & Company, Indianapolis, IN, and Jessica Whritenour, Pfizer Global Research and Development, Groton, CT.

**Sponsor:**

**Immunotoxicology Specialty Section**

Drug hypersensitivity reactions are not a common problem in drug development; however, when they do occur they can have a significant impact on the drug candidate’s developmental success. Drug hypersensitivity reactions are usually discovered in Phase II or III clinical trials, or in the post-marketing phase. Once allergic reactions are observed in patients, one needs to determine if the reaction is mediated by an immune response to the drug, or another mechanism. There are a few *ex vivo* diagnostic methods that can be used to identify immune-mediated reactions, but one needs to be aware of the limitations and advantages of each approach. *In vivo* methods, or animal models presently being developed to predict drug’s potential to trigger hypersensitivity reaction in the patient population are being developed, but at present, they have significant limitations. Risk management strategies may include selection of patient populations based on the HLA haplotype. This course is intended as an introduction for those with limited background in the area of hypersensitivity, or allergic reaction to drugs. The focus of the course will be on systemic hypersensitivity reactions (drug administered orally or parenterally) and will include discussions both on drugs that are small molecules and biologics.

- **Impact and Issues Associated with Drug Hypersensitivity Reactions on Drug Development and Commercialization,** Thomas T. Kawabata, Pfizer Global Research and Development, Groton, CT
- **Clinical Overview: Description of the Types of Drug Hypersensitivity Reactions,** Franklin Adkinson, Johns Hopkins University, Baltimore, MD
- **Mechanisms of Drug Hypersensitivity Reactions: Types I-IV Mechanisms, Hapten, PI, and Danger Hypotheses,** Cynthia Ju, University of Colorado, Denver, Aurora, CO
- **Pseudoallergic and Anaphylactoid Drug Hypersensitivity Reactions,** Jessica Whritenour, Pfizer Global Research and Development, Groton, CT
- **Predictive Testing: Different Animal Models and Future Possibilities,** Marija Popovic, Eli Lilly & Company, Indianapolis, IN

**Sunday Morning, March 6**
8:15 AM to 12:00 NOON
**First and Second Level (See signage at CE Booths for room locations)**

**Toxicology and Risk Assessment of Chemical Mixtures**

**AM08**

**Chairperson(s):** Jane Ellen Simmons, U.S. EPA, Research Triangle Park, NC, and Christopher J. Borger, Applied Pharmacology Toxicology, Inc., Gainesville, FL.

**Sponsor:**

**Mixtures Specialty Section**

**Endorsed by:**

**Biological Modeling Specialty Section**

**Occupational Health and Public Health Specialty Section**

Assessment of the safety and risk of environmental chemicals, pharmaceuticals, consumer and personal care products, pesticides, and food additives increasingly requires consideration of the potential pharmacological and toxicological interactions that might occur as these agents are encountered as mixtures by patients, consumers, and through environmental exposures (e.g., mixtures present in air, water, soil). Both toxicological evaluations and risk assessments of mixtures of chemicals are complex due to the potential pharmacokinetic and pharmacodynamic mechanisms that might result in nonadditive interactions. While greater than expected toxicity is of most concern for environmental exposures, both less than and greater than additive toxicity are of pharmacological concern. Toxicological evaluation of chemical mixtures necessitates study designs, methods of analysis, and limits on interpretation not required for single chemicals. This course will cover the fundamentals of study design and data analysis for mixtures that apply to all classes and categories of chemicals encountered by humans and animals, regardless of market application. The objectives of this course are to 1) describe the basic principles that underlie modern concepts of the toxicology and risk assessment of chemical mixtures; 2) survey the basic tools and techniques needed to design, conduct, analyze and interpret experimental data with defined or complex mixtures of chemicals; and 3) review the guidance, underlying assumptions, and techniques used in risk assessment of chemical mixtures. This course will be of interest to experimentalists who wish to conduct studies on mixtures that are meaningful for evaluation of risk as well as safety and risk assessors who must evaluate and apply data on mixtures and interactions in assessments.

• The Intersection of Design and Interpretation of Mixtures Data, Christopher J. Borgert, Applied Pharmacology Toxicology, Inc., Gainesville, FL
• Pharmacokinetic and Pharmacodynamic Mechanisms of Interactions in Mixtures, Sami Haddad, Université de Montréal, Montréal, Quebec, Canada
• Applications of Mixtures Data in Health Risk Assessment, Moiz Mumtaz, CDC-ATSDR, Atlanta, GA

Sunday Afternoon, March 6
1:15 PM to 5:00 PM
First and Second Level (See signage at CE Booths for room locations)

鳕 Environment and Disease

• System Biology

Applications of Computational Systems Biology for Toxicology
PM09
CE BASIC
Chairperson(s): Melvin E. Andersen, The Hamner Institutes for Health Sciences, Research Triangle Park, NC, and Rory B. Conolly, U.S. EPA, Research Triangle Park, NC.

Sponsor:
Molecular Biology Specialty Section

Endorsed by:
Biological Modeling Specialty Section

The field of toxicity testing and risk assessment is undergoing a shift from reliance on high dose animal studies towards increased use of human in vitro systems that promise to provide mechanistic understanding of toxicity for environmentally relevant low dose exposure. For this fundamental change, toxicologists will need to adopt more integrated experimental and computational approaches to resolve the structures of key signaling pathways, which are composed of functional network motifs, and to understand the consequences of chemical perturbation on the dynamic and steady-state behaviors of these pathways. This course introduces state-of-the-art computational systems biology tools that are being used for organizing and understanding molecular circuits under both physiological and perturbed conditions. A broad overview will first provide a historical context of dose-response studies based on understanding mode of action through cellular pathway perturbation. The course will describe signaling properties of a suite of recurring network motifs, including ultrasensitivity, feedback, and feedforward loops, to appreciate the basic building blocks of complex biochemical pathways and networks. Secondly, focusing on the DNA damage response and cell cycle progression pathways, we will illustrate how these network motifs are organized into molecular circuits to give rise to higher-level cellular functions and if perturbed, how functional aberrations result. Signal transduction networks activated by growth factors are then examined to show how pathway cross-talk and feedback loops define the activation logic of the downstream MAPK, which is a key determinant of cell growth and survival. Finally, we will show how stochastic gene expression and the resulting non-genetic cell-to-cell variability plays a role in influencing dose-response curves using examples such as B cell differentiation and its disruption by dioxin. The course concludes with a short summary and suggestions for applying these computational systems biology tools to future toxicity testing.

• Introduction, Melvin E. Andersen, The Hamner Institutes for Health Sciences, Research Triangle Park, NC
• Network Signaling Motifs, Qiang Zhang, The Hamner Institutes for Health Sciences, Research Triangle Park, NC

Sunday Afternoon, March 6
1:15 PM to 5:00 PM
First and Second Level (See signage at CE Booths for room locations)

鳕 Toxicity Testing: State of Science and Strategies to Improve Public Health

Evaluating Toxicity of Engineered Nanomaterials: Issues with Conventional Toxicology Approaches
PM10
CE BASIC
Chairperson(s): Srikanth S. Nadadur, NIEHS, Research Triangle Park, NC, and Frank A. Witzmann, Indiana University School of Medicine, Indianapolis, IN.

Sponsor:
Nanotoxicology Specialty Section

Endorsed by:
Cardiovascular Toxicology Specialty Section
In Vitro and Alternative Methods Specialty Section
Inhalation and Respiratory Specialty Section

Engineered nanomaterials (ENMs) have become an integral part of numerous consumer products, cosmetics, building materials, medical devices, therapeutic agents, and environmental remediation. Global demand for nanomaterials and nano-enabled devices has been projected to surpass $3.1 trillion by 2015. The widespread use of nanotechnology-derived products presents opportunities for intentional and unintentional exposure to ENMs. The size and size-dependent novel chemical and physical properties that make ENMs unique compared to micro-scale products of similar chemical composition makes it difficult to determine their interaction with biological matrices. The recent flood of toxicology literature without proper physical and chemical characterization of ENMs proposes adverse to no health effects for certain common ENMs such as carbon nanotubes and metal oxide nanoparticles. The course will provide an overview of the issues facing nanotechnology that the scientific community must grapple with in regard to predicting toxicity and biological outcomes associated with nanoscale properties and the need to identify and integrate novel approaches for safety of ENMs. To begin, focus will be placed on the importance of incorporating physical and chemical characteristics of ENMs in interpreting biological data; high throughput in vitro approaches using multiple parameters to classify ENMs toxicity profile will then be covered. Altered proteomic profiles in a model in vitro system to understand molecular alterations will be explored. Finally, the interpretation of data from in vivo studies using inhalational routes of exposure will be discussed. The goal of this course is to encourage both the novice and the toxicologist trained in conventional toxicity testing to surpass $3.1 trillion by 2015. The widespread use of nanotechnology-derived products presents opportunities for intentional and unintentional exposure to ENMs. The size and size-dependent novel chemical and physical properties that make ENMs unique compared to micro-scale products of similar chemical composition makes it difficult to determine their interaction with biological matrices. The recent flood of toxicology literature without proper physical and chemical characterization of ENMs proposes adverse to no health effects for certain common ENMs such as carbon nanotubes and metal oxide nanoparticles. The course will provide an overview of the issues facing nanotechnology that the scientific community must grapple with in regard to predicting toxicity and biological outcomes associated with nanoscale properties and the need to identify and integrate novel approaches for safety of ENMs. To begin, focus will be placed on the importance of incorporating physical and chemical characteristics of ENMs in interpreting biological data; high throughput in vitro approaches using multiple parameters to classify ENMs toxicity profile will then be covered. Altered proteomic profiles in a model in vitro system to understand molecular alterations will be explored. Finally, the interpretation of data from in vivo studies using inhalational routes of exposure will be discussed. The goal of this course is to encourage both the novice and the toxicologist trained in conventional toxicity testing to think outside the box to design rational toxicology studies in evaluating the safety of ENMs that are currently in use, and to develop models to predict potential toxicity of second and third generation ENMs.

• Engineered Nanomaterials (ENMs) Toxicity Evaluation: Issues with Conventional Approaches, Srikanth S. Nadadur, NIEHS, Research Triangle Park, NC
Continuing Education (Continued)

• Importance of Integrating Physicochemical Characterization Information in Toxicity Assessment of Engineered Nanomaterials, Scott McNeil, National Cancer Institute, Bethesda, MD

• Emergence of High Content Screening for Assessment of Nanotoxicity, Chris Vulpe, University of California Berkeley, Berkeley, CA

• Proteomic Profiling of the Biological Effects of Engineered Nanomaterial Exposure Using In Vitro Models, Frank A. Witzmann, Indiana University School of Medicine, Indianapolis, IN

• Correlating In Vitro and In Vivo Nanotoxicity: Limitations and Challenges, Günter Oberdörster, University of Rochester Medical Center, Rochester, NY

Sunday Afternoon, March 6
1:15 PM to 5:00 PM
First and Second Level (See signage at CE Booths for room locations)

Toxicity Testing: State of Science and Strategies to Improve Public Health

New Technologies and Approaches in Genetic Toxicology and Their Expanding Role in General Toxicology and Safety Assessment
PM11 CE BASIC

Chairperson(s): Jeffrey C. Bemis, Litron Laboratories, Rochester, NY, and Jennifer C. Sasaki, Johnson & Johnson, Raritan, NJ.

Sponsor:
Regulatory and Safety Evaluation Specialty Section

Endorsed by:
In Vitro and Alternative Methods Specialty Section

For decades, genetic toxicology and the “genetox battery” have been a well-established part of safety testing for pharmaceuticals and other chemical agents. Recent advances in experimental methodologies are contributing to a change in the way that genetic toxicology data are generated and incorporated in the disciplines of toxicology and safety testing. The intention of this course is to illustrate the broader impact that new genetic toxicity approaches are having on drug/chemicals safety assessment and human risk analysis. The structure of the course will provide examples of (1) Early discovery/high-throughput genotoxicity screening of chemical entities; (2) Integration of genetic toxicity assays with repeat-dose in vivo toxicity studies; and (3) New approaches for genotoxicity risk assessment, and conclude with an update on genotoxic impurity management strategies for pharmaceuticals. Speaker presentations will illustrate how genotoxicity testing is evolving from a hazard identification based-discipline to an integrated approach that may ultimately yield quantitative information that can be used for human risk assessment.

This course should be of interest to experienced genetic toxicologists as well as those involved in general toxicology who want to learn about how incorporation of new genotoxicity methods can improve test predictivity, lower costs, reduce animal use, and may ultimately be applied to human risk assessment

• Introduction, Jeffrey C Bemis, Litron Laboratories, Rochester, NY

• High-Throughput Genetic Toxicity Screening Assays in Discovery Research & Development, Richard Walmley, Gentronix, Ltd., and The University of Manchester, United Kingdom

• The In Vitro Micronucleus Assay in Mammalian Cells: A High Content Assay, Anthony M. Lynch, GlaxoSmithKline, Hertfordshire, United Kingdom

• Genetic Toxicity and Thresholds: State of the Science, B. Bhaskar Gollapudi, The Dow Chemical Company, Midland, MI

• Integration of Genetic Toxicology Endpoints into Repeat-Dose Toxicity Studies, Maik Schuler, Pfizer PGRD, Groton, CT

• Risk Assessment of Genotoxic Impurities in Pharmaceuticals, Lutz Mueller, Hoffmann La Roche, Inc., Basel, Switzerland

Sunday Afternoon, March 6
1:15 PM to 5:00 PM
First and Second Level (See signage at CE Booths for room locations)

Epigenetic Mechanisms

 Practical How-To and Pitfalls Associated with Current Epigenetic Studies
PM12 CE ADVANCED

Chairperson(s): Reza John Rasoulpour, The Dow Chemical Company, Midland, MI, and Chunhua Qin, Merck & Co., Inc., West Point, PA

Sponsor:
Molecular Biology Specialty Section

The study of toxicant-induced epigenetic modifications is greatly expanding in complexity and scope as new tools of measuring these changes become available. Fundamental questions (e.g., how best to quantify changes) become enigmatic with DNA methylation, histone modifications, and microRNA epigenetic modifications that can affect imprinted, coding, non-coding, and global regions of the genome. Understanding these questions is important in interpreting species/strain-specific responses. This advanced course is a practical guide to techniques used in epigenetic research with respect to toxicology for in vivo/in vivo screening of rodent models, post-fertilization, embryos, developmental biology, and human disease states. Topics range from advancements in techniques to screening strategies and tools, and include techniques to correlate epigenetic changes to gene expression and apical end points, use of imprinted genes as biomarkers, and profiling DNA methylation in human population-based research. For screening tools to determine species-specific responses, a variety of novel technologies will be analyzed such as epigenomic profiling of DNA methylation in mouse tumors, pyrosequencing to examine the activity of endogenous retroviruses (e.g., IAP), and assays to explore miRNA and histone modification changes. In addition, cutting-edge techniques such as deep sequencing technologies of bisulfite-converted DNA will be discussed as these have enabled the characterization of methylation changes at the genome level; however, the significant challenge in using this technology is dealing with the massive amount of information obtained and making sense of the observed methylation changes. Scientists in academia, industry, and government will leave this course with an understanding of the strengths and weaknesses of available epigenetic tools, how these tools can be best used in screening and mode-of-action experiments, as well as insight into future potential of mechanistic epigenetic toxicology.

• Screening Tools and Approaches for Methylation Analysis of Imprinted Genes, Reza John Rasoulpour, The Dow Chemical Company, Midland, MI

• Profiling Epigenetic Changes in Rodent Tumor Models, Chunhua Qin, Merck & Co., Inc., West Point, PA

• Evaluating Epigenetic Changes in Germ Cells and Early Embryos, Barbara F. Hales, McGill University, Montréal, Québec, Canada
3. Implementation of quantitative methods also becomes clear and more standardization of methods is needed before toxicity testing in the 21st Century. The limited studies performed with in silico approaches such as systems biological descriptions of toxicity pathways and physiologically based pharmacokinetic modeling (PBPK), are necessary components of the National Academy of Sciences vision on toxicity testing in the 21st Century. The limited studies performed with this approach to date have shown that good predictions for the risk of the use of chemicals can be made. However, a number of limitations have also become clear and more standardization of methods is needed before implementation of quantitative in vitro-in vivo extrapolations (QIVIVE) in risk assessments can be achieved.

In this course, the following elements of the approach for assessing risks on the basis of in vitro toxicity data will be discussed:

1. How can we improve the applicability of in vitro methods by determining the real concentrations that come into contact with the cells in vitro, both for chemical compounds and for particles?

2. How can we effectively and efficiently integrate the metabolism of compounds, for clearance as well as for bioactivation?

3. How can we provide a flexible and yet robust scheme for integrating the different elements in a high-throughput environment?

• The Use of In Vitro Metabolism Data and Biokinetic Modeling to Conduct QIVIVE for Chemicals, Bastiaan Johan Blaauboer, Utrecht University, Utrecht, Netherlands

• Characterizing Free Test Chemical Concentration during In Vitro Toxicity Assays, Nynke Kramer, Utrecht University, Utrecht, Netherlands

• Particokinetic Modeling to Support QIVIVE for Particle Toxicity Assays, Justin G. Teeguarden, Pacific Northwest National Laboratory, Richland, WA

• QIVIVE in a High-Throughput Environment, Harvey J. Clewell, III, The Hamner Institutes for Health Sciences, Research Triangle Park, NC

Sunday Afternoon, March 6
1:15 PM to 5:00 PM
First and Second Level (See signage at CE Booths for room locations)

Toxicity Testing: State of Science and Strategies to Improve Public Health

Quantitative In Vitro to In Vivo Extrapolation: The Essential Element of In Vitro Assay-Based Risk Assessment

PM13 CE BASIC

Chairperson(s): Harvey J. Clewell, III, The Hamner Institutes for Health Sciences, Research Triangle Park, NC, and Bastiaan Johan Blaauboer, Utrecht University, Utrecht, Netherlands.

Sponsor:
Risk Assessment Specialty Section

Endorsed by:
Biological Modeling Specialty Section
In Vitro and Alternative Methods Specialty Section
Nanotoxicology Specialty Section

There is increasing recognition of the need to use efficient approaches to assess the risk assessment of high numbers of chemicals in a short time. The reliance on approaches consisting of animal experimentation has its drawbacks in terms of ethical, economical, and—not least—scientific limitations in assessing risks in a high-throughput mode. The quantitative interpretation of toxic effects of compounds in in vitro studies, using in silico approaches such as systems biological descriptions of toxicity pathways and physiologically based pharmacokinetic modeling (PBPK), are necessary components of the National Academy of Sciences vision on toxicity testing in the 21st Century. The limited studies performed with this approach to date have shown that good predictions for the risk of the use of chemicals can be made. However, a number of limitations have also become clear and more standardization of methods is needed before implementation of quantitative in vitro-in vivo extrapolations (QIVIVE) in risk assessments can be achieved.

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Sunday Afternoon, March 6
1:15 PM to 5:00 PM
First and Second Level (See signage at CE Booths for room locations)

Novel Approaches to Preclinical Safety Assessment: Bridging the Gap between Discovery and the Clinic through Translational Toxicology

Stem Cell Utility in Toxicology Screening

PM14 CE BASIC

Chairperson(s): Manu M. Sebastian, Columbia University, New York, NY, and Zaher A. Radi, Pfizer Global Research and Development, Cambridge, MA.

Sponsors:
Society for Toxicologic Pathology
Toxicologic and Exploratory Pathology Specialty Section

The development of toxicological screening tools for evaluating toxicity of new drug candidates has been a major focus in the pharmaceutical industry. Human embryonic stem (hESC) cells and induced pluripotent stem (iPS) cells and their lineage cells can be used as tools to predict developmental and other toxicities of drug candidates since several of the human biochemical pathways are active in these cells. In addition, stem cells can also be used to help in the mechanistic understanding of how a specific class of compounds leads to toxicity. Participation in this course will provide a basic overview of the utility of stem cells in drug discovery and update toxicologists on a variety of stem cells applications as screening tool for evaluating toxicity in multiple organ systems, thereby giving toxicologists a better understanding of the potential practical application of these in vitro methods for safety and risk assessment.

• Introduction: Stem Cells As Tools for Toxicology Screening, Manu M. Sebastian, Columbia University, New York, NY

• Metabolomics of Human Embryonic Stem Cells and Predictive Biomarkers of Developmental Toxicity, Gabriela Cezar, University of Wisconsin, Madison, WI

• Stem Cells and Mice with Humanized Livers: New Tools for Drug Metabolism and Toxicology, Stephen Strom, University of Pittsburgh Medical School, Pittsburgh, PA


• Stem Cells in Preclinical Drug Development, Hirdesh Uppal, Genentech, Inc., San Francisco, CA

• Concluding Remarks, Zaher A. Radi, Pfizer Global Research and Development, Cambridge, MA

up-to-date information at www.toxicology.org
Continuing Education (Continued)

Sunday Afternoon, March 6
1:15 PM to 5:00 PM
First and Second Level (See signage at CE Booths for room locations)

The Biology and Toxicology of the Peri- and Post-Natal Development

PM15  CE BASIC

Chairperson(s): Gregg D. Cappon, Pfizer Global Research and Development, Groton, CT, and Gary J. Chellman, Charles River Laboratories, Reno, NV.

Sponsor: Reproductive and Developmental Toxicology Specialty Section

On behalf of the SOT Council and the entire membership of the Society of Toxicology (SOT), thank you to all of the speakers who graciously agreed to come to Washington, D.C., to participate in the 2011 Annual Meeting. SOT’s Annual Meeting is the largest international forum to highlight novel discoveries and emerging fields and how they apply to toxicology. You played an important role in helping SOT showcase this year’s achievements in research and education and your time, efforts, and expertise are truly appreciated.

Thank You Speakers

The susceptibility to toxicity of organ systems during in utero and post-natal development is a concern for both drugs and environmental chemicals. While developmental toxicity can be manifested by death, structural abnormalities, and altered growth, alterations in the functional competence are of special concern during post-natal development. The primary focus in the past has been on functional toxicity to the CNS and reproduction, but the potential for developmental exposure to impact function of other systems such as the cardiovascular, respiratory, immune, endocrine, and digestive systems is now widely recognized. This basic course will begin with a review of post-natal development of major organ systems in humans and how those developmental processes might translate to sensitive periods for toxicity. Focus will be placed on study designs for evaluation of pharmaceuticals during the pre- and post-natal development period and designs for juvenile animal toxicity studies to support pediatric drug development. Next, designs will be presented for assessment of post-natal and juvenile toxicity studies in non-human primates, a rapidly expanding area given the increase in biopharmaceutical research. The course will wrap up with a discussion of multigenerational studies used to assess potential toxicity of environmental chemicals. Attendees will leave this course with an appreciation of the complex biology of pre- and post-natal development periods and an overview of current approaches to evaluating safety during this period.

- **Post-Natal Maturation of Major Organ Systems**, Christopher J. Bowman, Pfizer Inc., Groton, CT
- **Post-Natal and Juvenile Toxicity Studies: Basic Study Designs and Practical Approaches**, Donald G. Stump, WIL Research Laboratories LLC, Ashland, OH
- **Post-Natal and Juvenile Toxicity Studies in Non-Human Primates**, Gary J. Chellman, Charles River Laboratories, Reno, NV
- **One and Two-Generation Studies for Assessment of Environmental Chemicals**, Sue Marty, The Dow Chemical Company, Midland, MI
## Scientific Session Index

**All sessions will be held at the Walter E. Washington Convention Center.**

### General Scientific Sessions

(Listed by type, then date and time)

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### Monday

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*Author attended 9:30 AM–11:00 AM; otherwise author attended 11:00 AM–12:30 PM. Poster Board Surface Maps are on pages 104–107.

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*Author attended 8:30 AM–10:15 AM; otherwise author attended 10:15 AM–12:00 NOON. Poster Board Surface Maps are on pages 104–107.

<table>
<thead>
<tr>
<th>Date/Time</th>
<th>Topic/Abstract #</th>
<th>Room</th>
<th>Page</th>
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<tbody>
<tr>
<td>Thursday 8:30 AM</td>
<td>Alternatives to Mammalian Models #2509–2542</td>
<td>East Salon 101–134</td>
<td>341</td>
</tr>
<tr>
<td>Thursday 8:30 AM</td>
<td>Alternatives to Animal Models in Toxicology #2543–2575</td>
<td>East Salon 137–169</td>
<td>344</td>
</tr>
<tr>
<td>Thursday 8:30 AM</td>
<td>Disease Prevention #2576–2593</td>
<td>East Salon 177–194</td>
<td>346</td>
</tr>
<tr>
<td>Thursday 8:30 AM</td>
<td>Developmental Neurotoxicity: General #2594–2629</td>
<td>East Salon 201–236</td>
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</tr>
<tr>
<td>Thursday 8:30 AM</td>
<td>Cancinogenesis II #2630–2661</td>
<td>East Salon 241–272</td>
<td>351</td>
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</table>

### SYMPOSIUM SESSIONS S

<table>
<thead>
<tr>
<th>Date/Time</th>
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</thead>
<tbody>
<tr>
<td>Thursday 9:00 AM</td>
<td>Developmental Exposure to Environmental Toxicants: From Persistent Toxicities to Diseases #2662–2668</td>
<td>Room 143</td>
<td>354</td>
</tr>
<tr>
<td>Thursday 9:00 AM</td>
<td>Vascular Injury: A Figment of Your Inflammation? #2669–2674</td>
<td>Room 150</td>
<td>354</td>
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### EDUCATION-CAREER DEVELOPMENT SESSION EC

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<th>Date/Time</th>
<th>Topic/Abstract #</th>
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</thead>
<tbody>
<tr>
<td>Thursday 6:30 AM</td>
<td>Bringing Toxicology to the Decision-Makers Table: Opportunities for Science Policy Positions in Washington, D.C. #2508</td>
<td>Room 145</td>
<td>341</td>
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</table>

### WORKSHOP SESSIONS W

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<tr>
<th>Date/Time</th>
<th>Topic/Abstract #</th>
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<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thursday 9:00 AM</td>
<td>Are We There Yet? Attrition in the Pharmaceutical Industry and Impactful Strategies for Reducing Failure #2675–2681</td>
<td>Room 151</td>
<td>355</td>
</tr>
<tr>
<td>Thursday 9:00 AM</td>
<td>Autoimmunity versus Systemic Hypersensitivity: Commonalities Useful for Immunotoxicity Testing #2682–2687</td>
<td>Room 201</td>
<td>355</td>
</tr>
<tr>
<td>Thursday 9:00 AM</td>
<td>PBPK Model Use in Risk Assessment: Why Being Published Is Not Enough #2688–2693</td>
<td>Room 145</td>
<td>356</td>
</tr>
<tr>
<td>Thursday 9:00 AM</td>
<td>Role of Biomarkers in Assessing Tobacco Harm Reduction: A Toxicological Perspective #2694–2699</td>
<td>Room 144</td>
<td>357</td>
</tr>
</tbody>
</table>
Poster Session Board Surface Maps

Monday, March 7–Wednesday, March 9—Exhibit Hall—Second Level

MONDAY
   Morning, March 7—9:30 AM to 12:30 PM
   Poster Set Up—7:30 AM to 9:30 AM

   Afternoon, March 7—1:00 PM to 4:30 PM
   Poster Set Up—12:30 PM to 1:00 PM

TUESDAY
   Morning, March 8—9:00 AM to 12:30 PM
   Poster Set Up—7:30 AM to 9:00 AM

   Afternoon, March 8—1:00 PM to 4:30 PM
   Poster Set Up—12:30 PM to 1:00 PM

WEDNESDAY
   Morning, March 9—9:00 AM to 12:30 PM
   Poster Set Up—7:30 AM to 9:00 AM

   Afternoon, March 9—1:00 PM to 4:30 PM
   Poster Set Up—12:30 PM to 1:00 PM
Photography in the Exhibit Hall and all poster sessions is prohibited without the consent of exhibitors or poster presenter(s)/author(s). Please respect your colleagues' right to privacy.

The numbers listed refer to the poster location that does not change throughout the week. Presenters ONLY should display posters on the date and time communicated in your acceptance notice. A list of poster session dates and times with abstract numbers can be found on pages 108–111. The ToxExpoSM Exhibit floor plan with a mock layout of the Poster Board Surface Maps can be found on pages 104–107 to assist you in finding poster sessions.
Poster Session Board Surface Maps (Continued)

**Thursday, March 10—East Salon—First Level**

**THURSDAY**

Morning, March 10—8:00 AM to 12:00 NOON—Poster Set Up—7:00 AM to 8:00 AM

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Thursday, March 10—Room 202—Second Level

THURSDAY

Morning, March 10—8:00 AM to 12:00 NOON—Poster Set Up—7:00 AM to 8:00 AM

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up-to-date information at www.toxicology.org
Poster Session Schedule

**Monday Morning, March 7—9:30 AM to 12:30 PM—Exhibit Hall**
Poster Set Up 7:30 AM to 9:30 AM

<table>
<thead>
<tr>
<th>SESSION TITLE</th>
<th>ABSTRACT NUMBERS</th>
<th>POSTER BOARD NUMBERS</th>
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<tbody>
<tr>
<td>Hypersensitivity: Methods and Mechanisms</td>
<td>80–98</td>
<td>101–119</td>
</tr>
<tr>
<td>Epigenetic Mechanisms</td>
<td>99–110</td>
<td>125–136</td>
</tr>
<tr>
<td>DNA Replication and Repair</td>
<td>111–122</td>
<td>137–148</td>
</tr>
<tr>
<td>Bioinformatic Profiling and Computational Pathway Prediction</td>
<td>123–159</td>
<td>212–248</td>
</tr>
<tr>
<td>Neurodegenerative Diseases</td>
<td>160–182</td>
<td>301–323</td>
</tr>
<tr>
<td>Cardiovascular Toxicology</td>
<td>183–218</td>
<td>325–360</td>
</tr>
<tr>
<td>Carcinogenesis I</td>
<td>219–250</td>
<td>401–432</td>
</tr>
<tr>
<td>Inflammatory Mediators in Disease Pathogenesis</td>
<td>251–264</td>
<td>435–448</td>
</tr>
<tr>
<td>Metals I</td>
<td>265–292</td>
<td>501–528</td>
</tr>
<tr>
<td>Metals II</td>
<td>293–314</td>
<td>537–548 and 601–610</td>
</tr>
<tr>
<td>Genotoxicity</td>
<td>315–343</td>
<td>613–641</td>
</tr>
<tr>
<td>Receptor and Receptor-Mediated Toxicity</td>
<td>344–379</td>
<td>701–736</td>
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<tr>
<td>Cell Signaling and Gene Regulation</td>
<td>380–416</td>
<td>801–837</td>
</tr>
<tr>
<td>Visiting Student Poster Session</td>
<td>BY INVITATION ONLY</td>
<td>901–933</td>
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**Monday Afternoon, March 7—1:00 PM to 4:30 PM—Exhibit Hall**
Poster Set Up 12:30 PM to 1:00 PM

<table>
<thead>
<tr>
<th>SESSION TITLE</th>
<th>ABSTRACT NUMBERS</th>
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<tbody>
<tr>
<td>Drug Induced Liver Injury</td>
<td>420–443</td>
<td>101–124</td>
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<tr>
<td>Acetaminophen Hepatotoxicity</td>
<td>444–463</td>
<td>129–148</td>
</tr>
<tr>
<td>Risk Assessment: Computational Approaches, Analyses, and Applications</td>
<td>464–505</td>
<td>207–248</td>
</tr>
<tr>
<td>Animal Models in Toxicology</td>
<td>535–562</td>
<td>333–360</td>
</tr>
<tr>
<td>Inhalation and Cardiopulmonary Toxicology</td>
<td>563–609</td>
<td>401–447</td>
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<tr>
<td>Children’s Health/Juvenile Toxicology</td>
<td>610–630</td>
<td>501–521</td>
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<tr>
<td>Skin</td>
<td>631–648</td>
<td>525–542</td>
</tr>
<tr>
<td>Immunotoxicity: Methods and Evaluation</td>
<td>649–667</td>
<td>547–548 and 601–617</td>
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<tr>
<td>Mechanisms of Immunotoxicity</td>
<td>668–698</td>
<td>618–648</td>
</tr>
<tr>
<td>Biological Modeling: Computational Approaches, Mixtures, Multiroute and Lifestage Applications</td>
<td>699–737</td>
<td>701–736 and 846–848</td>
</tr>
<tr>
<td>Kidney</td>
<td>738–774</td>
<td>801–837</td>
</tr>
<tr>
<td>Pharmaceutical Safety Assessment: Therapeutic Agents</td>
<td>775–812</td>
<td>901–938</td>
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</tbody>
</table>

Photography in the Exhibit Hall and all poster sessions is prohibited without the consent of exhibitors or poster presenter(s)/author(s). Please respect your colleagues’ right to privacy.
Tuesday Morning, March 8—9:00 AM to 12:30 PM—Exhibit Hall
Poster Set Up 7:30 AM to 9:00 AM

<table>
<thead>
<tr>
<th>SESSION TITLE</th>
<th>ABSTRACT NUMBERS</th>
<th>POSTER BOARD NUMBERS</th>
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<tbody>
<tr>
<td>*Late Breaking Abstracts</td>
<td>TBD</td>
<td>101–112</td>
</tr>
<tr>
<td>Alternative Approaches to Animal Testing for Toxicological Research</td>
<td>959–989</td>
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</tr>
<tr>
<td>*Late Breaking Abstracts</td>
<td>TBD</td>
<td>201–212</td>
</tr>
<tr>
<td>Alternatives to Mammalian Models for Testing</td>
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<td>217–248</td>
</tr>
<tr>
<td>Reproductive Toxicology I</td>
<td>1022–1048</td>
<td>301–327</td>
</tr>
<tr>
<td>Reproductive Toxicology II</td>
<td>1049–1076</td>
<td>333–360</td>
</tr>
<tr>
<td>Hepatotoxicity</td>
<td>1077–1107</td>
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<tr>
<td>Cholestasis, Lipid Homeostasis, and Liver Toxicity</td>
<td>1108–1120</td>
<td>436–448</td>
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<tr>
<td>Ah Receptor in Immune Regulation and Toxicity</td>
<td>1121–1139</td>
<td>501–519</td>
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<tr>
<td>ImmunoSafety Methods in Non-Rodents</td>
<td>1140–1152</td>
<td>522–534</td>
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<tr>
<td>*Late Breaking Abstracts</td>
<td>TBD</td>
<td>537–548</td>
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<tr>
<td>Stem Cell Toxicology</td>
<td>1153–1173</td>
<td>601–621</td>
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<tr>
<td>Nanotoxicology: Carbon Nanotubes, Carbon Nanoparticulates, and Quantum Dots</td>
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<td>625–648</td>
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<tr>
<td>Epidemiology and Exposure Evaluations</td>
<td>1198–1229</td>
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<tr>
<td>Exposure Assessments and Biomonitoring Applications</td>
<td>1230–1268</td>
<td>801–839</td>
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<tr>
<td>Oxidative Stress and Redox Biology</td>
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Tuesday Afternoon, March 8—1:00 PM to 4:30 PM—Exhibit Hall
Poster Set Up 12:30 PM to 1:00 PM

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<tbody>
<tr>
<td>Medical Devices</td>
<td>1312–1323</td>
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<tr>
<td>Neurotoxicity of Pesticides</td>
<td>1324–1358</td>
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<tr>
<td>Genetic Polymorphisms</td>
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<tr>
<td>Metal Neurotoxicity: Methylmercury and General</td>
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<td>Mutagenecity</td>
<td>1403–1422</td>
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<tr>
<td>Methods in Biomarker Discovery and Validation</td>
<td>1423–1452</td>
<td>331–360</td>
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<tr>
<td>Nanotoxicology</td>
<td>1453–1496</td>
<td>401–444</td>
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<tr>
<td>Drug Allergy, Pseudoallergy, IDRH, and Autoimmunity</td>
<td>1497–1515</td>
<td>501–519</td>
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<tr>
<td>Risk Assessment and Regulatory Policy Applications</td>
<td>1516–1540</td>
<td>524–548</td>
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<tr>
<td>Safety and Risk Assessment: Critical Characterizations for Chemicals and New Concerns</td>
<td>1541–1582</td>
<td>601–642</td>
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<tr>
<td>‘Omics in Toxicology Research</td>
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<td>Developmental Toxicology</td>
<td>1607–1647</td>
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<td>Apoptosis/Cell Death</td>
<td>1648–1673</td>
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<tr>
<td>Biomarkers of Environmental Exposures</td>
<td>1674–1696</td>
<td>731–736 and 843–848 and 930–940</td>
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## Poster Session Schedule (Continued)

**Wednesday Morning, March 9—9:00 AM to 12:30 PM—Exhibit Hall**

**Poster Set Up 7:30 AM to 9:00 AM**

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<tr>
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<tbody>
<tr>
<td>Xenobiotic Biotransformation</td>
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<tr>
<td>Phase I and II Biotransformation Enzymes</td>
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<tr>
<td>Toxicology Education: K–12 and Beyond</td>
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<tr>
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<tr>
<td>Safety Testing of Pharmaceuticals</td>
<td>1881–1893</td>
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<tr>
<td>Chemical and Biological Weapons</td>
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</tr>
<tr>
<td>Nanotoxicology: Metal Oxides, Silver, Gold, and Silica Nanoparticle Toxicity</td>
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</tr>
<tr>
<td>Pesticides: General</td>
<td>2086–2120</td>
<td>801–835</td>
</tr>
<tr>
<td><em>Late Breaking Abstracts</em></td>
<td>TBD</td>
<td>837–848</td>
</tr>
<tr>
<td>Metal Neurotoxicity: Manganese and Lead</td>
<td>2121–2151</td>
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</table>

**Wednesday Afternoon, March 9—1:00 PM to 4:30 PM—Exhibit Hall**

**Poster Set Up 12:30 PM to 1:00 PM**

<table>
<thead>
<tr>
<th>SESSION TITLE</th>
<th>ABSTRACT NUMBERS</th>
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<tbody>
<tr>
<td><em>Late Breaking Abstracts</em></td>
<td>TBD</td>
<td>101–112</td>
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<tr>
<td>Nanotoxicology: In Vitro or Ex Vivo Studies</td>
<td>2154–2184</td>
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<tr>
<td><em>Late Breaking Abstracts</em></td>
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<td>201–224</td>
</tr>
<tr>
<td>Developmental Basis of Adult Disease</td>
<td>2185–2203</td>
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<tr>
<td>Cellular Effects of Natural Product Extracts</td>
<td>2204–2236</td>
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<tr>
<td>Persistent Organic Compounds (POPs)</td>
<td>2237–2256</td>
<td>341–360</td>
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<tr>
<td>Pharmacokinetics and Disposition</td>
<td>2257–2285</td>
<td>401–429</td>
</tr>
<tr>
<td>Risk Assessment: Models and Approaches for Inhaled Agents</td>
<td>2286–2302</td>
<td>432–448</td>
</tr>
<tr>
<td>Mechanistic Assessment of Chemical Mixtures</td>
<td>2303–2316</td>
<td>501–514</td>
</tr>
<tr>
<td>Mechanisms of Aspiration Injury and Airway Disease</td>
<td>2317–2337</td>
<td>516–536</td>
</tr>
<tr>
<td><em>Late Breaking Abstracts</em></td>
<td>TBD</td>
<td>337–348</td>
</tr>
<tr>
<td>Toxicology of the Gulf Oil Spill</td>
<td>2338–2342</td>
<td>601–605</td>
</tr>
<tr>
<td>Endocrine Toxicology</td>
<td>2343–2377</td>
<td>614–648</td>
</tr>
<tr>
<td>Aquatic and Ecotoxicology</td>
<td>2378–2409</td>
<td>701–731</td>
</tr>
<tr>
<td>Food Safety and Nutrition</td>
<td>2410–2443</td>
<td>801–834</td>
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<tr>
<td><em>Late Breaking Abstracts</em></td>
<td>TBD</td>
<td>901–940</td>
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</tbody>
</table>

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**Poster Session Schedule (Continued)**

**Thursday Morning, March 10—8:00 AM to 12:00 NOON—East Salon**  
Poster Set Up 7:00 AM to 8:00 AM

<table>
<thead>
<tr>
<th>SESSION TITLE</th>
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<tr>
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<td>2509–2542</td>
<td>101–134</td>
</tr>
<tr>
<td>Alternatives to Animal Models in Toxicology</td>
<td>2543–2575</td>
<td>137–169</td>
</tr>
<tr>
<td>Disease Prevention</td>
<td>2576–2593</td>
<td>177–194</td>
</tr>
<tr>
<td>Developmental Neurotoxicity: General</td>
<td>2594–2629</td>
<td>201–236</td>
</tr>
<tr>
<td>Cancinogenesis II</td>
<td>2630–2661</td>
<td>241–272</td>
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**Thursday Morning, March 10—8:00 AM to 12:00 NOON—Room 202**  
Poster Set Up 7:00 AM to 8:00 AM

<table>
<thead>
<tr>
<th>SESSION TITLE</th>
<th>ABSTRACT NUMBERS</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Grace Period Abstracts</td>
<td>TBD</td>
<td>101–140</td>
</tr>
<tr>
<td>Grace Period Abstracts</td>
<td>TBD</td>
<td>141–180</td>
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<tr>
<td>Grace Period Abstracts</td>
<td>TBD</td>
<td>201–240</td>
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<tr>
<td>Grace Period Abstracts</td>
<td>TBD</td>
<td>241–280</td>
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Program Description

The Program Description layout is ordered by date and start time. All scientific sessions and special events will be held in the Walter E. Washington Convention Center unless otherwise noted.

**50** 50th Anniversary Event

SOT general events and functions are displayed with a grey background.

**Scientific Session Types:** Exhibitor Hosted Sessions are informative sessions developed by an exhibiting company. See page 41 for the Exhibitor Hosted Session Index.

| EC | Education-Career Development Sessions |
| PS | Poster Sessions |
| PI | Regional Interest Session |
| RR | Roundtable Sessions |
| SS | Symposium Sessions |
| W | Thematic Sessions |
| WS | Workshop Sessions |

**SATURDAY MORNING**

Saturday Morning, March 5
9:30 AM to 4:30 PM
Smithsonian S. Dillon Ripley Center

**Smithsonian Seminar: Poisons: When Good Chemicals Turn Bad**

To commemorate SOT’s 50th Anniversary, the Smithsonian Institution and SOT are holding an all-day seminar for the public featuring the latest research in the science of toxicology, and information about the positive and adverse effects that chemical, biological, and physical substances can have on people, animals, and the environment. We are surrounded by chemicals that may be beneficial, harmful, or neither depending on the dose. This day-long session, which features several SOT Members, is open to the public and requires separate registration. SOT members receive the Smithsonian member discount. To learn more please visit www.toxicology.org/am2011.

Saturday Morning, March 5
10:00 AM to 5:00 PM
Koshland Science Museum of the National Academy of Sciences

**K–12 Outreach: Protecting You and Your Pet through the Science of Toxicology: Paracelsus Goes to Washington**


Sponsors:
- Education Committee
- K–12 Task Force

SOT is sponsoring a free Family Day at the Marion Koshland Science Museum of the National Academy of Sciences. We invite meeting attendees and their families, as well as D.C. visitors and residents, to experience this science museum near the Walter E. Washington Convention Center. In addition to the activities that are on display, SOT will supplement the topic areas of Wonders of Science, Safe Drinking Water, Global Warming, and Infectious Disease with toxicology-related activities. Toxicologists from a variety of employment sectors will be available to engage with visitors to learn more about toxicology.

**SATURDAY AFTERNOON**

Saturday Morning, March 5
12:00 NOON to 1:00 PM
Koshland Science Museum of the National Academy of Sciences

**K–12 Outreach: Poisoned Pet Food—Unraveling the Melamine Mystery**

Lecturer: Renate Reimschuessel, U.S. FDA, Laurel, MD.


Sponsors:
- Education Committee
- K–12 Task Force

Please see page 77 for more details.

**SATURDAY EVENING**

Saturday Afternoon, March 5
4:15 PM to 5:45 PM
Room 302

**Undergraduate Education Program: Orientation for SOT Hosts, Peer Mentors, and Advisors**

Chairperson(s): Jennifer Rayner, Oak Ridge National Laboratories, Oak Ridge, TN.

Sponsor:
Committee for Diversity Initiatives

This event is for advisors, peer mentors, and mentors assisting with the Undergraduate Program. Full program details are found pages 85–86.

Saturday Afternoon, March 5
5:45 PM to 9:00 PM
Room 103

(By Invitation Only)

**Undergraduate Education Program Opening Event**

Chairperson(s): Adrian Nanez, Amgen, Thousand Oaks, CA.

Sponsor:
Committee for Diversity Initiatives

This event is for undergraduate students and advisors receiving 2011 SOT travel funding, and SOT program volunteers assisting with the Undergraduate Program. Full program details are found pages 85–86.

Saturday Evening, March 5
8:00 PM to 9:00 PM
Room 103

**CDI Reunion (Networking and Dessert)**

Anyone involved with the SOT Undergraduate Education Program through the years should plan to attend.
## Program Description (Continued)

### SUNDAY MORNING

**Sunday Morning, March 6**  
7:00 AM to 7:45 AM  
**First Level**  
(Ticket Required; See signage at CE Booth for room location)

**Continuing Education Sunrise Mini-Course**  
Full Continuing Education Course details may be found on pages 88–96.

**Sunday Morning and Afternoon, March 6**  
8:00 AM to 5:00 PM  
(See pages 5–11 for room information)

**Undergraduate Education Program**

**Chairperson(s): Adrian Nanez, Amgen, Thousand Oaks, CA.**

**Sponsor:**  
Committee for Diversity Initiatives

The Sunday program is open to undergraduate students who register for this event using the Annual Meeting Registration Form, the undergraduate students and advisors receiving SOT travel funding, and SOT program volunteers. Full program details are found pages 85–86.

### SUNDAY AFTERNOON

**Sunday Afternoon, March 6**  
3:00 PM to 5:00 PM  
**Room 102**

**Undergraduate Education Program: Open Time with Academic Program Directors and Internship Sponsors**

**Chairperson(s): Adrian Nanez, Amgen, Thousand Oaks, CA.**

**Sponsor:**  
Committee for Diversity Initiatives

The Sunday program is open to undergraduate students who register for this event using the Annual Meeting Registration Form, the undergraduate students and advisors receiving SOT travel funding, and SOT program volunteers. Full program details are found pages 85–86.

**Sunday Afternoon, March 6**  
4:00 PM to 6:00 PM  
**Room 203**

**Specialty Section Officers Meeting: Dermal Toxicology**

### SUNDAY EVENING

**Sunday Evening, March 6**  
5:15 PM to 6:30 PM  
**Room 207**  
(All Attendees and Registered Guests Welcome)

**Awards Ceremony**

Join us as SOT honors our prestigious award winners at the SOT Awards Ceremony. Please refer to the Awards and Fellowship section of the SOT Web site for complete details and the nominating information for next year.

**Sunday Evening, March 6**  
6:30 PM to 7:30 PM  
**Room 103**  
(By Invitation Only)

**25-Year (or More) Member Reception**

Have you been a member of the Society of Toxicology for 25 years (or more)? If so, please join your colleagues in celebration and recognition of the scientists who established the Society.

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**SOT Committee/Task Force Chair Orientation**

If you will be a Committee/Task Force Chairperson in 2011–2012, please make plans to attend the Committee/Task Force Chair Meeting scheduled from 1:30 PM–3:30 PM, on Sunday, March 6. With new assignments taking effect on May 1, 2011, the meeting is intended to provide new chairpersons with a jump start on operating a committee or task force to achieve SOT strategic goals. 2010–2011 Chairpersons are invited to provide input on current and planned activities.
Program Description (Continued)

Sunday Evening, March 6
6:30 PM to 8:30 PM
RFD Restaurant

Special Interest Group Meetings/Reception: Hispanic Organization of Toxicologists

Sunday Evening, March 6
6:30 PM to 8:00 PM
See room listing below.

Specialty Section Meetings/Receptions: Carcinogenesis (Room 146A), Dermal Toxicology (Room 203), Food Safety (Room 140A), Medical Device (Room 156), NanoToxicology (Room 143), Occupational and Public Health (Room 144), Ocular Toxicology (Room 142)

Explore Federal Research Funding
Opportunities and Strategies with Federal Agency Staff

All meeting attendees invited

Meet with Agency Review Administrators and Program Officers

Research Funding Resource Room
9:00 AM–4:30 PM
Tuesday and Wednesday
Room 203
Make appointments or drop by

New Investigator Lunch
12:00 NOON–1:15 PM
Tuesday
Salon I
Grantsmanship
Informal conversation with NIH, U.S. EPA, DOE, and other agency staff

See pages 228 and 304 for more information

See page 230 for more information
Program Description (Continued)

MONDAY MORNING

Monday Morning, March 7
6:30 AM to 7:45 AM
Salon G

Specialty Section Officers Meetings: Carcinogenesis, In Vitro and Alternative Methods, Mechanisms, Medical Device, Mixtures, Nanotoxicology, Neurotoxicology, Reproductive and Developmental Toxicology, Risk Assessment

Monday Morning, March 7
6:30 AM to 7:45 AM
Room 302

Specialty Section Officers Meeting: Toxicologic and Exploratory Pathology

Monday Morning, March 7
6:45 AM to 7:45 AM
Room 103

Regional Chapter/Special Interest Group Graduate Committee Meeting

Monday Morning and Afternoon, March 7
7:20 AM to 1:20 PM
Room 102

Undergraduate Education Program

Chairperson(s): Adrian Nanez, Amgen, Thousand Oaks, CA.

Sponsor:
Committee for Diversity Initiatives

This event is for undergraduate students and advisors receiving 2011 SOT travel funding and SOT program volunteers assisting with the Undergraduate Program. Full program details are found on pages 85–86.

Monday Morning, March 7
7:45 AM to 8:00 AM
Grand Ballroom

Landmarks Program Presentation to the National Academy of Science

Michael P. Holsapple, SOT President, will present a landmark plaque to the leaders of the Committee on Toxicology, National Academy of Sciences (NAS), where the Society of Toxicology was founded March 4, 1961, and subsequently re-defined, fostered, and supported. The plaque represents the gratitude and appreciation of the leadership and membership of the Society of Toxicology.

Monday Morning, March 7
8:00 AM to 9:00 AM
Grand Ballroom

Plenary Opening Lecture: NIH Vision

Lecturer: Francis S. Collins, National Institutes of Health, Bethesda, MD.

Francis S. Collins, M.D., Ph.D., has served as the Director of the National Institutes of Health (NIH) since August 17, 2009. Dr. Collins is a physician-geneticist noted for his landmark discoveries of disease genes and his leadership of the Human Genome Project, which successfully completed the first sequence of the human DNA instruction book in 2003.

Dr. Collins received a B.S. in chemistry from the University of Virginia, a Ph.D. in physical chemistry from Yale University, and an M.D. with honors from the University of North Carolina at Chapel Hill. Prior to coming to the NIH in 1993 to lead the National Human Genome Research Institute, he spent nine years on the faculty of the University of Michigan. He is an elected member of the Institute of Medicine and the National Academy of Sciences. Dr. Collins was awarded the Presidential Medal of Freedom in 2007 and the National Medal of Science in 2009.

Symposium Session: Emerging Issues at the Intersection of Reproductive and Mixtures Toxicology

Chairperson(s): Cynthia Rider, National Institute of Environmental Health Sciences, Research Triangle Park, NC, and Vickie Wilson, U.S. EPA, Research Triangle Park, NC.

Sponsor:
Mixtures Specialty Section

Endorsed by:
Molecular Biology Specialty Section
Reproductive and Developmental Toxicology Specialty Section

Environmental contaminants have been implicated as having a role in reproductive toxicity observed in both humans and wildlife. For example, estrogenic and antiandrogenic chemicals have been hypothesized to be involved in the observed rise in the incidence of testicular dysgenesis syndrome noted as a suite of related pathologies including decreased semen quality, increased incidence of male reproductive tract malformations, and testicular cancer. Additionally, endocrine disruptors from concentrated animal feedlot operations and sewage effluent have been associated with observed reproductive anomalies in aquatic species. While toxicological studies and regulatory action have traditionally focused on individual chemicals, it is clear that realistic exposures are made University of multiple chemicals. Sources of exposure to endocrine active compounds are varied and include personal care products, pharmaceuticals, agricultural, and industrial compounds. Many of these sources may lead to constant, low dose exposures. Although individual chemicals are typically present at low levels within the exposure milieu, the impact of mixtures of these chemicals has only recently begun to be examined. Our panel of experts will provide an overview of potential exposures to endocrine active mixtures and describe current work on mixtures of reproductive and developmental toxicants from both a human health and ecotoxicological perspective. In conclusion, we will address emerging contaminants of concern and discuss the reproductive effects of relevant chemical mixtures in humans and wildlife.
Program Description (Continued)

Abstract #


#17 9:20 BIOASSAY USE IN IDENTIFYING ENDOCRINE DISRUPTORS IN THE ENVIRONMENT. D. Schlenk. Environmental Toxicology Program, University of California Riverside, Riverside, CA.


#19 10:24 MOLECULAR ENDPOINTS AND MIXTURES OF ENDOCRINE DISRUPTING CHEMICALS IN FISH. N. D. Denslow, N. Garcia-Reyero, K. J. Kroll, E. F. Orlando, K. H. Watanabe, M. S. Sepeldeva, D. L. Villeneuve, E. J. Perkins and G. T. Ankley. Physiological Sciences, University of Florida, Gainesville, FL; Chemistry, Jackson State University, Jackson, MS; Animal and Avian Sciences, University of Maryland, College Park, MD; Division of Environmental and Biomolecular System, Oregon Health & Science University, Beaverton, OR; Forestry and Natural Resources, Purdue University, West Lafayette, IN; ORD, NHEERL, Med., U.S. EPA, Duluth, MN and Environmental Laboratory, U.S. Army Engineer Research and Development Center, Vicksburg, MS.

#20 10:56 EFFECTS OF MIXTURES OF PHTHALATES, PESTICIDES, AND TCDD ON SEXUAL DIFFERENTIATION IN RATS: A RISK FRAMEWORK BASED UPON DISRUPTION OF COMMON DEVELOPING SYSTEMS. L. E. Gray. Reproductive Toxicology Branch, NHEERL, U.S. EPA, Research Triangle Park, NC.


Abstract #

Monday Morning, March 7
9:15 AM to 12:00 NOON
Room 151

Global Air Quality and Human Health
Symposium Session: Environmental Oxidative Pollutant-Induced Pulmonary Toxicity
Chairperson(s): Lin Mantell, St. John’s University, Queens, NY, and Judith Zelikoff, New York University School of Medicine, Tuxedo Park, NY.

Endorsed by: Inhalation and Respiratory Specialty Section
Mechanisms Specialty Section

Environmental oxidant toxicants remain a major public health concern in industrialized cities throughout the world. Population and epidemiological studies have associated oxidant air pollutant exposures with morbidity and mortality outcomes, and underscore the important detrimental effects of these pollutants on the lung. A well-orchestrated lung inflammation induced by cytokines is critical to optimizing host defense capabilities, while avoiding or minimizing potential damage to lung tissues. Normally, pulmonary inflammation plays a pivotal role during positive immune responses against microbial and small particle pathogens. Unfortunately, certain inhaled toxicants, such as asbestos, can non-specifically induce dysregulated chronic and acute inflammation within the respiratory tract. Our panel of experts will emphasize and examine the types of immunomodulatory events that occur in the lungs in response to environmental agents and pathogens, and to demonstrate how these disparate challenges can lead to similar outcomes. In addition, cutting edge studies on the regulation of reactive oxygen species (ROS) production will be discussed. In conclusion, summaries will be provided that will allow for the recognition of the major putative mediators involved in induction of pulmonary inflammation; describe signaling pathways that mediate inflammatory responses to inhaled toxicants and pathogens; characterize reactive oxygen/nitrogen species (ROS/RNS) from exposure to environmental toxicants; better understand the inter-relationship between ROS/RNS, inflammatory responses and their impact on diseases; and, identify potential targets and therapeutic strategies for further development for the amelioration of acute lung inflammatory injury and chronic diseases.
Program Description (Continued)

Abstract #
#26 10:49 DIFFERENTIAL MECHANISMS OF SUSCEPTIBILITY TO OXIDANT-INDUCED LUNG DISEASE. F. M. Postledewick, Environmental Health Sciences, University of Alabama at Birmingham, Birmingham, AL.

#27 11:25 TARGETING INFLAMMATION AND THE INFLAMMASOME USING ANAKINRA, A POTENTIAL THERAPEUTIC AGENT FOR MESOTHELIOMA. B. Mossman. Pathology, University of Vermont College of Medicine, Burlington, VT. Sponsor: L. Mantell.

Monday Morning, March 7
9:15 AM to 12:00 NOON
Room 150

Novel Approaches to Preclinical Safety Assessment: Bridging the Gap between Discovery and the Clinic through Translational Toxicology

Symposium Session: High Content Imaging—Applications in Toxicology and Toxicity Testing

Chairperson(s): William Mundy, U.S. EPA, Research Triangle Park, NC, and Joseph Trask, The Hanner Institutes for Health Sciences, Research Triangle Park, NC.

Sponsor:
In Vitro and Alternative Methods Specialty Section

Endorsed by:
Molecular Biology Specialty Section
Neurotoxicology Specialty Section

High Content Imaging (HCl) often referred as high content screening (HCS), combines state-of-the-art microscopy, robotics, and computer-assisted image analysis to measure multiple cellular and sub-cellular features. The technology produces information (digital images and meta-data) on cellular response or morphological changes at a high level of detail. Assays are amenable to high-throughput automation generating hundreds of measurements per cell and millions of data points from a single microtiter plate. Introduction of this technology in the pharmaceutical industry led to analysis of cell signaling and processes such as receptor internalization. The technology has expanded to include applications in angiogenesis, wound healing, cell cycle regulation, cell death, neurodegeneration, regeneration, and genotoxicity, etc. Using these approaches, measurements are made at the single cell or population level. HCI assays are generally conducted using cell lines, primary cells, and stem cells. Ex vivo tissue and whole organisms such as Drosophila, C. elegans, and zebrafish can also be imaged providing knowledge from intact specimens. Novel strategies for toxicity testing are likely to expand with HCI studies examining biologically significant cellular perturbations by linking genetic, phenotypic, or functional cellular changes with adverse outcomes from exposure to environmental chemicals or pharmaceutical compounds. HCI is likely to become a key technology for developing toxicity pathway assays as outlined by the 2007 NRC report Toxicity Testing in the 21st Century: A Vision and A Strategy. Furthermore, it is now evident toxicology programs in the pharmaceutical industry have adopted this technology in an effort to expedite the fate of compound candidate selection in preclinical and clinical trials using key measurements generated with HCI. Therefore it is important to provide an overview of this technology and its applications in toxicity testing relative to the HCI field from academia, biopharma, and government agencies with examples and case studies to gain knowledge and insight into toxicity pathways.

#28 9:15 HIGH CONTENT IMAGING – APPLICATIONS IN TOXICOLOGY AND TOXICITY TESTING. W. Mundy. Integrated Systems Toxicology Division, U.S. EPA, Research Triangle Park, NC.

Abstract #
#29 9:25 AN INTRODUCTION TO HIGH CONTENT IMAGING TECHNOLOGIES AND APPLICATIONS IN TOXICOLOGY. O. Joseph Trask. The Hanner Institutes for Health Sciences, Research Triangle Park, NC. Sponsor: R. Thomas.


#31 10:15 QUANTITATIVE IN VITRO MEASUREMENT OF CELLULAR PROCESSES CRITICAL TO THE DEVELOPMENT OF NEURAL CONNECTIVITY USING HCA. A. J. Harrill. Integrated Systems Toxicology Division, U.S. EPA, Research Triangle Park, NC.

#32 10:45 BEYOND DECREASING ATTRITION: HIGH CONTENT IMAGING (HCl) IN GENETIC TOXICOLOGY. R. Rubinski. Genetic Toxicology, Pfizer, Groton, CT. Sponsor: J. Aubrecht.

#33 11:15 HIGH CONTENT SCREENING (HCS) IN EARLY SAFETY ASSESSMENT: FROM DATA TO PREDICTIVE MODELS. M. Kansy and A. Hoffman. Nonclinical Safety, F. Hoffmann-La Roche Ltd., Basel, Switzerland and Discovery Technologies, F. Hoffmann-La Roche Ltd., Nutley, NJ.

11:45 PANEL DISCUSSION/Q&A.

Monday Morning, March 7
9:15 AM to 12:00 NOON
Room 207

Symposium Session: Ribotoxic Stress: Mechanisms and Models for Human Disease

Chairperson(s): James Pestka, Michigan State University, East Lansing, MI, and Yuseok Moon, Pusan National University School of Medicine, Yangsan, Japan.

Sponsor:
Food Safety Specialty Section

Endorsed by:
Immunotoxicology Specialty Section
Mechanisms Specialty Section
Molecular Biology Specialty Section

Many xenobiotics evoke toxicity and cause disease by modifying critical mitogen-activated protein kinase (MAPK) signaling pathways that regulate growth, differentiation, and cell survival. A number of plant, fungal, bacterial, and algal toxins can aberrantly activate the F58, ERK, and JNK MAPKs by targeting the ribosome via a process termed the ribotoxic stress response. Examples of ribotoxic agents include natural toxins produced by plants (ricin), fungi (trichothecenes), bacteria (Shiga toxins), and algae (palytoxin). These agents can be encountered in food and water and are of further concern because of their potential use in chemical terrorism. Cells involved in the innate immune appear to be particularly sensitive to ribotoxic stress. Ribotoxic stress is not completely understood but possible mechanisms activation of intracellular signaling pathways by sensors of damage-associated molecular patterns (DAMPs) or endoplasmic reticulum stress. From a translational perspective, exposure of experimental animals to ribotoxic stressors can result in downstream pathologic sequelae that remarkably mimic clinical signs associated with inflammatory human diseases such as acute respiratory distress, ulcerative colitis, IgA nephropathy, and hemolytic uremic syndrome. To address these issues, our panel of experts will explore commonalities and differences in upstream mechanisms
of of ribotoxic stress by different biotoxins and relate these to downstream sequelae associated with human inflammatory diseases.

**#34 9:15** RIBOTOXIC STRESS: MECHANISMS AND MODELS FOR HUMAN DISEASE. J. J. Pestka1, V. L. Tesh2, B. E. Magun1, J. Moon3 and N. Turner4. 1Michigan State University, East Lansing, MI, 2Texas A&M University Health Science Center, College Station, TX, 3Oregon Health and Science University, Portland, OR, 4Pusan National University School of Medicine, Yangsan, Republic of Korea and 5Rutgers University, New Brunswick, NJ.

**#35 9:20** RICIN MEDIATES ACUTE RESPIRATORY DISTRESS THROUGH IL-1BETA. B. Magun, Oregon Health and Science University, Portland, OR. Sponsor: J. Pestka.

**#36 9:52** MUCOSAL RIBOTOXIC STRESS AND INTESTINAL INFLAMMATORY DISEASES. J. Moon. Department of Microbiology and Immunology, Pusan National University School of Medicine, Yangsan, Republic of Korea.

**#37 10:24** SHIGA TOXINS AND THE HEMOLYTIC UREMATIC SYNDROME. V. L. Tesh. Microbial and Molecular Pathogenesis, Texas A&M University Health Science Center, College Station, TX. Sponsor: J. Pestka.

**#38 10:56** ROLE OF RIBOTOXIC STRESS AND INNATE IMMUNE ACTIVATION IN TRICHOThECENE-INDUCED IGA NEPHROPATHY. J. J. Pestka. Microbiology and Molecular Genetics, Michigan State University, East Lansing, MI.


**Abstract #**

of ribotoxic stress by different biotoxins and relate these to downstream sequelae associated with human inflammatory diseases.

**#40 9:15** DISEASE PREVENTION: THE NEXT 50 YEARS. H. Zarbl. Environmental and Occupational Health Sciences Institute, Robert Wood Johnson Medical School, Piscataway, NJ.

**#41 9:20** ASSESSING THE IMPACT OF INTER-INDIVIDUAL GENETIC VARIABILITY ON TOXICITY THROUGH TOXICOGENOMIC DATA. J. Rusyn. Environmental Science and Engineering, University of North Carolina at Chapel Hill, Chapel Hill, NC.


**#44 10:41** HIGH-THROUGHPUT METABOLOMICS FOR IDENTIFICATION OF QUANTITATIVE EXPOSURE BIOMARKERS. D. Jones. Emory University, Atlanta, GA.


**#46 11:34** PUBLIC HEALTH OPPORTUNITIES AND CHALLENGES IN DISEASE PREVENTION. J. D. Groopman. Bloomberg School of Public Health, Johns Hopkins University, Baltimore, MD.
Abstract #

Monday Morning, March 7
9:15 AM to 12:00 NOON
Room 145

Integration of Toxicological and Epidemiological Evidence to Understand Human Risk

Workshop Session: New Approaches for Integrating Toxicological and Epidemiological Data to Better Inform Risk Assessment

Chairperson(s): Daland Juberg, Dow AgroSciences, Indianapolis, IN, and Anna Lowit, U.S. EPA, Washington, D.C.

Sponsor:
Regulatory and Safety Evaluation Specialty Section

Endorsed by:
Occupational and Public Health Specialty Section
Risk Assessment Specialty Section

There is increasing scientific and regulatory interest in determining how to better integrate animal toxicological data and epidemiological evidence into the risk assessment process. This need stems from the growing body of literature on environmental epidemiology and the frequent disparity observed in human and animal data relative to reported outcomes. This workshop will identify the expectations and limitations that are inherent in animal and epidemiological studies and how existing and emerging tools, technologies, and study designs may be better utilized for scientifically-defensible and informed risk assessments. We will review the challenges that exist with both data types (i.e., animal and epidemiologic) and identify the types of tools and data that would allow improved integration of epidemiology and experimental toxicology studies through exploration of a common marker of dosimetry that would facilitate cross-comparison of data sets. A perspective on study design and dosing regimes used in regulatory studies will be presented as well as review of advancements that improve our ability to compare animal data with known or modeled human exposures. Epidemiology study design and the opportunities and limitations that exist for simultaneously characterizing exposures and risks in humans will be reviewed. Insight on some of the new tools and technologies that enable a more refined analysis of biological plausibility and mode of action, both critical when assessing animal and human data for use in risk assessment, will be provided. Finally, advancements in exposure science within the context of some U.S. EPA projects and research aimed at utilizing multiple sources of information (i.e., exposure data, internal biomarkers, and PBPK modeling) for improvements in our knowledge on chemical exposures to humans will be discussed.

Abstract #

Monday Morning, March 7
9:15 AM to 12:00 NOON
Room 206

Platform Session: Nanotoxicology—Carbon Nanotubes and Carbon Nanoparticles

Chairperson(s): Galya Orr, Pacific Northwest National Laboratory, Richland, WA, and Harald Krag, EMPA—Materials and Technology, St. Gallen, Switzerland.

#50 10:12 THE ROLE OF EPIDEMIOLOGIC RESEARCH IN RISK ASSESSMENT: SOME CHALLENGES AND OPPORTUNITIES. S. A. Harris1-3, ‘Population Studies and Surveillance, Cancer Care Ontario, Toronto, ON, Canada, 1Occupational Cancer Research Centre, Toronto, ON, Canada and 2Dalhlan School of Public Health, Divisions of Epidemiology and Occupational and Environmental Health, University of Toronto, Toronto, ON, Canada. Sponsor: D. Juberg.

#51 10:38 NEW TOOLS AND APPROACHES TO LINK TOXICOLOGICAL MODELS TO HUMAN HEALTH EFFECTS. R. S. Thomas. The Hamner Institutes for Health Sciences, Research Triangle Park, NC.


#53 9:15 ACUTE PULMONARY RESPONSES TO MWCNT INHALATION. M. G. Wolfarth1, W. McKinney2, B. T. Chen3, V. Castranova4, and D. W. Porter5, 1HEL/PPRB, NIOSH, Morgantown, WV and 2Physiology and Pharmacology, West Virginia University, Morgantown, WV.

#54 9:34 BIODEGRADATION OF CARBON NANOBUYES BY EOSINOPHIL PEROXIDASE. A. A. Kapralov1, N. Yanamala1, W. H. Feng2, B. Fadeel3, A. Star4, A. A. Shvedova2 and V. E. Kogov5, 1Center for Free Radical and Antioxidant Health, EOH, University of Pittsburgh, Pittsburgh, PA, 2Division of Biochemical Toxicology, Karolinska Institutet, Stockholm, Sweden, 3Department of Chemistry, University of Pittsburgh, Pittsburgh, PA and 4Pathology and Physiology Research Branch, NIOSH, Morgantown, WV.


Program Description (Continued)

Abstract #  
#57 10:30  THE ROLE OF IL-1p SIGNALING IN NICKEL ASSOCIATED MULTI-WALLED CARBON NANOTUBE-INDUCED PULMONARY INFLAMMATION. T. A. Girtsman, CEHS, University of Montana, Missoula, MT.


#59 11:06  UNDERSTANDING CARBON NANOTUBE GENOTOXICITY. L. M. Sargent1, S. H. Reynolds1, A. F. Habib2, S. A. Benkovic3, D. T. Lowry1, M. L. Kashon1, K. J. Siegrist1, J. Mastovich2, J. L. Sturgeon3, K. L. Bunker2 and C. Z. Dinu4. Toxicology and Molecular Biology, CDC/NIOSH, Morgantown, WV, 2Toxicology and Molecular Biology, CDC/NIOSH, Morgantown, WV.

#60 11:24  IMPACTS OF STRUCTURE AND FUNCTIONALIZATION ON TOXICOLOGICAL RESPONSE OF THE MODEL ORGANISM DAPHNIA MAGNA. D. A. Arndt and R. Klaper. School of Freshwater Sciences, University of Wisconsin Milwaukee, Milwaukee, WI. Sponsor: R. Hutz.

#61 11:42  TOXICOCENEOMICS EFFECTS OF WATER-SOLUBLE CARBON NANOTUBES. D. A. Sarigiannis1,2, G. Cimino Reale1, A. Colliotta1, R. Brustio1, B. Casati1, E. Roda1, A. Profumo1, D. Merli1, E. Quatraro1, P. Mustarelli1, M. Fagnoni1, T. Coccini1, L. Manzo1, E. Marfante1. 1Institute for Health and Consumer Protection, European Commission - Joint Research Centre, Ispra, Varese, Italy, 2Chemical Engineering Department, Aristotle University of Thessaloniki, Thessaloniki, Greece, 3Department of Internal Medicine and Therapeutics, University of Pavia, Pavia, Italy.

#62 11:54  DRAMATIC STRAIN DIFFERENCES IN SENSITIVITY OF RAT SPERMATogenesis TO IRRADIATION AND OTHER GONADAL TOXICANTS. M. Meistrich, C. Weng and M. AbueLhija. Experimental Radiation Oncology, MD Anderson Cancer Center, Houston, TX.

#63 12:12  THE EFFECTS OF NEONATAL EXPOSURE TO DECA-BROMINATED DIPHENYL ETHER ON APICAL ECTOPLASMIC SPECIALIZATION IN MOUSE TESTIS. H. Miyaya1, Y. Matsumoto2,3, K. Komiyama3, S. Ochiai1, Y. Igoshi2 and C. Mori1,2. 1Department of Bioenvironmental Medicine, Graduate School of Medicine, Chiba University, Chiba, Japan and 2Center for Preventive Medical Science, Chiba University, Chiba, Japan.

Monday Morning, March 7
9:15 AM to 12:00 NOON
Room 202A

Platform Session: New Insights into Male Reproductive Toxicology

Chairperson(s): Evan Thackaberry, Genetech, and Melanie Fraites, U.S. EPA, Research Triangle Park, NC.

#62 9:15  DECIPHERING MECHANISMS UNDERLYING PROLONGED MALE INFERTILITY FOLLOWING A CLINICALLY-RELEVANT MULTI-CYCLE CISPLATIN TREATMENT. J. Harman1,2 and J. Richburg1,2. 1College of Pharmacy, Division of Pharmacology/Toxicology, University of Texas at Austin, Austin, TX and 2Center for Molecular and Cellular Toxicology, University of Texas at Austin, Austin, TX.
Program Description (Continued)

Abstract #

Monday Morning, March 7
9:15 AM to 12:00 NOON
Room 204

Platform Session: Use of Embryonic Stem Cells in Toxicology
Chairperson(s): Blake Anson, Cellular Dynamics International, Madison, WI, and Patrick McNutt, USAMRICD, Aberdeen Proving Ground, MD.


#72 9:34 PREDICTING DEVELOPMENTAL TOXICITY OF TOXCAST™ PHASE I CHEMICALS USING HUMAN EMBRYONIC STEM CELLS AND METABOLOMICS. N. C. Kleinstreuer6, P. R. West1, A. M. Weir-Hauptman1, A. M. Smith1, T. B. Knudsen7 and G. G. Cezar1, 1Department of Health Risk Analysis and Toxicology, National Institute of Public Health and the Environment, Bilthoven, Netherlands, 2Toxicology Unit, Public Health Department, School of Pharmacy, University of Barcelona, Barcelona, Spain and 3Department of Health Risk Analysis and Toxicology, NUTRIM, University of Maastricht, Maastricht, Netherlands. Sponsor: H. van Loveren.


#75 10:30 TERATOGENICITY OF VALPROIC ACID DERIVATIVES: EVALUATION OF STRUCTURE-ACTIVITY RELATIONSHIPS USING THE EMBRYONIC STEM CELL TEST. C. Riebeling1, A. E. Seiler1, K. Becker1, R. Buesen1, D. Eicke1, J. Kaltenhaeuser1, F. Meyer1, H. Nau1, R. Pirow1, B. Slawik1, A. Visan1, J. Volland1, H. Spielmann1 and A. Luch1. ZEBET, Federal Institute for Risk Assessment, Berlin, Germany, 2Nonclinical Drug Safety, Bayer Schering Pharmacology AG, Berlin, Germany, 3Nycoderm GmbH, Barsbüttel, Germany, 4Department of Food Toxicology and Chemical Analysis, University of Veterinary Medicine Hannover, Hannover, Germany, 5Product Application Laboratory, Advion BioSystems, Ithaca, NJ and 6Mechanistic Toxicology, BASF, Ludwigshafen, Germany. Sponsor: R. Chapin.

Abstract #

#76 10:48 THE ROLES OF MKK4 AND MKK7 IN DEVELOPMENTAL TOXICITY. J. Wang2, L. Chen1, L. Zhang2 and Y. Xue1. Environmental Health, University of Cincinnati, Cincinnati, OH and 3Histology & Embryology, Southern Medical University, Guangzhou, China.


#78 11:24 TCDD INDUCED MODIFICATION OF TRANSCRIPTION FACTOR SIGNALING AND CARTILAGE DYSMORPHOGENESIS IN VIVO. W. Dong1,2 and S. W. Kullman1. 1Department of Environmental and Molecular Toxicology, North Carolina State University, Raleigh, NC and 2College of Animal Science and Technology, Inner Mongolia University for the Nationalities, Tongliao, Inner Mongolia, China.

#79 11:42 METHYL MERCURY INDUCED PERTURBATION OF NEURAL DIFFERENTIATION OF MURINE EMBRYONIC STEM CELLS OVER TIME DESCRIBED BY TRANSCRIPTOMICS. P. T. Theunissen1,2, J. L. Pennings1, J. C. Kleijans2, J. F. Robinson1 and A. H. Pierson5. 1Laboratory for Health Protection Research, National Institute of Public Health and the Environment (RIVM), Bilthoven, Netherlands, 2Department of Health Risk Analysis and Toxicology, University of Maastricht, Maastricht, Netherlands and 3Institute for Risk Assessment Sciences, Utrecht University, Utrecht, Netherlands.

Monday Morning, March 7
9:15 AM to 10:15 AM
Room 140A

Exhibitor Hosted Session: Logistic and Technical Challenges when Conducting Developmental Toxicity Studies in Nonhuman Primates
Presented by: MPI Research

The preclinical safety testing of biotherapeutics poses a particular challenge in selecting a relevant animal species for use in toxicology studies. The nonhuman primates are most frequently used for developmental and reproductive toxicity testing when commonly used rodents and/or rabbits are not pharmacologically relevant species. In this presentation, the logistical and technical challenges when conducting developmental toxicity testing in nonhuman primates will be presented and discussed.

Monday Morning, March 7
9:15 AM to 10:15 AM
Room 156

Exhibitor Hosted Session: Logistics and Technical Challenges when Conducting Developmental Toxicity Studies in Nonhuman Primates
Presented by: MPI Research

The preclinical safety testing of biotherapeutics poses a particular challenge in selecting a relevant animal species for use in toxicology studies. The nonhuman primates are most frequently used for developmental and reproductive toxicity testing when commonly used rodents and/or rabbits are not pharmacologically relevant species. In this presentation, the logistical and technical challenges when conducting developmental toxicity testing in nonhuman primates will be presented and discussed.

Monday Morning, March 7
9:15 AM to 10:15 AM
Room 140A

Exhibitor Hosted Session: Phototoxicity: Current Practices and Regulatory Status
Presented by: Charles River

Phototoxic risk can be assessed during drug development from candidate screening through Phase IV. When and how to evaluate for phototoxic potential is not always clear and the changing regulatory status adds additional uncertainty. The tools for phototoxicity testing and how current/upcoming regulations may affect these approaches will be presented.
Program Description (Continued)

Abstract #  

Monday Morning, March 7  
9:30 AM to 10:30 AM  
Room 304  
(Ticket Required; Postdoctoral Scholars only, limited seating)

**Conversation with Dr. Collins**

*Chairperson(s):* Michelle La Merrill, Mount Sinai School of Medicine, New York, NY.

*Sponsor:* Postdoctoral Assembly

Dr. Collins will meet informally for discussion with postdoctoral scholars after his Plenary Lecture.

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Monday Morning, March 7  
9:30 AM to 10:50 AM  
Room 304

**Undergraduate Education Program: Poster Session for Visiting Students**

*Chairperson(s):* Julio Davila, Chesterfield, MD.

*Sponsors:* Education Committee, K–12 Task Force

This event is for undergraduate students and advisors receiving 2011 SOT travel funding and SOT program volunteers assisting with the Undergraduate Program. Full program details are found pages 85–86.

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Monday Morning, March 7  
9:30 AM to 12:30 PM  
Exhibit Hall

**Poster Session: Hypersensitivity: Methods and Mechanisms**

*Chairperson(s):* Victor Johnson, NIOSH, Morgantown, WV.

*Displayed:* 9:30 AM–12:30 PM

**Author Attended:** 9:30 AM–11:00 AM

Abstract #  

**Poster Board Number................................................103**  

**COMPARISON OF 3H-THYMIDINE INCORPORATION AND NON-RADIOACTIVE CELL COUNTEND AS ENDPOINTS OF THE LOCAL LYMPH NODE ASSAY (LLNA) IN ROUTINE TESTING.**  

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**Poster Board Number................................................104**  

**VEHICLE-DEPENDENT EFFECTS ON HEXYLCINNAMALDEHYDE RESPONSES IN THE LLNA.**  
G. L. DeGeorge, M. Carathers, J. Tao and D. R. Cerven. MB Research Laboratories, Spinneretstown, PA.

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**Poster Board Number................................................105**  

**RESPIRATORY TRACT RESPONSES IN WISTAR AND BN RATS, SENSITIZED AND CHALLENGED BY INHALATION WITH THE CONTACT ALLERGEN DINITROCHLOROBENZENE (DNCB).**  

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**Poster Board Number................................................106**  

**STEPS TOWARDS THE DEVELOPMENT OF AN INTEGRATED APPROACH FOR THE PREDICTION OF SKIN SENSITIZATION POTENTIAL USING DATA FROM SEVERAL ALTERNATIVE TEST SYSTEMS.**  

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**Poster Board Number................................................107**  

**DIFFERENTIATION OF PROHAPTENS FROM DIRECT ACTING CONTACT CHEMICAL ALLERGENS USING A CYTOCHROME P450 REDUCTASE DEFICIENT MOUSE MODEL.**  
J. Chipinda, F. M. Blachere, S. E. Anderson and P. D. Siegel. HELD, CDC/NIOSH, Morgantown, WV.

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**Poster Board Number................................................108**  

**PLASMACYTOID DENDRITIC CELL-BASED ASSAY AS AN IN VITRO ALTERNATIVE FOR CHEMICAL ALLERGENICITY SCREENING.**  
M. Spratt, M. Klausner, S. Ayehunie and M. Child. MatTek Corp, Ashland, MA. Sponsor: P. J.

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**Poster Board Number................................................109**  

**CELL LINE-BASED PREDICTION OF SENSITIZATION BY COUPLING KERATINOYTE METABOLISM AND DENDRITIC CELL ACTIVATION.**  
J. Hennen1, P. Aebly2, C. Goebel4, T. Schettgen4, A. Oberli5, M. Kalmes1 and B. Blümcke1. 1Environmental Toxicology, University Trier, Trier, Germany, 2Consultant, Marly, Switzerland, 3Procter & Gamble Co., Darmstadt, Germany, 4RWTH Aachen University, Aachen, Germany and 5Federal Office of Public Health (FOPH), Bern, Switzerland.
Program Description (Continued)

Abstract #

#89  Poster Board Number .....................................110 DEVELOPMENT OF A MOUSE MODEL TO ASSESS THE ALLERGENICITY OF HYDROLYSED COW’S MILK BASED INFANT FORMULAE. B. C. van Esch1, J. H. Van Bilsen1, P. V. Jeurink1, J. Garssen1, J. Smir3, R. Pieters1 and L. M. Knippe11. Utrecth Institute for Pharmaceutical Sciences, Utrecth University, Utrecth, Netherlands, 1Quality of Life, TNO, Zeist, Netherlands, 2Immunology, Danone Research Centre for Specialized Nutrition, Wageningen, Netherlands and 3IRAS, Utrecth University, Utrecth, Netherlands.

#96  Poster Board Number .....................................117 PROTEIN ALLERGENICITY AND DIGESTIBILITY: COMPARISONS OF PEPSPIN AND CATHESPIN. E. Foster, J. Kimber and R. J. Dearman. University of Manchester, Manchester, United Kingdom.

#97  Poster Board Number .....................................118 INHALATION OF ORTHOPHTHALALDEHYDE VAPOR CAUSES SYSTEMIC SENSITIZATION AND ALLERGIC INFLAMMATION IN THE LYMPH NODES, NASAL MUCOSA, AND LUNG OF MICE. V. J. Johnson, W. Wang, K. Fuharty, B. Yucesoy and J. S. Reynolds. CDC/NIOSH, Morgantown, WV.

#98  Poster Board Number .....................................119 CONTACT SENSITIZING POTENTIAL OF HEPTACHLOR IN FEMALE BALB/C MICE. R. P. Frawley1, W. Auttachoat1, M. J. Smith2, R. D. Brown2, T. L. Guo3, K. L. White Jr4 and D. R. Germones5. 1National Toxicology Program, National Institute of Environmental Health Sciences, Research Triangle Park, NC and 2Department of Pharmacology and Toxicology, Virginia Commonwealth University, Richmond, VA.

Monday Morning, March 7
9:30 AM to 12:30 PM
Exhibit Hall

Epigenetic Mechanisms

Poster Session: Epigenetic Mechanisms

Chairperson(s): Narendra Singh, University of South Carolina School of Medicine, Columbia, SC.

Displayed: 9:30 AM–12:30 PM

Author Attended: 11:00 AM–12:30 PM

#99  Poster Board Number .....................................125 HUMAN LINE1 PROMOTER ACTIVITY IS ENHANCED BY CHEMICAL AND DRUG-INDUCED STRESS IN HEPG2 CELLS. N. Terasaki, M. Kajikawa and N. Okada. Department of Biological Science, Graduate School of Bioscience and Biotechnology, Tokyo Institute of Technology, Yokohama, Japan. Sponsor: J. Sugimoto.

#100  Poster Board Number .....................................126 IN UTERO BISHPENOL A EXPOSURE ALTERS METASTABLE EPIALLELE AND GLOBAL DNA METHYLATION PATTERNS IN MOUSE OFFSPRING. M. S. Nahar, C. Weinhouse, O. S. Anderson, T. R. Jones, S. A. Liberman, L. S. Rozek and D. C. Dolinoy. Environmental Health Science, University of Michigan, Ann Arbor, MI.

#101  Poster Board Number .....................................127 IDENTIFICATION OF CANCER SPECIFIC METHYLATED PROMOTER REGION IN MOUSE BONE MARROW ORIGINATED TUMOR CELLS. H. Shin1, S. Jeong2, J. Kang3, Y. Park4, S. Son5 and H. Kang1. 1Toxicology & Chemistry Division, NVRQS, Anyang, Republic of Korea and 2GLP Research Center, College of Natural Sciences, Hoseo University, Asan City, Republic of Korea.
Abstract #

#102 Poster Board Number .....................................128
Dose-dependent shifts in avy coat color distribution following maternal dietary exposure to bisphenol A. O. S. Anderson, M. Nahar, T. R. Jones and D. C. Dolinoy, Environmental Health Science, University of Michigan, Ann Arbor, MI.

#103 Poster Board Number .....................................129
The up-regulation of AHR and STAT1 gene expression in long-term estrogen exposed MCF-7 cells: potential roles of autocrine signaling and epigenetic mechanisms. N. A. Englert1,2, B. C. Spink1 and D. C. Spink1,2,1Laboratory of Molecular Toxicology, Wadsworth Center, New York State Department of Health, Albany, NY and 2Department of Environmental Health Sciences, School of Public Health, University at Albany, State University of New York, Albany, NY.

#104 Poster Board Number .....................................130
Epigenetic inactivation of P53 gene is associated with resistance of Guerin carcinomas to doxorubicin and cisplatin. S. Sarfaraz1, S. Shpyleva1, I. Todor2, N. Yanova2, V. Chekhuri1 and I. Fogrivba1. Biochemical Toxicology, Wadsworth Center, New York State Department of Health, Albany, NY.

#105 Poster Board Number .....................................131
Epigenetic alterations following developmental exposure to the pyrethroid pesticide deltamethrin. A. L. Green1 and J. R. Richardson1. The Joint Graduate Program in Toxicology, Piscataway, NJ and Rutgers University, University of Medicine and Dentistry of New Jersey, The Environmental and Occupational Health Sciences Institute, Piscataway, NJ.

#106 Poster Board Number .....................................132
Effects of chronic exposure to 17β-estradiol on cell morphology, growth pattern, and expression of epigenetic regulatory genes. J. Treas and K. Singh. The Institute of Environmental and Human Health, Texas Tech, Lubbock, TX.

#107 Poster Board Number .....................................133
Disruption of mitosis by ochratoxin A involves altered acetylation of core histones. K. Czakai, W. Dekant and A. Mally. Department of Toxicology, University of Wuerzburg, Wuerzburg, Germany.

#108 Poster Board Number .....................................134
Epigenetic effects of crude oil recovered from the deepwater horizon spill on human kidney cells. H. Kim1, P. J. Liu2, C. P. Weisel1, R. Portier1, N. Thakkar1, J. D. Laskin2 and D. Heck1. 1New York Medical College, Valhalla, NY, 1UMDNJ-Robert Wood Johnson Medical School, Piscataway, NJ and 2Louisiana State University, Baton Rouge, LA.

Abstract #

#109 Poster Board Number .....................................135
CD4+ T cell intrinsic TNF receptor 2 signaling: An epigenetic target for transcriptional regulation of IL-27. J. K. Dey1, R. S. Schondelmeyer1, E. N. Sellers2, P. G. Miller1, G. Lin3, M. B. Bonn1 and S. C. McKarns1,2. Surgery, University of Missouri School of Medicine, Columbia, MO, 1Molecular Microbiology & Immunology, University of Missouri School of Medicine, Columbia, MO, 2Biochemistry, University of Missouri, Columbia, MO, 3Biological Sciences, University of Missouri, Columbia, MO and 4Biological Engineering, University of Missouri, Columbia, MO.

#110 Poster Board Number .....................................136
Epigenetic modulation of xenoestrogen induced breast cancer. L. Wang, W. Jiang, B. Moorthy and S. R. Kondraganti. Department of Pediatrics, Baylor College of Medicine, Houston, TX.

Monday Morning, March 7
9:30 AM to 12:30 PM
Exhibit Hall
Poster Session: DNA Replication and Repair
Chairperson(s): Huaxian Ma, University of Texas Medical Branch, Galveston, TX.
Displayed: 9:30 AM–12:30 PM
Author Attended: 9:30 AM–11:00 AM

#111 Poster Board Number .....................................137
The role of nicotine in the induction of genomic instability in breast cells. C. L. Clemens and J. W. DuMond. Environmental Science and Technology, Texas Southern University, Houston, TX.

#112 Poster Board Number .....................................138
Induction of base excision repair enzymes APE1 and NTH1 in rat spleen following aniline exposure. H. Ma, J. Wang and M. Khun. Pathology, University of Texas Medical Branch, Galveston, TX.

#113 Poster Board Number .....................................139
Enhanced nucleotide excision repair of combined 17α-ethyl-ethynylestradiol and UV in zebrafish liver cells. S. Tang1, E. G. Notch2, V. Allagadda1 and G. D. Meyer2. 1The Institute of Environmental and Human Health, Texas Tech University, Lubbock, TX and 2Department of Physiology, Dartmouth Medical School, Hanover, NH.

#114 Poster Board Number .....................................140
Homologous recombination in the cellular response to sulphur mustard. P. A. Jowsey, F. M. Williams and P. G. Blain. Medical Toxicology Centre, Newcastle University, Newcastle Upon Tyne, United Kingdom.
Abstract #

#115    Poster Board Number .....................................141
ARSENIC INHIBITS THE NUCLEOTIDE EXCISION REPAIR PATHWAY IN HUMAN LUNG CELLS AND MOUSE KERATINOCYTES. N. Holcomb, M. Goswami, T. Scott, T. Bhattacharai, J. D’Orazio, D. Orren, G. Gaitola and I. Mellon. Graduate Center for Toxicology, University of Kentucky, Lexington, KY.

#116    Poster Board Number .....................................142
EXPLORING THE ROLE OF NUCLEOTIDE EXCISION REPAIR (NER) AND HELICASE IN ZIDOVUDINE (AZT)-INDUCED GENOTOXICITY. D. Momot, T. A. Nostrand, K. John, M. C. Poirier, LCBG, National Cancer Institute, Bethesda, MD.

#117    Poster Board Number .....................................143
DOSE-RESPONSE EVALUATION OF PS3 AND H2AX DNA DAMAGE RESPONSE BY METHYL METHANESULFONATE, ETOPOSIDE, AND QUERCETIN. B. Sun1, K. Daniels1, S. Ross1, Q. Zhang1, M. Andersen1, P. Carmichael1, and R. Clewell2. ‘The Hamner Institute, Durham, NC and ‘Unilever SEAC, Bed fordshire, United Kingdom.

#118    Poster Board Number .....................................144
TO STUDY THE SIGNAL TRANSDUCTION ON 2-ABP & 4-ABP INDUCED DNA DAMAGE IN HEP G2 CELL. J. Wong1, J. Wu2, S. Chen1 and L. Chen1. ‘Department of Biotechnology, National Kaohsiung Normal University, Kaohsiung, Taiwan, 2Department of Applied Chemistry, Fooyin University, Kaohsiung, Taiwan and 3Department of Medical Nutrition, I-Shou University, Kaohsiung, Taiwan.

#119    Poster Board Number .....................................145

#120    Poster Board Number .....................................146
MOLECULAR DETERMINANTS OF DNA POLYMERASE ETA FIDELITY. S. C. Suarez and S. D. McCulloch. Environmental and Molecular Toxicology, North Carolina State University, Raleigh, NC.

#121    Poster Board Number .....................................147

#122    Poster Board Number .....................................148
ANALYSIS OF MOLECULAR SPLINT MUTANTS OF HUMAN DNA POL η AND THEIR EFFECT ON POLYMERASE PROPERTIES. R. A. Beardslee and S. D. McCulloch. Department of Environmental and Molecular Toxicology, North Carolina State University, Raleigh, NC.
Abstract #  
#128  Poster Board Number .................................217  
SEQUENCE TAGGING REVEALS UNEXPECTED 
TOXICOPROTEOMICS. S. Dasari1, M. C. 
Chambers1, D. C. Liebler2, F. P. Guengerich2 and 
D. L. Tabb3, 4. 1Biomedical Informatics, School of 
Medicine, Vanderbilt University, Nashville, TN 
and 2Biochemistry, School of Medicine, Vanderbilt 
University, Nashville, TN.

#129  Poster Board Number .................................218  
PROTEOMIC PROFILING OF DYNAMIC 
CELLULAR RESPONSES TO SILICA 
NANOPARTICLES USING STABLE ISOTOPE 
AMINO ACID LABELING. B. Thrall1, B. Webb- 
Roberson2, K. Burnham3, M. H. Litke4, N. J. Karin5, 
J. Jacobs6 and K. M. Waters7. 1Cell Biology & 
Biochemistry, PNNL, Richland, WA, 2Computational 
Biology & Bioinformatics, PNNL, Richland, WA 
and 3Biological Separations & Mass Spectrometry 
Groups, Pacific Northwest National Laboratory, 
Richland, WA.

#130  Poster Board Number .................................219  
ENVIRONMENTAL CHEMICALS AND 
HUMAN HEALTH: UNCOVERING THE 
CONNECTIONS WITH CTD. C. Mattingly, C. 
G. Murphy, C. A. Saraceni-Richards, S. Mockus, 
M. C. Rosenstein, T. C. Wiegens, B. King and A. P. 
Davis. Bioinformatics, MDI Biological Laboratory, 
Salisbury Cove, ME.

#131  Poster Board Number .................................220  
GENERATING A GENE NETWORKS 
ASSOCIATED WITH KOLA ACUMINATA- 
BIZZY NUT INDUCE APOPTOSIS. R. Leset 
and W. G. Gray. Chemistry, Southern University 
A&M College, Baton Rouge, LA.

#132  Poster Board Number .................................221  
VIRTUAL SCREENING OF DIFFERENTIAL 
PROTEIN TARGETS FOR TROVAFLOXACIN 
AND LEVOFLOXACIN. J. Olivero-Verbel, 
C. Ortega-Zúñiga and M. Cabarcas-Montalvo. 
Environmental and Computational Chemistry 
Group, University of Cartagena, Cartagena, Bolivar, 
Colombia.

#133  Poster Board Number .................................222  
THE MOUSE GENOME INFORMATICS 
DATABASE: INTEGRATING INFORMATION 
TO FACILITATE DISCOVERY. S. M. Bello, C. 
L. Smith, H. Dene, D. L. Burkart, I. L. Washburn, 
M. Tomczuk, A. Anagnostopoulos, B. Richards-
Smith, H. Onda, R. P. Babiuk, M. Knowlton, J. 
Xu, J. A. Bubier and J. T. Eppig. Mouse Genome 
Informatics, The Jackson Laboratory, Bar Harbor, 
ME.

#134  Poster Board Number .................................223  
FINDING CLUSTERS OF CHEMICALS 
AFFECTING SUB-NETWORKS OF THE 
PROTEIN INTERACTOME. R. Thomas, 
I. Gerlovina1, A. Hubbard1, M. North2 and C. 
Vulp2. 1Biostatistics, University of California, 
Berkeley, CA and 2Nitraceutical Science 
and Toxicology, University of California, Berkeley, 
Berkeley, CA.
Program Description (Continued)

Abstract #  Poster Board Number ...................... #142

EFFECTS OF GENETIC VARIATION IN ENZYME CYTOCHROME P450 2D6 ON XENOBIOTIC METABOLISM THROUGH IN SILICO MOLECULAR DOCKING MODELS. C. B. Tolson1,2, Y. Tie1 and E. Demchuk1. 1Division Toxicology & Environmental Medicine, ATSDR/CDC, Atlanta, GA and 2Biomedical Engineering, Georgia Institute of Technology, Atlanta, GA. Sponsor: B. Fowler.

Poster Board Number ...................... #143


Poster Board Number ...................... #144

COMPUTATIONAL DOCKING OF THE ISOMERS OF NONYLPHENOL TO THE LIGAND BINDING DOMAIN OF THE ESTROGEN RECEPTOR. J. Rabinowitz and S. Little. NCC/N/ORD/U.S. EPA, Research Triangle Park, NC.

Poster Board Number ...................... #145

ANALYSIS OF RELATIVE ROSIGLITAZONE, PIOGLITAZONE, AND EPIRUBICIN CARDIOTOXICITY IN RATS USING HISTORICAL MICROARRAY DATA. H. Zhou and T. J. Colatsky. CDER/OPS/OTR/DAPR, U.S. FDA, Silver Spring, MD.

Poster Board Number ...................... #146

COMPUTATIONAL MODELING FOR QT PROLONGATION: A DRUG CARDIOVASCULAR SAFETY ENDPOINT OF PARAMOUNT IMPORTANCE. L. G. Valerio1, J. Prous Blancafort2, A. Valencia2 and X. Mensa2. 1CDER/OPS, U.S. FDA, Silver Spring, MD and 2Prous Institute for Biomedical Research, Barcelona, Spain. Sponsor: N. Sadrieh.

Poster Board Number ...................... #147

TRANSLATABILITY OF DRUG-INDUCED CARDIOTOXICITY MOLECULAR MECHANISMS FROM IN VIVO TO IN VITRO. A. Enayetallah1, D. Puppala1, D. Ziemek2, N. Greene2, Y. Will2 and M. Fletcher2. 1Compound Safety Prediction-PGRD Pfizer Inc., Groton, CT and 2Computational Sciences CoE, Pfizer Inc., Cambridge, MA.

Poster Board Number ...................... #148

ASSOCIATION NETWORKS AND VISUALIZATION TOOLS TO CORRELATE PRECLINICAL SIGNALS TO DRUG-INDUCED NAUSEA IN MAN. J. Glab1, M. Clark2, J. Valentine1 and L. Ewart1. 1Safety Pharmacology, AstraZeneca, Alderley Park, United Kingdom and 2Discovery Information, AstraZeneca, Wilmington, DE.

Abstract #  Poster Board Number ...................... #149


Poster Board Number ...................... #150

COMPUTATIONAL BASED APPROACHES FOR IDENTIFYING AND UNDERSTANDING KINASES ASSOCIATED WITH CARDIOTOXICITY. D. Puppala1, V. Bonato2, K. Leach1, S. Louise-May1, K. J. McConnell1, M. Gosink2 and M. T. Fletcher2. 1Compound Safety Prediction, Pfizer Inc., Groton, CT, 2Biostatistics Group, Pfizer Inc., Groton, CT, 3Computational Science CoE, Pfizer Inc., Groton, CT and 4DSRD, Pfizer Inc., Groton, CT.

Poster Board Number ...................... #151

DISCOVERY OF NOVEL MICRO-RNAs FROM RAT LYMPHOCYTES DURING GLUCOCORTICOID INDUCED APOPTOSIS. R. Shah1, S. Vasa1, L. Smith1 and J. Cidlowski1. 1SRA International, Durham, NC and 2National Institute of Environmental Health Science, Research Triangle Park, NC.

Poster Board Number ...................... #152


Poster Board Number ...................... #153


Poster Board Number ...................... #154

COMPUTATIONAL ASSESSMENT OF REACTIVE METABOLITE RISK IN DRUG DISCOVERY USING MECHANISTIC ENSEMBLE MODELLING. S. Boyer1, G. R. Shah1, L. M. Hasselgren1, L. Peterlin-Masic2, O. Spühler2 and L. Carlsson. 1Computational Toxicology, AstraZeneca, Mölndal, Sweden.

Poster Board Number ...................... #155

COMPUTATIONAL ASSESSMENT OF REACTIVE METABOLITE RISK IN DRUG DISCOVERY USING MECHANISTIC ENSEMBLE MODELLING. S. Boyer1, G. R. Shah1, L. M. Hasselgren1, L. Peterlin-Masic2, O. Spühler2 and L. Carlsson. 1Computational Toxicology, AstraZeneca, Mölndal, Sweden.

Poster Board Number ...................... #156

PHARMACOLOGICAL PROFILE SIMILARITY – A RELEVANT METHOD FOR ANTICIPATION OF IN VIVO SAFETY? D. Mutis1, M. Hof1, S. Matis-Mitchell1 and S. Boyer1. 1Global Safety Assessment, AstraZeneca R&D, Mölndal, Sweden, 2Global Safety Assessment, AstraZeneca R&D, Alderley Park, United Kingdom and 3Discovery Information, AstraZeneca R&D, Wilmington, DE.
| #157 | Poster Board Number .....................................246 DEVELOPMENT OF QSAR MODEL FOR HIGH-SPEED IN SILICO IDENTIFICATION OF POTENTIALLY PHOTOTOXIC ORGANIC COMPOUNDS. W. Plonka1 and J. M. Ciloy2. 1Life Science, FQS Poland, Cracow, Poland and 2Life Science, Fujitsu Kyushu Systems Ltd., Fukuoka, Japan. Sponsor: K. Hayumizu. |
| #159 | Poster Board Number .....................................248 USE OF C. ELEGANS GROWTH ASSAY DATA IN NOVEL TWO-STEP HIERARCHICAL QSAR MODELING WORKFLOW ENHANCES IN VIVO TOXICITY PREDICTION FOR TOXCAST PHASE 1 CHEMICALS. A. Golbraikh1,2, R. Shah1, W. Boyd1, M. Smith1, A. Tropsha1,2 and J. Freedman1. 1SciOme LLC, Research Triangle Park, NC, 2University of North Carolina at Chapel Hill, Chapel Hill, NC, 3National Institute of Environmental Health Science, Research Triangle Park, NC and 4SRA International, Durham, NC. |
| #160 | Poster Board Number .....................................301 EVALUATION OF JP-8 JET FUEL INDUCED HEARING LOSS IN RATS. L. D. Fechter2, J. W. Fisher3, G. D. Chapman4, V. P. Mokashi5, J. E. Reboulet5, J. E. Stubbs5, A. M. Lear5, S. L. Prues5, C. A. Gearhart1, S. Fulton1 and D. R. Mattie1. 1Jerry Pettis Memorial VA Medical Center, Loma Linda, CA, 2U.S. FDA NCTR, Jefferson, AR, 3NHRC/EHEL, Wright-Patterson AFB, OH, 4AFT/TENV, Wright-Patterson AFB, OH and 5111 HPW/RHPBA, Wright-Patterson AFB, OH. |
| #161 | Poster Board Number .....................................302 1,3-DICARBOXYL ENOLATES: A NEW CLASS OF NEUROPROTECTANTS. R. M. LoPachin1, T. Gavin2, D. Casper2 and D. S. Barber1. 1Department of Anesthesia Research, Montefiore Medical Center, Bronx, NY, 2Chemistry, Iona College, New Rochelle, NY, 3Neurosurgery, Montefiore Medical Center, Bronx, NY and 4CEHT, University of Florida, Gainesville, FL. |
| #162 | Poster Board Number .....................................303 MOLECULAR MODELING OF 1, 3-DINITROBENZENE (1, 3-DNB) INTERACTIONS WITH ADENOSINE DEAMINASE (ADA), R. J. Richardson1, S. J. Wijeyesakere2, Y. Wang3 and M. A. Philbert1. 1Department of Environmental Health Sciences, Toxicology Program, University of Michigan, Ann Arbor, MI and 2Department of Microbiology and Immunology, University of Michigan, Ann Arbor, MI. |
| #163 | Poster Board Number .....................................304 1, 3-DINITROBENZENE (1, 3-DNB) INHIBITS ADENOSINE DEAMINASE (ADA) LEADING TO INCREASED ADENOSINE LEVELS IN IMMORTALIZED DTNC-1 ASTROCYTES. Y. Wang1, X. Liu2, B. Schneider1, E. A. Zverina2, K. A. Russ1, C. A. Fieker1, R. J. Richardson1 and M. A. Philbert1. 1Department of EHS, Toxicology, University of Michigan, Ann Arbor, MI, 2Department of Chemistry, University of Michigan, Ann Arbor, MI, 3Department of Biological Chemistry, University of Michigan, Ann Arbor, MI and 4Chemical Biology Program, University of Michigan, Ann Arbor, MI. |
| #164 | Poster Board Number .....................................305 TRANSLATOR PROTEIN (18 KDA) (TSPO): A Preclinical BIOMARKER OF NEURODEGENERATION IN SANDHOF DISEASE MICE. J. Choi1, H. Wang1, C. J. Endres1, J. J. Fox3, G. Green3, M. G. Pomper1 and T. R. Gallaire1. 1Environmental Health Sciences, Columbia University Mailman School of Public Health, New York, NY and 2Radiology, Johns Hopkins Hospital, Baltimore, MD. |
| #165 | Poster Board Number .....................................306 THE CYANOBACTERIAL NEUROTOXIN β-N-METHYLAMINO-L-ALANINE (BMAA) INDUCES UNFOLDED PROTEIN RESPONSE (UPR) AND CHANGES OF SOD ACTIVITY LEVELS IN HUMAN NEURONAL CELLS. O. Okle1, M. Helmer1, K. Stemmer2 and D. R. Dietrich3. 1Human & Environmental Toxicology, University of Konstanz, Konstanz, Germany and 2Obesity Research Centre at the Metabolic Disease Institute, University of Cincinnati, Cincinnati, OH. |
| #166 | Poster Board Number .....................................307 CYTOTOXICITY OF β-N-METHYLAMINO-L-ALANINE (BMAA) AND METHYLazoxyMETHANOLACETATE (MAMAC) AND ASSOCIATED DIFFERENTIAL mRNA EXPRESSION IN HUMAN NEURONAL CELLS. M. Helmer1, O. Okle1, K. Stemmer2 and D. R. Dietrich3. 1Human & Environmental Toxicology, University of Konstanz, Konstanz, Germany and 2Obesity Research Centre at the Metabolic Disease Institute, University of Cincinnati, Cincinnati, OH. |
| #167 | Poster Board Number .....................................308 PERTURBATION OF REGIONAL BRAIN METABOLISM IN F344 RATS AFTER LOW LEVEL EXPOSURE TO DIPHOSPHOFLOROPHOSPHATE (DFP). D. Mable1 and N. V. Reo1. 1AFRL/RHPB, Wright-Patterson AFB, OH and 2Wright State University, Fairborn, OH. |
#168
Poster Board Number .....................................309
INVESTIGATING GENE-ENVIRONMENT INTERACTIONS RELEVANT TO PARKINSON’S DISEASE USING DROSOPHELI A. C. A. Remillard, H. O. Lawal and D. E. Krantz. University of California, Los Angeles, Los Angeles, CA.

#169
Poster Board Number .....................................310
IDENTIFYING LESS TOXIC TRIARYL PHOSPHATES FOR JET ENGINE LUBRICANTS. P. E. Baker¹, T. R. Cole², K. E. Thummel¹, Y. S. Lim¹, A. L. Co¹, A. E. Rettie¹, J. H. Kim³ and C. E. Furlong¹. ¹Medicine, Medical Genetics & Genome Sciences, University of Washington, Seattle, WA, ²Environmental & Occupational Health Sciences, University of Washington, Seattle, WA, ³Pharmaceutics and Medicinal Chemistry, University of Washington, Seattle, WA and ²Anesthesiology & Pain Medicine, University of Washington, Seattle, WA.

#170
Poster Board Number .....................................311
LIPOPOLYSACCHARIDE INCREASES SODIUM INFLUX AND DOWN-REGULATES VOLTAGE GATED SODIUM CHANNEL MRNA EXPRESSION IN ACTIVATED MICROGLIA. M. M. Hossain and J. R. Richardson. Environmental and Occupational Medicine, Robert Wood Johnson Medical School, University of Medicine and Dentistry of New Jersey, Piscataway, NJ.

#171
Poster Board Number .....................................312
LIPOPOLYSACCHARIDE ACTIVATION OF MICROGLIA DIFFERENTIALLY REGULATES mRNA EXPRESSION OF ABC EFFLUX TRANSPORTERS. C. J. Gibson¹, M. M. Hossain¹, J. R. Richardson² and L. Aleksunes¹. ¹Pharmacology and Toxicology, Rutgers University, Piscataway, NJ and ²Environmental and Occupational Medicine, University of Medicine and Dentistry of New Jersey, Piscataway, NJ.

#172
Poster Board Number .....................................313
EFFECTS OF ESTROGEN-DERIVED COMPOUNDS IN A MURINE MODEL OF ALZHEIMER’S DISEASE. A. E. Schlapp¹, R. Schuh¹, L. Prokai², M. Ottinger¹ and A. E. Schlapp¹. ¹Animal and Avian Sciences, University of Maryland, College Park, MD, ²Neuroscience, Psychology, and Cognitive Sciences Program, University of Maryland, College Park, MD.

#173
Poster Board Number .....................................314
THE INTERACTION OF MANGANESE WITH PRION PROTEIN AND ITS ROLE IN THE PROPAGATION OF PRION DISEASE. D. P. Martin¹,², V. Anantharam¹,², A. Kanthasamy³ and A. G. Kanthasamy¹,². ¹Department of Biomedical Sciences, Iowa State University, Ames, IA and ²Iowa Center for Advanced Neurotoxicology, Iowa State University, Ames, IA.

#174
Poster Board Number .....................................315
CHRONIC NEUROTOXICITY AFTER CHRONIC MOLD EXPOSURE. R. M. Singer. Raymond Singer, Ph.D., Professional Association, Santa Fe, NM.

#175
Poster Board Number .....................................316
HYPOZINCEMIA AFFECT PERIPHERAL NERVOUS SYSTEM IN SHR/NDMCR-CP, A MODEL OF METABOLIC SYNDROME. Y. Suzuki¹, S. Ichihara¹, A. Kata¹, T. Yamaguchi¹, Y. Yamada¹ and G. Ichihara². ¹Life Science Research Center, Mie University, Tsu, Japan and ²Nagoya University Graduate School of Medicine, Nagoya, Japan.

#176
Poster Board Number .....................................317
EFFECTS OF 1-BROMOPROPANE ON MYELINATION AND ASTROGLIA IN RAT BRAIN. S. Sheik Mohideen¹, S. Ichihara¹, Z. Huang¹, L. Zhang¹, K. Subramanian¹, J. Kitoh³ and G. Ichihara³. ¹Department of Occupational & Environmental Health, Nagoya University Graduate School of Medicine, Nagoya, Japan, ²Mie University Graduate School of Regional Innovation Studies, Tsu, Mie, Japan and ³Nagoya University, Nagoya, Japan.

#177
Poster Board Number .....................................318
DEGENERATES NORADRENERGIC AXONS IN THE RAT BRAIN. G. Ichihara¹, S. Sheik Mohideen¹, S. Ichihara¹ and S. Nakamura¹. ¹Department of Occupational & Environmental Health, Nagoya University Graduate School of Medicine, Nagoya, Japan, ²Mie University, Tsu, Japan and ³Neuroscience, Yamaguchi University Graduate School of Medicine, Ube, Japan.

#178
Poster Board Number .....................................319

#179
Poster Board Number .....................................320
GST-PHI INHIBITS DOPAMINE NEURON DEGENERATION IN C. ELEGANS MODELS OF PARKINSON’S DISEASE AND MANGANISM. R. Settivari¹, J. LeVora, N. VanDaun, S. Zhou, G. Sinclair and R. Nass. Pharmacology and Toxicology, Indiana University School of Medicine, Indianapolis, IN.

#180
Poster Board Number .....................................321
ROLE OF GLIAL ACTIVATION IN A PROGRESSIVE NEUROINFLAMMATORY MODEL OF PARKINSON’S DISEASE USING MPTP AND PROBENECID. B. R. Trout¹², J. A. Miller¹², K. A. Popichak¹ and R. B. Tjalkens¹². ¹Environmental Radiological and Health Science, Colorado State University, Fort Collins, CO and ²Molecular, Cellular, and Integrative Neurosciences, Colorado State University, Fort Collins, CO.
Program Description (Continued)

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#181 Poster Board Number .....................................322

DEVELOPMENT OF A HIGH-THROUGHPUT SCREENING PLATFORM FOR MONOAMINE TOXICITY. A. J. Bernstein1, K. A. Stout1, J. D. de Gastyne1 and G. W. Miller1,2.

1Environmental Health, Emory University, Atlanta, GA and 2Center for Neurodegenerative Disease, Emory University, Atlanta, GA.

#182 Poster Board Number .....................................323

SEROTONERGIC AND NORADRENERGIC SYSTEMS ARE DISRUPTED IN THE VMAT2-DEFICIENT PARKINSON'S DISEASE MOUSE MODEL. S. P. Alter, T. N. Taylor, K. R. Shepherd and G. W. Miller. Environmental Health, Emory University, Atlanta, GA.

#183 Poster Board Number .....................................325

VASCULAR IMPLICATIONS OF NRTI-INDUCED MITOCHONDRIAL TOXICITY. V. Y. Hebert, S. Xue, M. Glover and T. Dugas. Pharmacology, Toxicology, and Neuroscience, Louisiana State University Health Sciences Center, Shreveport, LA.

#184 Poster Board Number .....................................326


#185 Poster Board Number .....................................327


#186 Poster Board Number .....................................328

A COMMON LINK FOR PULMONARY INFLAMMATION TO VASCULAR EFFECTS OF ENVIRONMENTAL TOBACCO SMOKE AND BENZO-A-PYRENE IN BOTH PIGS AND RATS. L. P. Weber, A. N. Al-Disi and N. J. Gennett. Toxicology Graduate Program, University of Saskatchewan, Saskatoon, SK, Canada.

#187 Poster Board Number .....................................329


#188 Poster Board Number .....................................330

INHALATION OF ENVIRONMENTALLY PERSISTENT FREE RADICALS ALTER LEFT VENTRICULAR FUNCTION IN VIVO. S. Mahne1, G. Raman1, B. Dellingler2 and K. J. Varner1. 1Pharmacology, Louisiana State University Health Science Center, New Orleans, LA and 2Chemistry, Louisiana State University A&M, Baton Rouge, LA. Sponsor: T. Dugas.

#189 Poster Board Number .....................................331

EFFECTS OF INHALED NITRIC OXIDE AND CARBON MONOXIDE ON VASCULAR RESPONSIVENESS. J. G. Buntz, S. N. Lucas and M. Campen. Pharmaceutical Sciences, University of New Mexico, Albuquerque, NM.

#190 Poster Board Number .....................................332

EXPOSURE TO ACREOLIN ENHANCES PLATELET ACTIVATION AND EXACERBATES ATHEROSCLEROSIS. S. Srivastava, S. D. Sithu, E. N. Vladkyovskaya, P. Haberzettl, D. J. Hoekker, M. A. Siddiqui, D. J. Conklin, A. Bhatnagar and S. E. D’Souza. School of Medicine, University of Louisville, Louisville, KY.

#191 Poster Board Number .....................................333

SOLUBLE COMPONENTS OF ULTRAFINE PARTICULATE MATTER ACTIVATE CORONARY ENDOTHELIAL CELLS. S. J. Snow1 and M. Carraway2. Curriculum of Toxicology, University of North Carolina at Chapel Hill, Chapel Hill, NC and 2Human Studies Facility, National Health and Environmental Effects Research Laboratory, U.S. EPA, Chapel Hill, NC.

#192 Poster Board Number .....................................334

THE EFFECTS OF CERIA NANOPIRATSC ON THE REACTIVITY OF RAT MESENTERY AND CORONARY ARTERIOLES. V. C. Minarich1, E. M. Sabolsky2 and T. R. Narkiewicz1. 1Center for Cardiovascular and Respiratory Sciences, West Virginia University, Morgantown, WV and 2Mechanical and Aerospace Engineering, West Virginia University, Morgantown, WV.

#193 Poster Board Number .....................................335

EXPOSURE TO MULTI-WALLED CARBON NANOTUBES DOSE-DEPENDENTLY EXACERBATES CARDiac INJURY AND DEPRESSES CORONARY FLOW. L. C. Thompson1, C. R. Fraiser1, R. C. Sloan1, D. A. Brown1, B. Harrison1, J. M. Brown1 and C. J. Wingard1. 1Physiology, East Carolina University, Greenville, NC, 2Pharmacology and Toxicology, East Carolina University, Greenville, NC and 3Wake Forest University Institute of Regenerative Medicine, Winston-Salem, NC.
Program Description (Continued)

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#194 Poster Board Number .....................................336
TIME-COURSE OF IMPAIRED CORONARY ARTERIOLAR ENDOTHELIUM-DEPENDENT DILATION AFTER MULTI-WALLED CARBON NANOTUBE INHALATION. P. G. Stapleton1,2, V. C. Minarchick1,2, A. Cumpton1, W. McKinney2, B. T. Chen2, D. Frazer2, V. Castranova2 and T. R. Narkiewicz1,2, Center for Cardiology, Pharmacology and Respiratory Sciences, West Virginia University, Morgantown, WV. 1Pathology and Physiology Research Branch, Health Effects Laboratory Division, National Institute for Occupational Safety and Health, Morgantown, WV and 2Physiology and Pharmacology, West Virginia University, Morgantown, WV.

#195 Poster Board Number .....................................337
PROLONGATION OF QT INTERVALS BY MOXIFLOXACIN TREATMENT IN 2 AND 8 WEEK OLD JUVENILE BEAGLE DOGS. M. Peschel1, N. Lourens1, K. Scase1, A. Zmarowski1, M. De Raaf1, E. Pudgett2, B. Van Rozendaal1 and H. Emmen. 1Toxicology, NOTOX B.V., D.D.’s-Brasschaat, Netherlands and 2Toxicology, WIL Research Laboratories LLC, Ashland, OH.

#196 Poster Board Number .....................................338
REGULATION OF CARDIAC CARDIOTROPHIN-1 GENE EXPRESSION BY VALSARTAN AND SPIRONOLACTONE IN RAT, A POSSIBLE MECHANISM OF CARDIOPROTECTION. H. A. Al-Mazrooa, N. M. Al-Rasheed and H. M. Korashy. Pharmacology & Toxicology, College of Pharmacy, King Saud University, Riyadh, Saudi Arabia. Sponsor: A. El-Kadi.

#197 Poster Board Number .....................................339
TCDD MISREGULATES CELL MIGRATION AND THE EXTRACELLULAR MATRIX IN THE REGENERATING ZEBRAFISH HEART. P. J. Hofsten1, M. Kim1, D. Nesbit1, V. Mehta1, R. E. Peterson1. 1School of Pharmacy, University of Wisconsin Madison, Madison, WI and 2Molecular and Environmental Toxicology, University of Wisconsin Madison, WI.

#198 Poster Board Number .....................................340
TCDD EXPOSURE ALTERS THE GENE EXPRESSION RESPONSE TO HEART REGENERATION IN ADULT ZEBRAFISH (DANIO RERIO). M. Kim, R. E. Peterson and W. Heideman. Division of Pharmaceutical Sciences, School of Pharmacy, University of Wisconsin Madison, Madison, WI.

#199 Poster Board Number .....................................341
2, 3, 7, 8-TETRACHLORODIBENZO-P-DIOXIN INDUCES PRO-HYPERTENSIVE AND -ADIPOGENIC GENE EXPRESSION IN MESENTERIC ARTERIOLES PRIOR TO THE ONSET OF HYPERTENSION. M. K. Walker, J. A. Scott and J. R. Boberg. Pharmaceutical Sciences, University of New Mexico, Albuquerque, NM.

#200 Poster Board Number .....................................342
GLUCOCORTICOID INDUCED LEUCINE ZIPPER PREVENTS APOPTOSIS BY CARCINOGENS. D. C. Aguilera, J. Strom, B. Xu and Q. Chen. Pharmacology, University of Arizona, Tucson, AZ.

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#201 Poster Board Number .....................................343

#202 Poster Board Number .....................................344
USE OF NAPRIURETIC PEPTIDES TO DETECT COMPOUND RELATED CHANGES IN BLOOD PRESSURE IN RODENTS. S. K. Engle, L. Huber, D. Sall, M. Uhlik and D. E. Watson, Lilly Research Laboratories, Eli Lilly and Company, Indianapolis, IN.

#203 Poster Board Number .....................................345
THE C-TERMINUS OF THE CARDIAC ELECTRONEUTRAL SODIUM BICARBONATE COTRANSPORTER HNBCN1 IS CYTOTOXIC. N. Maglinick, A. Abuladze, P. Ge, I. Atanasov and A. Pushkin. D. Geffen School of Medicine at University of California Los Angeles, Los Angeles, CA. Sponsor: W. Dekant.

#204 Poster Board Number .....................................346

#205 Poster Board Number .....................................347
INDUCTION OF CARDIOTOXICITY BY PERFLUOROOCTANOIC ACID IN AN AVIAN MODEL. Q. Jiang and J. DeWitt. East Carolina University, Greenville, NC.

#206 Poster Board Number .....................................348
CHRONIC OVEREXPRESSION OF RECEPTOR TYROSINE KINASE ERBB2 INDUCES CELLULAR OXIDATIVE STRESS IN THE HEARTS OF MICE. F. Belmonte1, Y. Xu2, S. Polina1, C. Steenbergen1, S. Das1, Y. Guo1, S. Pin1, D. Bedja1 and K. Gabrielson. 1Molecular and Comparative Pathobiology, Johns Hopkins University, Baltimore, MD and 2Cardiovascular Pathology, Johns Hopkins University, Baltimore, MD.

#207 Poster Board Number .....................................349
RECOVERY OF CYTOCHROME C OXIDASE ACTIVITY IS REQUIRED FOR DIETARY COPPER SUPPLEMENTATION-INDUCED REGRESSION OF CARDIAC HYPERTROPHY IN MICE. L. Zhu1, L. Hussain1, Y. Yao1, W. Feng1, K. Bourcy1, J. Eaton2, W. Johnson1, C. Moraes1 and Y. Kang1. 1Pharmacology & Toxicology, University of Louisville, Louisville, KY, 2Medicine, University of Louisville, Louisville, KY. 3Human Nutrition Research Center, U.S. Department of Agriculture, Grand Forks, ND and 4Cell Biology and Anatomy, University of Miami Miller School of Medicine, Miami, FL.
Program Description (Continued)

Abstract #  Poster Board Number .....................................350  
#208  THE INVOLVEMENT OF VIMENTIN IN THE CU INDUCED REGRESSION OF HYPTERTROPHY IN HUMAN CARDIAC MYOCYTES. K. S. Boursey1, W. Feng2 and Y. Kang3. Pharmacology & Toxicology, University of Louisville, Louisville, KY and 3Medicine, University of Louisville, Louisville, KY.

Abstract #  Poster Board Number .....................................351  
#209  DIRECT EFFECTS OF NRTRIS ON MITOCHONDRIA CONTRIBUTE TO ENDOTHELIAL DYSFUNCTION. M. C. Glover, S. Xue, V. Y. Hebert, J. H. Zavecz and T. R. Hebert. Pharmacology, Toxicology, and Neuroscience, Louisiana State University Health Sciences Center, Shreveport, LA.

Abstract #  Poster Board Number .....................................352  
#210  ANG II INDUCED PKC/NOS ACTIVATION-ASSOCIATED NITROSATIVE DAMAGE PLAYS A CRITICAL ROLE IN CHRONIC ALCOHOL-CAUSED CARDIAC CELL DEATH AND CARDIOMYOPATHY. Y. Tan, Z. Zhou and L. Cui. Pediatrics/Medicine, University of Louisville, Louisville, KY.

Abstract #  Poster Board Number .....................................353  

Abstract #  Poster Board Number .....................................354  
#212  EGCG DECREASES POLYCHLORINATED BIPHENYL-INDUCED EXPRESSION OF CYPIA AND ENDOTHELIAL INFLAMMATORY PARAMETERS VIA INDUCTION OF ANTIOXIDANT ELEMENTS. B. Hennig1, S. Ha1 and M. Toborek2. 1Animal and Food Sciences, University of Kentucky, Lexington, KY and 2Department of Neurosurgery, University of Kentucky, Lexington, KY.

Abstract #  Poster Board Number .....................................355  
#213  QUANTITATIVE PROTEOMICS REVEALS RAPID CHANGES IN NA+/K+ ATPASE AND NCX1 LEVELS IN ADULT ZEBRAFISH HEART FOLLOWING TCCD EXPOSURE. K. Lanham1, J. Zhang2, R. Peterson3, W. Heideman4 and L. Li5. 1Biomolecular Chemistry, University of Wisconsin Madison, Madison, WI and 2School of Pharmacy, University of Wisconsin Madison, Madison, WI.

Abstract #  Poster Board Number .....................................356  
#214  HSP90-BETA OVEREXPRESSIN IN THE MOUSE HEART INDUCES HEART FAILURE. Y. Xu1, D. Bedja1, X. Guo1, M. Mei1, P. Sysa Shah1, S. Das2, C. Steenbergen1 and K. Gabrielson1. 1Molecular and Comparative Pathobiology, Johns Hopkins University, Baltimore, MD and 2Cardiac Pathology, Johns Hopkins University, Baltimore, MD.

Abstract #  Poster Board Number .....................................357  

Abstract #  Poster Board Number .....................................358  
#216  ISIS 416855, AN ANTISENSE INHIBITOR OF FACTOR XI, IS WELL TOLERATED AND PRODUCES NO RISK OF BLEEDING IN THE CYNOMOLGUS MONKEY FOR UP TO 13 WEEKS OF TREATMENT. H. S. Younis1, J. Crosby2 and S. P. Henry2. 1Preclinical Development, ISIS Pharmaceuticals, Carlsbad, CA and 2Drug Discovery, ISIS Pharmaceuticals, Carlsbad, CA.

Abstract #  Poster Board Number .....................................359  
#217  BENZOFURAN: A NO-NSAID, INHIBITS COLON INFLAMMATORY AND PROTEOLYTIC CHANGES IN MOUSE MODEL OF ABDOMINAL AORTIC ANEURYSM. A. Ramesh1, P. R. Perati1, A. Ramesh2, Z. Guo1 and U. K. Sampson1. 1Cardiovascular Medicine, Vanderbilt University, Nashville, TN and 2Meharry Medical College, Nashville, TN.

Abstract #  Poster Board Number .....................................360  
#218  ARYL HYDROCARBON RECEPTOR AGONIST - PCB 77 - INCREASES THE INCIDENCE AND SEVERITY OF ABDOMINAL AORTIC ANEURYSM. V. Arsenescu1, R. Arsenescu2 and L. Cassis3. GCNS, University of Kentucky, Lexington, KY. Sponsor: H. Swanson.

Monday Morning, March 7
9:30 AM to 12:30 PM
Exhibit Hall

Poster Session: Carcinogenesis I
Chairperson(s): John Wisler, Amgen Inc., Thousand Oaks, CA.
Displayed: 9:30 AM–12:30 PM
Author Attended: 9:30 AM–11:00 AM

Abstract #  Poster Board Number .....................................401  
#219  NNK, A TOBACCO-SPECIFIC CARCINOGEN, INHIBITS THE EXPRESSION OF LYSYL OXIDASE: A TUMOR SUPPRESSOR GENE. Y. Zhao, S. Gao, J. Zhou, P. Toselli and W. Li. Biochemistry, Boston University School of Medicine, Boston, MA.

Abstract #  Poster Board Number .....................................402  
#220  GT-094, A NO-NSAID, INHIBITS COLON CANCER CELL GROWTH BY ACTIVATION OF A REACTIVE OXYGEN SPECIES (ROS)-MICRONA-27A:ZBTB10-SPECIFICITY PROTEIN (SP) PATHWAY. S. Pathi1 and S. Safe1. 1Veterinary Physiology and Pharmacology, Texas A&M University, College Station, TX and 2Institute of Biosciences and Technology, Texas A&M Health Science Center, Houston, TX.
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50th Anniversary Annual Meeting and ToxExpo™

Program Description (Continued)

Molecular Mechanism of Action of Insulin Sensitizing Drug-Metformin as Anticancer Agent in Pancreatic Cancer. V. Vasanthakumari and S. Safe. Veterinary Physiology & Pharmacology, Texas A&M University, College Station, TX and Institute of Biosciences and Technology, Houston, TX.

Pharmacological Inhibition of the TGFβ1 Type 1 Receptor Induces Premalignant Keratinocyte Terminal Differentiation. K. E. Maasuk, L. Mordlozsky Markell, N. Blazantin and A. B. Glick. Center for Molecular Toxicology and Carcinogenesis, Penn State University, University Park, PA.


Ligand-Dependent Activation and Deactivation of Nuclear Receptor Subfamily 4 Members in Pancreatic Cancer Cells. X. Li and S. Safe. College of Medicine, Texas A&M Health Science Center, College Station, TX. Veterinary Physiology and Pharmacology, Texas A&M University, College Station, TX and Institute of Biosciences & Technology, Texas A&M Health Science Center, Houston, TX.

Cannabinoids Induce Tyrosine Phosphatases and Inhibit SP Transcription Factors in Colon and Prostate Cancer Cells. S. Sreevalan, N. Kaminski and S. Safe. Veterinary Physiology and Pharmacology, Texas A&M University, College Station, TX, Institute of Biosciences and Technology, Texas A&M Health Science Center, Houston, TX and Center for Integrative Toxicology, Michigan State University, East Lansing, MI.


Identifying Inhibition Pathways of Mammary Cancer Stem Cells by Chemical Genetics. D. Castro, J. Maurer and R. Oshima. Tumor Development Program, Sanford-Burnham Medical Research Institute, La Jolla, CA.

Severe Urinary Bladder Cytotoxicity and Regenerative Hyperplasia with Dose Response Induced by Arsenite in Arsenic (+3 Oxidation State) Methytransferase Knockout Mice. M. Yokohira, L. L. Arnold, K. L. Pennington, S. Sasaki, K. Kakuchi-Kyote, K. Herbin-Davis, D. J. Thomas, K. Inaida and S. M. Cohen. Oncopathology, Kagawa University, Faculty of Medicine, Kita-gun, Kagawa, Japan; Pathology and Microbiology, University of Nebraska Medical Center, Omaha, NE; and Pharmacokinetics Branch, Integrated Systems Toxicology Division, National Health and Environmental Effects Research Laboratory, U.S. EPA, Omaha, NE.
Program Description (Continued)

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#233 Poster Board Number .....................................415 TUMORS AND PROLIFERATIVE LESIONS IN ADULT OFFSPRING AFTER MATERNAL EXPOSURE TO METHYLARSONOUS ACID DURING GESTATION IN CD1 MICE. M. Waulkies2, B.A. Diwan1, E.J. Tokar2 and D.J. Thomas3. 1NCI at NIEHS, Research Triangle Park, NC, 2NTP, NIEHS, Research Triangle Park, NC, 3IRSP, SAIC, NCI, Frederick, MD and 4U.S. EPA, Research Triangle Park, NC.

#234 Poster Board Number .....................................416 ACTIVATION OF PPARα BY PHthalates IS A NECESSARY KEY EVENT IN THE MODE OF ACTION (MOA) LEADING TO INDUCTION OF RODENT LIVER TUMORS – A REEXAMINATION OF DATA AND DATA GAPS. A. Bachman1, R. David1, J. Butala2 and J. Deyo2. 1ExxonMobil Biomedical Sciences Inc., Annandale, NJ, 2BASF Corporation, Florham Park, NJ, Consultant for Ferro Corporation, Gibsonia, PA and 3Eastman Chemical Company, Kingsport, TN.

#235 Poster Board Number .....................................417 TOXICOLOGY STUDY OF SENNA IN CB6F1/N TRP53 HAPLOINSUFFICIENT MICE. J. Surh1, A. Brix2, J. French1 and J. Dunnick1. 1Toxicology Branch, National Toxicology Program, National Institute of Environmental Health Sciences, Research Triangle Park, NC, 2Pathology Group, National Toxicology Program, National Institute of Environmental Health Sciences, Research Triangle Park, NC and 3Host Susceptibility Branch, National Toxicology Program, National Institute of Environmental Health Sciences, Research Triangle Park, NC.

#236 Poster Board Number .....................................418 GLOBAL DE-REGULATION OF GENE EXPRESSION, OVER-EXPRESSION OF MICROTUBULES/MICROFILAMENTS, AND ALTERED CA2+ GRADIENTS, IN NITRATED FLOATED 10T1/2 MOUSE EMBRYO CELLS. J. R. Landolph1, C. M. Dunnick1, T. Pehl-DeSilva2, M. I. Lin1 and J. Zheng3. 1Department of Molecular Microbiology/Immunology, Keck School of Medicine, University of Southern California, Los Angeles, California, 2Department of Pathology, Keck School of Medicine, University of Southern California, Los Angeles, CA and 3University of Southern California Comprehensive Cancer Center, University of Southern California, Los Angeles, CA.

#237 Poster Board Number .....................................419 SKIN TUMOR INITIATION / PROMOTION EVALUATION OF OXIDIZED ASPHALT (BITUMEN) FUME CONDENSATE. J. J. Freeman1, C. A. Schreiner2, E. W. Apg3, D. M. Burnett4, C. R. Clark5, S. Mahagaokar6, C. M. Parker1, C. W. Stewart7, M. S. Swanson8 and M. S. Swanson8. 1ExxonMobil Biomedical Sciences Inc., Annandale, NJ, 2C & C Consulting in Toxicology, Meadowbrook, PA, 3Asphalt Institute, Lexington, KY, 4BP Corporation, Naperville, IL, 5ConocoPhillips, Bartlesville, OK, 6Shell Oil Company, Houston, TX, 7Marathon Petroleum, Findlay, OH and 8MPI Research, Mattawan, MI.

Abstract #

#238 Poster Board Number .....................................415 TUMOR NECROSIS FACTOR-α IS INVOLVED IN INFLAMMATION-MEDIATED SYSTEMIC GENOTOXICITY. A. M. Westbrook1, B. Wei2, K. Hacke1, J. Braun1 and R. H. Schiestl2. 1Molecular Toxicology, University of California Los Angeles, Los Angeles, CA and 2Pathology and Laboratory Medicine, University of California, Los Angeles, Los Angeles, CA.

#239 Poster Board Number .....................................420 IDENTIFYING ONCOMUTATIONS THAT WILL BE USEFUL QUANTITATIVE BIOMARKERS OF CARCINOGENIC EFFECT SUITABLE FOR SUB-CHRONIC TOXICITY TESTING. M. B. Myers, Y. Wang, F. Meng, P. B. McKinzie, K. L. McKim and B. L. Parsons. Division of Genetic and Molecular Toxicology, National Center for Toxicological Research /U.S. FDA, Jefferson, AR.

#240 Poster Board Number .....................................421 AEROSOL DELIVERED-AKT KD ATTENUATED CLARA CELL INJURY INDUCED BY NAPHTHALENE: A. Minai Tehrani and M. Cho. Laboratory of Toxicology, College of Veterinary Medicine, Seoul National University, Seoul, Republic of Korea.

#241 Poster Board Number .....................................422 ABCBL PROTECTS KIDNEY PROXIMAL TUBULE CELLS AGAINST CADMIUM-INDUCED APOPTOSIS: ROLES OF CADIUM TRANSPORT AND CERAMIDE METABOLISM. W. Lee, B. Torchalski, N. Kohistani and F. Thévenod. Physiology & Pathophysiology, University of Witten/Herdecke, Witten, NRW, Germany.


#243 Poster Board Number .....................................424 PRELIMINARY EVALUATION OF THE HUMAN RELEVANCE OF RESPIRATORY TUMORS OBSERVED IN RODENTS EXPOSED TO NAPHTHALENE. V. Piccirillo1, M. G. Bird2, R. Lewis2 and W. Bover2. 1VIP Consulting, Inc., Ashburn, VA and 2ExxonMobil Biomedical Sciences, Inc., Annandale, NJ.

#244 Poster Board Number .....................................426 SMALL MOLECULE RAF INHIBITORS CAUSE EXTENSIVE MULTIPLE TISSUE HYPERPLASIA AND AN INCIDENT OF URINARY BLADDER TRANSITIONAL CARCINOMA IN THE RAT WITHIN 28-DAYS. J. Wisler1, C. Afshari1, M. Fielden1, C. Zimmermann1, S. Taylor1, J. Carnahan2 and S. Vonderfecht. 1Comparative Biology Safety Sciences, Argen, Thousand Oaks, CA and 2Hematology & Oncology Research, Argen, Thousand Oaks, CA.
Program Description (Continued)

Abstract #

#245

Poster Board Number .....................................427

'Cellular and Molecular Pathology Branch, National Toxicology Program (NTP), National Institute of Environmental Health Sciences (NIEHS), Research Triangle Park, NC; 2Experimental Pathology Laboratories, Inc., Research Triangle Park, NC; 3NTP/NIEHS, Research Triangle Park, NC and 4National Center for Toxicological Research, Jefferson, AR.

#246

Poster Board Number .....................................428
EFFECTS OF CHRONIC ACRYLAMIDE EXPOSURE ON SYSTEMIC HORMONAL ENVIRONMENT AND CARCINOGENIC TARGET ORGANS IN F344 FEMALE RATS. T. Imai1, T. Watari1, T. Hayakawa2 and T. Kihatashi1.

'Central Animal Laboratory, National Cancer Center Research Institute, Tokyo, Japan; 'Cancer Prevention Basic Research Project, National Cancer Center Research Institute, Tokyo, Japan. Sponsor: A. Nishikawa.

#247

Poster Board Number .....................................429

#248

Poster Board Number .....................................430
KNOCK DOWN OF AHR IN HUMAN BREAST CANCER CELL LINE UPREGULATES THE EXPRESSION OF PROAPOPTOTIC FACTOR BAK. G. Goode and S. E. Elton. Biochemistry & Cancer Biology, Meharry Medical College, Nashville, TN.

#249

Poster Board Number .....................................431
A NOVEL SMALL MOLECULE INHIBITOR OF WNT/β-CATENIN SIGNAL PATHWAY INDUCES CELL CYCLE ARREST IN HUMAN NON-SMALL LUNG CANCER CELLS. J. Choi1, S. Lee2, Y. Gong3, Y. Park1 and M. Dong1. 1School Lifesciences and Biotechnology, Korea University, Seoul, Republic of Korea and 2Department of Chemistry, Dongguk University, Seoul, Republic of Korea. Sponsor: B. Lee.

#250

Poster Board Number .....................................432
ARISTOLOCHIC ACID NEPHROPATHY: AN ENVIRONMENTAL AND IATROGENIC DISEASE. A. Grollman1, B. Jelakovic2, Y. Pu3 and C. Chen1. 1State University of New York at Stony Brook, Stony Brook, NY; 2University of Zagreb, Zagreb, Croatia and 3National Taiwan University, Taiwan, China. Sponsor: J. Sweeney.

#251

Poster Board Number .....................................435
VITAMIN E DEFICIENCY IN MICE TREATED WITH DICHLOROACETATE OR TRICHLOROACETO MODULATES THE BIOMARKERS OF PHAGOCYTIC ACTIVATION AND ANTIOXIDANT ENZYME ACTIVITIES IN THE PERITONEAL LAVAGE CELLS. E. Hassoun and A. Al-Dieri. Pharmacology, Pharmacy, University of Toledo, Toledo, OH.

#252

Poster Board Number .....................................436
XENOBIOTIC-INDUCED ENDOPHASIC RETICULUM STRESS TRIGGERS PRO-INFLAMMATORY NF-κB SIGNALS VIA REPRESSION OF PEROXISOME PROLIFERATOR-ACTIVATED RECEPTOR γ. Y. Moon and S. Park. Microbiology and Immunology, Pusan National University School of Medicine and Medical Research Institute, Yangsan, Republic of Korea.

#253

Poster Board Number .....................................437
PRO-INFLAMMATORY CYTOKINE AND COMPLEMENT RECEPTOR 3 (CR3) RESPONSES TO FUNGAL CELL WALL MANNAN AND MANNAN BINDING LECTIN (MBL) IN HUMAN WHOLE BLOOD AND MONOCYTES. A. M. Nilsen1, I. Rauk1, M. Lavik2 and L. N. Johannesen1. Cancer Research and Molecular Medicine, Norwegian University of Science and Technology, Trondheim, Norway and 2Division of Environmental Medicine, Norwegian Institute of Public Health, Oslo, Norway.

#254

Poster Board Number .....................................438
ANTIBACTERIAL AGENT TRICLOSAN INHIBITS IgE RECEPTOR-MEDIATED MAST CELL DEGRANULATION. R. K. Palmer1, B. Barpee2, L. Hutchinson2, Z. Kormendi2, E. Tupper2, J. Pelletier2, E. Malay2 and J. A. Giese2. 1Graduate School of Biomedical Sciences, University of Maine, Orono, ME and 2Molecular and Biomedical Sciences, University of Maine, Orono, ME.

#255

Poster Board Number .....................................439
TRANSACTIVATION OF GENE EXPRESSION BY NF-κB IS DEPENDENT ON THOREDOXIN REDUCTASE ACTIVITY. W. Watson and J. Heilman. Department of Medicine/GI, University of Louisville, Louisville, KY.
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<td>#256</td>
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<td>TLR3 PROTECTS AGAINST MYOCARDITIS BY PROMOTING A TH1 RESPONSE, DECREASING VIRAL REPLICATION, PREVENTING SYSTOLIC FAILURE. E. Abston, A. Bucek, A. Frisancho, M. Coronado, J. Shin and D. Fairweather. Environmental Health Sciences, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD.</td>
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<td>S-NITROSYLATION OF SURFACTANT PROTEIN-D OCCURS IN BLEOMYCIN-INDUCED INJURY AND IS A PRO-INFLAMMATORY MEDIATOR VIA ACTIVATION OF NF-κB DEPENDENT PATHWAYS. C. Guo and A. Gow. Pharmacology &amp; Toxicology, Rutgers University, Piscataway, NJ.</td>
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<td>#258</td>
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<td>UTILIZATION OF EXTRACELLULAR GLUTATHIONE BY PHAGOCYTOSIS REDUCES TUMOR NECROSIS FACTOR α RELEASE IN MACROPHAGES. N. S. Gould, J. E. Min and B. J. Day. Medicine, National Jewish Health, Denver, Co., Pharmaceutical Sciences, University of Colorado AMC, Aurora, CO and Immunology, University of Colorado AMC, Aurora, CO.</td>
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<td>#259</td>
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<td>ACROLEIN INHIBITS THE CLEAVAGE OF ADHESION MOLECULES IN CYTOKINE-STIMULATED ENDOThIELIAL CELLS. S. D. Sithu, A. Bhatnagar, S. Srivastava and S. E. D’Souza. School of Medicine, University of Louisville, Louisville, KY.</td>
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<td>INDUCTION OF PROINFLAMMATORY MEDIATORS FACILITATES PCB-MEDIATED ENHANCEMENT OF BRAIN METASTASIS FORMATION. E. Bodone Sipos, L. Chen, I. Andras, B. Zhang, J. Wrobel, M. Park, J. Choi, S. Eum and M. Toborek. Molecular Neuroscience and Vascular Laboratory, Department of Neurosurgery, University of Kentucky, Lexington, KY.</td>
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<td>NITRIC OXIDE ENHANCES BACTERIAL CLEARANCE IN HYPEROXIA. A. Gore. St. John’s University, Queens, NY.</td>
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<td>ENDOThIELIAL ACTIVATION BY 4-HYDROXY TRANS-2-NONENAL: ROLE OF ENDOThELIAL RETICULUM STRESS. E. N. Vladyskovsky, S. D. Sithu, P. Haberzetl, N. S. Wickramasinghe, O. A. Barski, S. E. D’Souza, A. Bhatnagar and S. Srivastava. School of Medicine, University of Louisville, Louisville, KY.</td>
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<td>LOWASTATIN ATTENUATES HYPEROXIA-INDUCED HMGBl RELEASE AND RESCUES MACROPHAGE FUNCTION VIA INACTIVATION OF NF-κB P65 PATHWAY. R. Malli and L. Mantelli. St. John’s University, Queens, NY and The Feinstein Institute for Medical Research, North Shore-LIJ Health System, Manhasset, NY.</td>
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<td>SELECTIVE ALPHA7 NICOTINIC ACETYLCHOLINE RECEPTOR AGONIST GTS-21 ENHANCES HYPEROXIC MACROPHAGE FUNCTION. R. A. Sitapara. Department of Pharmaceutical Sciences, St. Johns University, Jamaica, NY. Sponsor: L. Mantelli.</td>
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Monday Morning, March 7
9:30 AM to 12:30 PM
Exhibit Hall

Poster Session: Metals I
Chairperson(s): Juclyn Goodrich, University of Michigan, Ann Arbor, MI.

Poster Session: Metals I
Abstract # | Poster Board Number | Title | Chairperson(s) | Displayed: | Author Attended: | Sponsor: |
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<td>#265</td>
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<td>METALlothionein and Acute Cadmium-Induced DNA Oxidative Damage. W. Qu, L. Cheng, Y. Sun, R. P. Mason and M. Waalkes. NTP Laboratories, NTP, NIEHS, Research Triangle Park, NC</td>
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<td>Sexual Dimorphism of Cadmium-Induced Toxicity in Rats: Involvement of Progesterone. H. Shimada, T. Hashiguchi, A. Yasutake, M. P. Waalkes and Y. Immamura. Kumanoto University, Kumanoto, Japan, National Institute for Minamata Disease, Kumamoto, Japan, NIEHS, Research Triangle Park, NC and ‘Nihon Pharmaceutical University, Saitama, Japan.</td>
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<td>Suppression of Iron Transport System in Duodenum by Cadmium. M. Sato, H. Banno and Y. Fujiwara. Laboratory of Pharmaceutical Health Sciences, School of Pharmacy, Aichi Gakuin University, Nagoya, Japan.</td>
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Program Description (Continued)

Abstract #  
#270  
Poster Board Number.....................................506  

#271  
Poster Board Number.....................................507  

#272  
Poster Board Number.....................................508  
TOXIC EFFECTS OF CADMIUM ON HUMAN PERIPHERAL LUNG CELLS. R. Person1, E. Tokar2 and M. Wulke3. 1NCI at NIEHS, Research Triangle Park, NC and 2National Toxicology Program, NIEHS, Research Triangle Park, NC.

#273  
Poster Board Number.....................................509  

#274  
Poster Board Number.....................................510  

#275  
Poster Board Number.....................................511  

#276  
Poster Board Number.....................................512  

#277  
Poster Board Number.....................................513  
EFFECTS OF CIGARETTE SMOKE CADMIUM AND SMOKING CESSATION ON URINARY CALCIUM EXCRETION IN POSTMENOPAUSAL WOMEN. M. H. Bhattacharyya1 and S. Bozorgnia1. 1Medicine, Medical College of Georgia, Augusta, GA and 4Orthopedic Surgery, Medical College of Georgia, Augusta, GA.
#285  
NON-CILIATED BRONCHIOLAR CELL POPULATION CHANGES AFTER VANADIUM INHALATION. C. I. Falcon-Rodríguez¹, S. Hernandez-Ojeda¹, J. Espinosa-Aguirre¹, T. I. Fortoul¹ and M. Altamirano-Lozano¹. ¹Biología Celular y Tisular, UNAM, Mexico City, Mexico, ²Departamento de Medicina Genómica y Toxicología Ambiental; Instituto de Investigaciones Biomédicas, UNAM, Mexico City, Mexico, ³Unidad de Investigación en Genética y Toxicología ambiental, Bioterio, Campo-Il, Facultad de Estudios Superiores Zaragoza, UNAM, Mexico City, Mexico and ⁴Posgrado Ciencias Biológicas, UNAM, Mexico City, Mexico.

#286  
VANADIUM PENTOXIDE INHALATION EFFECT IN A MURINE MODEL OF LUNG CANCER. N. Lopez-Valdez¹, S., C. I. Falcon-Rodriguez¹, M. Gonsebatt-Bonaparte¹, M. Alhumairano-Lezano¹ and T. I. Fortoul¹. ¹Biología Celular y Tisular, UNAM, Mexico City, Mexico, ²Posgrado de Ciencias Biológicas, UNAM, Mexico City, Mexico, ³Departamento de Toxicología y Medicina Genómica, Instituto de Investigaciones Biomédicas, UNAM, Mexico City, Mexico and ⁴Unidad de Investigación en Genética y Toxicología ambiental, Bioterio, Campo-Il, Facultad de Estudios Superiores Zaragoza, UNAM, Mexico City, Mexico.

#287  
CHANGES IN SLEEN LYMPHOCYTES PROLIFERATION PATTER IN MALE MICE CAUSED BY V2O5 INHALATION. V. Rodriguez-Lara¹, A. Muhiz Rivera-Cambas² and T. I. Fortoul¹. ¹Biología Celular y Tisular, UNAM, Mexico City, Mexico and ²Facultad de Ciencias, Biología, UNAM, Mexico City, Mexico.

#288  
MORPHO-PHYSIOLOGICAL ALTERATIONS IN LYMPH NODE DUE TO VANADIUM PENTOXIDE INHALATION. L. S. Lopez-Zepeda and T. I. Fortoul. Biología Celular y Tisular, UNAM, Mexico City, Mexico.

#289  
FIRST STEPS TOWARDS AN UNDERSTANDING OF A MODE OF CARCINOGENIC ACTION FOR VANADIUM PENTOXIDE. D. McGregor¹, D. Schulier¹, K. Morgenthal¹, H. J. Chevalier¹, M. Merker¹, J. L. Ravanat¹, P. Sagelsdorf¹, M. Walter¹ and K. Weber¹. ¹Toxicity Evaluation Consultants, Aberdeen, United Kingdom, ²Harlan Laboratories Ltd., Füllinsdorf, Switzerland, ³AnnaPath GmbH, Oberbuchsiten, Switzerland, ⁴Harlan Cytest Cell Research GmbH, Rossdorf, Germany and ⁵INAC/SCIB/LAN, CEAB Grenoble, Grenoble, France.

#290  
TISSUE BURDEN AND HISTOPATHOLOGY IN SPRAGUE-DAWLEY RATS AFTER INHALATION OF TUNGSTEN ALLOY. P. A. Ortiz¹, C. U. Parkinson³, V. P. Mockash³, M. G. Stockelman¹ and B. A. Wong¹. ¹Biomedical Engineering Research Unit - Dayton, Wright-Patterson AFB, OH and ²The Hamner Institutes for Health Sciences, Research Triangle Park, NC.

#291  
EFFECTS OF TUNGSTEN CHEMICAL SPECIES ON PHOSPHATE-DEPENDENT PATHWAYS IN AN OSTEOBLAST CELL LINE. D. R. Johnson¹ and C. Ang³. ¹Environmental Laboratory, U.S. Army Engineer Research & Development Center, Vicksburg, MS and ²Badger Testing Services, Vicksburg, MS.

#292  
THE INFLUENCE OF GENETIC POLYMORPHISMS ON MERCURY BIOMARKER DISTRIBUTION IN MEXICAN MOTHER-CHILD PAIRS. J. Goodrich¹, D. Cantonwine¹, B. N. Sánchez¹, M. Hernández-Avila¹, H. Hu¹, M. M. Téllez-Rojo¹ and N. Basa¹. ¹Environmental Health Sciences, University of Michigan, Ann Arbor, MI, ²Biostatistics, University of Michigan, Ann Arbor, MI, ³Ministry of Health, México, Distrito Federal, Mexico and ⁴Statistics, Center for Evaluation Research and Surveys, National Institute of Public Health, Cuernavaca, Morelos, Mexico.

Monday Morning, March 7
9:30 AM to 12:30 PM
Exhibit Hall
Poster Session: Metals II
Chairperson(s): Wei Zheng, Purdue University, West Lafayette, IN.
Displayed: 9:30 AM-12:30 PM
Author Attended: 11:00 AM-12:30 PM

Poster Board Number: 537

LEAD CAUSES BONE LOSS BY DEPRESSION OF OSTEOBLASTIC FUNCTION THROUGH INHIBITION OF WNT SIGNALING. E. E. Beier¹, E. Pacas¹, M. Zusick¹, D. Cory-Slechta¹ and T. Sheu¹. ¹Environmental Medicine, University of Rochester, Rochester, NY and ²Orthopedics, University of Rochester, Rochester, NY.
Program Description (Continued)

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#295

ACUTE ORAL LEAD BULLET FRAGMENT EXPOSURE IN NORTHERN BOBWHITE QUAIL. R. Kerr1, J. Holladay1, T. Jarrett1, S. D. Holladay2, B. Selcer1, B. Meldrum2, S. Williams2, L. Tannenbaum2 and R. M. Gogol1. 1Department of Anatomy and Radiology, University of Georgia, Athens, GA, 2Department of Biomedical Sciences & Pathobiology, Virginia Tech, Blacksburg, VA, 3Poultry Diagnostic & Research Center, University of Georgia, Athens, GA and 4U.S. Army Center for Health Promotion & Preventive Medicine, Department of Defense, Aberdeen, MD.

#296

ORAL LEAD PELLET EXPOSURE IN NORTHERN BOBWHITE QUAIL: A 56-DAY STUDY. R. M. Gogol1, R. Kerr1, J. Holladay1, S. D. Holladay2, L. Tannenbaum2, B. Meldrum2, S. Williams2, L. Tannenbaum2 and R. M. Gogol1. 1Department of Anatomy and Radiology, University of Georgia, Athens, GA, 2Department of Biomedical Sciences and Pathobiology, Virginia Maryland Regional College, Blacksburg, VA, 3U.S. Army Center for Health Promotion & Preventive Medicine, Department of Defense, Aberdeen, MD and 4Poultry Diagnostic & Research Center, University of Georgia, Athens, GA.

#297

ALUMINIUM TOXICITY AND ELEMENTAL COMPOSITION CHANGES IN CAENORHABDITIS ELEGANS. K. E. Page1,2, D. W. Killilee1, K. N. White2, C. R. McCrohan2 and G. J. Lithgow1. 1The Buck Institute for Age Research, Novato, CA, 2Faculty of Life Sciences, University of Manchester, Manchester, United Kingdom and 3Children’s Hospital Oakland Research Institute, Oakland, CA.

#298

BIOACCESSIBILITY-BASED READ-ACROSS ASSESSMENT OF NICKEL COMPOUNDS FOR ORAL SYSTEMIC TOXICITY. R. G. Henderson1, D. Cappellini2, S. Selikop1, A. R. Oller1 and H. K. Bates1. 1NiPERA, Inc., Durham, NC, 2Kirby Memorial Health Center, Wilkes-Barre, PA and 3SKS Consulting Services, Siler City, NC.

#299

NICKEL(II) CHLORIDE CAUSES PANCREATIC ISLET β-CELL DEATH VIA A JNK-REGULATED MITOCHONDRIAL APOPTOTIC PATHWAY. D. Hung1,2, K. Chen, H. Wu1, Y. Chen1, C. Su1, C. Wen1, T. Lu1, Y. Yang1, T. Ho1 and C. Huang1. 1Graduate Institute of Drug Safety, China Medical University, Taichung City, Taiwan, 2Toxicology Center, China Medical University Hospital, Taichung, Taiwan, 3Department of Urology, China Medical University Hospital, Taichung, Taiwan, 4Department of Physiology, China Medical University, Taichung, Taiwan, 5Department of Otorhinolaryngology, Head and Neck Surgery, Changhua Christian Hospital, Changhua, Taiwan, 6Department of Occupational Safety and Health, Chung Shan Medical University, Taichung, Taiwan and 7School of Chinese Medicine, China Medical University, Taichung, Taiwan.

#300

LOW-DOSE PYRROLIDINE DITHIOCARBAMATE/COPPER COMPLEX INDUCES LUNG EPITHELIAL CELL APOPTOSIS VIA THE ER-STRESS-RELATED SIGNALING PATHWAYS. Y. Chen1,2, K. Chen3, C. Chen4, H. Wu2, C. Su1, D. Hung4, C. Wen1, Y. Yang1 and T. Lu1. 1Department of Physiology, China Medical University, Taichung, Taiwan, 2Department of Urology, China Medical University Hospital, Taichung, Taiwan, 3Department of Emergency, China Medical University Hospital, Taichung, Taiwan, 4Graduate Institute of Drug Safety, China Medical University, Taichung, Taiwan, 5Department of Otorhinolaryngology, Head and Neck Surgery, Changhua Christian Hospital, Changhua, Taiwan, 6Toxicology Center, China Medical University Hospital, Taichung, Taiwan and 7Department of Occupational Safety and Health, Chung Shan Medical University, Taichung, Taiwan.

#301

CHEMICAL FORM OF METALS IN TRADITIONAL MEDICINES UNDERLINES POTENTIAL TOXICITY IN CELLS. Q. Wu1, Y. Lu1, J. Shi1, J. Liu2 and J. Shi1. 1Pharmacology, Zunyi Medical College, Zunyi, Guizhou, China, 2Pharmacology, Toxicology & Therapeutics, University of Kansas Medical Center, Kansas City, KS and 3Pharmacology, Gуйyang Traditional Medical College, Gуйyang, Guizhou, China.

#302

INVESTIGATION OF TELLURIUM TOXICITY IN HT-29 AND CACO-2 HUMAN COLON CELLS. P. Vij and D. Harde. Department of Pharmaceutical Sciences, St. John’s University, Queens, NY.
Abstract #

#303  
Poster Board Number .....................................547 
LUNAR DUST SIMULANT IS CYTOTOXIC BUT NOT GENOTOXIC TO HUMAN SKIN FIBROBLAST CELLS, R. Duffy1,2  J. Wise2,3, H. Xie1,2, A. Jeevaragen4, W. Wallace5, D. Hammond4, T. Shehata1 and J. P. Wise1,2,5  Wise Laboratory of Environmental and Genetic Toxicology, University of Southern Maine, Portland, ME,  Maine Center for Toxicology and Environmental Health, University of Southern Maine, Portland, ME,  Maine Center for Applied Medical Science, University of Southern Maine, Portland, ME,  NASA Johnson Space Center, Houston, TX,  Maine Space Consortium, Augusta, ME and  Wyle Integrated Science and Engineering, Houston, TX.

#304  
Poster Board Number .....................................548 
COMPARATIVE CYTOTOXICITY OF SIMULATED MESA AND MARSI DUSTS, EARTH DUST, AND SELECTED LUNAR DUST COMPONENTS IN HUMAN LUNG EPITHELIAL CELLS, M. Braun1,2, Q. Qin1,2, H. Xie1,2, R. Leighton2, M. Mason3, A. Jeevaragen4, W. Wallace5, D. Hammond4, T. Shehata1 and J. P. Wise1,2,5  Wise Laboratory of Environmental and Genetic Toxicology, University of Southern Maine, Portland, ME,  Maine Center for Toxicology and Environmental Health, University of Southern Maine, Portland, ME,  Department of Applied Medical Science, University of Southern Maine, Portland, ME,  Department of Applied Medical Science, University of Southern Maine, Portland, ME,  Department of Chemical and Biological Engineering, University of Maine, Orono, ME,  NASA Johnson Space Center, Houston, TX and  Maine Space Consortium, Augusta, ME.

#305  
Poster Board Number .....................................601 
MECHANISMS OF CELLULAR TOXICITY FOR DUAL EXPOSURE TO NCL2 AND COCL2 IN H460 HUMAN LUNG EPITHELIAL CELLS, C. Lynch and M. Reynolds. Biology, Washington College, Chestertown, MD.

#306  
Poster Board Number .....................................602 
RAD23, A FACTOR INVOLVED IN UBQUITIN-PROTEASES SYSTEM, REDUCES METHYLMERCURY TOXICITY THROUGH INHIBITION OF DEGRADATION OF N-GLYCANASE IN BUDDING YEAST, G. Hwang and A. Nagamune. Graduate School of Pharmaceutical Sciences, Tohoku University, Sendai, Miyagi, Japan.

#307  
Poster Board Number .....................................603 
METHYLMERCURY INDUCED PANCREATIC β-CELL APOPTOSIS THROUGH ENDOPLASMIC RETICULUM STRESS, T. Lu1, D. Hong2, C. Chen3, C. Yen1, C. Su3, Y. Chen1 and C. Huang4  Graduate Institute of Drug Safety, China Medical University, Taichung, Taiwan,  Toxology Center, China Medical University Hospital, Taichung, Taiwan,  Department of Emergency, China Medical University Hospital, Taichung, Taiwan,  Department of Occupational Safety and Health, Chung Shan Medical University, Taichung, Taiwan,  Department of Otolaryngology, Head and Neck Surgery, Changhua Christian Hospital, Changhua, Taiwan,  Department of Physiology, China Medical University, Taichung, Taiwan and  School of Chinese Medicine, China Medical University, Taichung, Taiwan.

#308  
Poster Board Number .....................................604 
ROLES OF RIP1 AND Y1106, MEG3 AND DND1 PROTEINS, IN METHYLMERCURY TOXICITY IN BUDDING YEAST. J. Lee, G. Hwang and A. Nagamune. Graduate School of Pharmaceutical Sciences, Tohoku University, Sendai, Japan.

#309  
Poster Board Number .....................................605 
MERCURY MODULATES THE CYTOCHROME P450 1A1 IN C57BL/6 MICE: IN VIVO AND IN VITRO STUDIES. J. Amara and A. El-Kadi. Faculty of Pharmacy and Pharmaceutical Sciences, University of Alberta, Edmonton, AB, Canada.

#310  
Poster Board Number .....................................606 
ASSESSING METAL LEVELS IN CHILDREN FROM THE MECHANISTIC INDICATORS OF CHILDHOOD ASTHMA (MICA) STUDY, A. Sanders1, J. Gallagher1, J. McGee1, S. Rhoney2, E. Hugen2, H. Ozkaynak3 and R. Fry1  Environmental Sciences and Engineering, Gillings School of Global Public Health, University of North Carolina at Chapel Hill, Chapel Hill, NC,  National Health Environmental Effects Research Laboratory, U.S. EPA, Research Triangle Park, NC, and  National Exposure Research Laboratory, U.S. EPA, Research Triangle Park, NC.

#311  
Poster Board Number .....................................607 
BRIDGING THE MISSING LINK IN PRINCIPLE THEORY – SELENIUM TRANSPORT IN ENTEROCYTES AND HEPATOCYTES. S. Misra1, R. W.M. Kwong2 and S. Niyogi1  Biology, University of Saskatchewan, Saskatoon, Saskatchewan, Canada and  Toxicology Centre, University of Saskatchewan, Saskatoon, Saskatchewan, Canada.

#312  
Poster Board Number .....................................608 
THE IRON TRANSPORTER FERROPTORIN CAN ALSO FUNCTION AS A MANGANESE EXPORTER. M. S. Madejczyk and N. Ballatori. Environmental Medicine, University of Rochester School of Medicine, Rochester, NY.

#313  
Poster Board Number .....................................609 

#314  
Poster Board Number .....................................610 
ZIPS AND ZIP14 ZINC/BICARBONATE SYMPORTERS: THEIR POSSIBLE ROLES DURING INFLAMMATION. Z. Wang1, M. Gálvez-Peralta1, C. M. Williams1, M. Liu1, D. L. Knoell2 and D. W. Nebert1. Environmental Health, University of Cincinnati Medical Center, Cincinnati, OH and  David Heart and Lung Research Institute, Ohio State University, Columbus, OH.
Program Description (Continued)

Abstract #

Monday Morning, March 7
9:30 AM to 12:30 PM
Exhibit Hall

Poster Session: Genotoxicity

Chairperson(s): Lynn Pottenger, Dow Chemical Company, Midland, MI.

Displayed: 9:30 AM–12:30 PM

Author Attended: 9:30 AM–11:00 AM

#315 Poster Board Number.....................................613

#316 Poster Board Number.....................................614

#317 Poster Board Number.....................................615

#318 Poster Board Number.....................................616

#319 Poster Board Number.....................................617


Poster Board Number.....................................618

#320 EVALUATION OF DIRECT AND INDIRECT DNA DAMAGE INDUCED BY OCHRATOXIN A IN CHO AND TK6 CELLS USING THE COMET ASSAY.


1Environmental Biotechnology Division, National Institute for Biotechnology and Genetic Engineering (NIBGE), Faisalabad, Pakistan and 2Division of Genetic and Molecular Toxicology, National Center for Toxicological Research/U.S. FDA, Jefferson, AR. Sponsor: M. Moore.

#321 THE COMET ASSAY: RELEVANCE BETWEEN CARCINOGENESIS AND DNA DAMAGE IN THE TARGET ORGANS.


#322 OPTIMAL CONDITIONS FOR PERFORMANCE OF THE COMET ASSAY USING A THREE-DIMENSIONAL HUMAN EPIDERMAL MODE.

H. Koijima and M. Hoiyo. Division of Pharmacology, National Institute of Health Sciences, Tokyo, Japan.

#323 GENOTOXICITY OF STYRENENEACRYLONITRILE TRIMER IN WEANLING F344 RATS.


#324 THE EVALUATION OF MN AND SCE FREQUENCIES AND OXIDATIVE STRESS STATUS OF HOSPITAL STAFF OCCUPATIONALLY EXPOSED TO LOW DOSES OF IONIZING RADIATION. DOES THE LOW DOSE STIMULATE DEFENSE STATUS?

A. Aydin1, A. Eken1, O. Erdem1, C. Akay2, B. Soykur2, A. Sayal2 and I. Somuncu2.

1Toxicology, Yeditepe University, Faculty of Pharmacy, Istanbul, Turkey, Toxicology, Guilhane Military Medical Academy, Ankara, Turkey and 2Radiology, Guilhane Military Medical Academy, Ankara, Turkey. Sponsor: A. Karakaya.

#325 GENOTOXICITY TESTING OF GATIFOLIA (GUM GHATTI).

C. A. Hobbs1, C. Swartz1, R. Maronpot1, J. Davis1, M. Prajapati1, K. Shepard1, P. Allen2, C. Lenz1, P. Garibaldi1, L. Recio1 and S. Hayashi2.

1Genetic and Molecular Toxicology, ILS, Inc., Research Triangle Park, NC, 2Investigative Toxicology, ILS, Inc., Research Triangle Park, NC and San-Ei Gen F.F.I., Inc., Osaka, Japan.
Program Description (Continued)

Abstract #  #326
Poster Board Number ...........................................624

Abstract #  #327
Poster Board Number ...........................................625
TOXICOLOGICAL EVALUATION OF COMPLEX MIXTURES FROM RESIDUES USED ON AGRICULTURAL LAND APPLICATION. A. Pillico1,2, E. de la Peña1 and M. Hazen3. 1Centro de Ciencias Medioambientales, Consejo Superior de Investigaciones Científicas, Madrid, Spain, 2Facultad de Bioquímica, Universidad Mayor de San Andrés, La Paz, Bolivia and 3Departamento de Biología, Universidad Autónoma de Madrid, Madrid, Spain. Sponsor: E. Vilianova.

Abstract #  #328
Poster Board Number ...........................................626
CYTOTOXIC AND GENOTOXIC EFFECTS OF MAGNETITE ON HUMAN A549 LUNG CELLS IN VITRO—INFLUENCE OF ROS, JNK, AND NF-κB. M. Könczöl1, V. Merch-Sündermann1, S. Ebeling1, E. Goldenberg2, B. Grobény1, R. Gieré1, I. Merfort1, B. Rothen-Rutishauser2 and R. Gminski1. 1Department of Environmental Health Sciences, University Medical Center Freiburg, Freiburg, Germany, 2Department of Pharmaceutical Biology, University Freiburg, Freiburg, Germany, 3Department of Geosciences, University Freiburg, Freiburg, Germany, 4Institute of Geosciences, University Fribourg, Fribourg, Switzerland and 5Institute of Anatomy, University Bern, Bern, Switzerland. Sponsor: J. Pauluhn.

Abstract #  #329
Poster Board Number ...........................................627

Abstract #  #330
Poster Board Number ...........................................628

Abstract #  #331
Poster Board Number ...........................................629

Abstract #  #332
Poster Board Number ...........................................630

Abstract #  #333
Poster Board Number ...........................................631

Abstract #  #334
Poster Board Number ...........................................632

Abstract #  #335
Poster Board Number ...........................................633
PCB3 METABOLITES INDUCE SPINDLE ABERRATIONS AND REDUCE TUBULIN POLYMERIZATION. S. Flor and G. Ludewig, University of Iowa, Iowa City, IA.

Abstract #  #336
Poster Board Number ...........................................634
EVALUATION OF THE GENOTOXICITY AND MUTAGENICITY OF THE DYE REACTIVE ORANGE 16. G. R. Oliveira1, M. B. Zannoni2 and D. P. Oliveira3. 1Departamento de Análises Clínicas, Toxicológicas e Bromatológicas, Faculdade de Ciências Farmacêuticas de Ribeirão Preto - FCFRP/USP, Ribeirão Preto, São Paulo, Brazil and 2Departamento de Química Analítica, Instituto de Química - UNESP, Araraquara, São Paulo, Brazil.

Abstract #  #337
Poster Board Number ...........................................635
COMPARISON OF ANEUPLOIDIES OF CHROMOSOMES X, Y, AND 21 IN THE PERIPHERAL BLOOD LYMPHOCYTES AND SPERM CELLS OF WORKERS EXPOSED TO BENZENE. Z. Jd, R. H. Weldon1, F. Marchetti2, H. Chen3, G. Li1, C. Xing1, E. Kurtovich1, S. Young1, T. E. Schmied2, S. Waidyanatha3, S. Rappaport1, A. J. Wycrok1, L. Zhang4 and B. Eshenazi1. 1School of Public Health, University of California at Berkeley, Berkeley, CA, 2Life Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, 3China CDC, Beijing, China and 4National Toxicology Program, NIEHS, Research Triangle Park, NC.

Abstract #  #338
Poster Board Number ...........................................636
IN VITRO GENOTOXIC MECHANISM OF ARSENIC TRIOXIDE IN HUMAN HEPATOCELLULAR CARCINOMA (HEPG2) CELLS: INVOLVEMENT IN OXIDATIVE STRESS. E. T. Brown, C. G. Yedjou and P. B. Tchounwou. Jackson State University, Jackson, MS.
# Program Description (Continued)

Abstract # | Abstract #
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#339 | Poster Board Number .................................637
Poster Board Number ................................#345
EFFICIENT SCORING OF MICRONECULI 
AND CELL CYCLE STATUS IN THE 
RECONSTRUCTED SKIN MICRONECULUS 
(RSMN) ASSAY USING FLOW CYTOMETRY. 
M. Crosby¹, E. Dah⁵, S. Bryce¹, A. Allemand¹, 
S. Brown¹ and S. Pfuhler¹. ¹Procter & Gamble 
Company, Cincinnati, OH, ²Institute for In 
Vitro Sciences, Gaithersburg, MD and ³Litron 
Laboratories, Rochester, NY.

#340 | Poster Board Number .................................638
NEXT GENERATION DEL ASSAY: RAPID 
AND ACCURATE ASSESSMENT OF 
TOXICITY. Y. Rivina and R. H. Schiestl, 
Environmental Health Sciences, University of 
California, Los Angeles, Los Angeles, CA.

#341 | Poster Board Number .................................639
THE RECONSTRUCTED SKIN COMET 
ASSAY SHOWS GOOD INTRA- AND INTER-
LABORATORY REPRODUCIBILITY: 
RESULTS FROM THREE LABORATORIES. 
T. Downs¹, A. Reut², K. Reisinger³, C. Krül² and S. 
Pfuhler². ¹Procter & Gamble Company, Cincinnati, 
OH, ²TNQ Quality of Life, Zeist, Netherlands and 
³Henkel AG & Co KgaA, Duesseldorf, Germany.

#342 | Poster Board Number .................................640
CHLORPYRIFOS DOES NOT INDUCE 
RAT BRAIN DNA DAMAGE OR BONE 
MARROW MICRONECULUS FORMATION 
IN A MICRONECULUS AND COMET 
COMBINATION ASSAY. Y. Xu, K. Carl and L. 
Timothy. Covance, Vienna, VA.

#343 | Poster Board Number .................................641
GENOTOXICITY TESTING USING THE 
MICRONECULUS AND COMET ASSAYS 
IN NORMAL HUMAN CELL BASED 3D 
EPITHELIAL MODELS. J. De Luca, Y. 
Kaluznyz, P. J. Hayden, A. Armento, V. Karetzky 
and M. Klausner. MaTek Corp, Ashland, MA.

Monday Morning, March 7 
9:30 AM to 12:30 PM 
Exhibit Hall

Poster Session: Receptor and Receptor-Mediated Toxicity

Chairperson(s): Angela Slitt, University of Rhode Island, Kingston, RI.

Displayed: 9:30 AM–12:30 PM

Author Attended: 11:00 AM–12:30 PM

#349

#344 | Poster Board Number .................................701
COLocalization OF CANNABINOID 
Receptor Subtypes in Cultured 
RAT CORTICAL ASTROGLIAL CELLS. J. 
A. Torres² and A. Shivachar³. ¹Environmental 
Toxicology, Texas Southern University, Houston, 
TX and ²College of Pharmacy and Health Sciences, 
Texas Southern University, Houston, TX.

#350

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#702

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#706

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#707

50th Anniversary Annual Meeting and ToxExpo™
Program Description (Continued)

Abstract # | Poster Board Number .....................................708 | Abstract # | Poster Board Number .....................................715
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#351 | ARYL HYDROCARBON RECEPTOR ANTAGONISTS INHIBIT ADIPOCYTE-BREAST CANCER CELL INTERACTIONS. T. Salisbury, R. Jones, M. Hodge, K. Gerionina and N. Santanam. Marshall University School of Medicine, Huntington, WV. Sponsor: M. Valentinovic.
#352 | DUAL PPAR/RRX AGONIST TRIBUTYL Tin UNIQUELY IMPACTS BONE INTEGRITY AND MARROW MICROENVIRONMENT. A. H. Baker1, B. D. Meeks2, K. K. Mann1, L. C. Gerstenfeld1 and J. J. Schleizinger4. Medicine, Boston University, Boston, MA; Orthopedic Surgery, Boston University, Boston, MA; Oncology, McGill University, Montréal, QC, Canada and 2Environmental Health, Boston University, Boston, MA.
#359 | FUNCTIONAL CHARACTERIZATION OF PEROXISOME PROLIFERATOR-ACTIVATED RECEPTOR-(PPAR/) BINDING AND TRANSCRIPTIONAL REGULATION. C. Khoezie1, M. G. Borland1, B. Zhu1, F. J. Gonzalez2 and J. M. Peters3. ‘Department of Veterinary and Biomedical Sciences and The Center for Molecular Toxicology and Carcinogenesis, The Pennsylvania State University, University Park, PA and 3Laboratory of Metabolism, National Cancer Institute, Bethesda, MD.
#360 | MOLECULAR AND FUNCTIONAL CHARACTERIZATION OF ARYL HYDROCARBON RECEPTOR REPRESSOR (AHR) FROM THE CHICKEN (GALLUS GALLUS). H. Iwata1, J. Lee1, E. Kim1 and K. Nomaru1. ‘Center for Marine Environmental Studies, Ehime University, Matsuyama, Japan and 1Department of Life and Nanopharmaceutical Science and Department of Biology, Kyung Hee University, Seoul, Republic of Korea.
#354 | STABLE OVER-EXPRESSION OF PPAR/ AND PPAR TO EXAMINE RECEPTOR SIGNALING IN HUMAN HaCaT KERATINOCYTES. P. S. Pullen1, M. G. Borland1, C. Khoezie1, B. Zhu1, C. Lee1, F. J. Gonzalez2 and J. M. Peters3. ‘Veterinary Sciences, Pennsylvania State University, State College, PA and 1Laboratory of Metabolism, National Cancer Institute, Bethesda, MD.
#355 | PPAR/MODULATES AHR SIGNALING IN MOUSE AND HUMAN KERATINOCYTES. J. Morales1, M. G. Borland1, C. Lee1, F. J. Gonzalez2 and J. M. Peters3. ‘Department of Veterinary and Biomedical Sciences, The Pennsylvania State University, University Park, PA and 1Laboratory of Metabolism, National Cancer Institute, Bethesda, MD.
#363 | ROLE OF 2, 3, 7, 8- TETRACHLORODIBENZO-P-DIOXIN-INDUCIBLE POLY (ADP–RIBOSE) POLYMERASE IN DIOXIN-INDUCED ARYL HYDROCARBON RECEPTOR SIGNALING. L. M. MacPherson and J. Matthews. Pharmacology and Toxicology, University of Toronto, Toronto, ON, Canada.
#357 | PPAR/INHIBITS VIRAL HRAS1 (V-HRAS1)-INDUCED NEOPLASTIC/ MALIGNANT TRANSFORMATION OF MOUSE PRIMARY KERATINOCYTES. B. Zhu1, C. Khoezie1, M. T. Bility1, N. Blazanin1, A. B. Glick1, F. J. Gonzalez2 and J. M. Peters3. ‘Molecular Toxicology, University Park, PA and 1Laboratory of Metabolism, National Cancer Institute, Bethesda, MD.
PROGRAM DESCRIPTION (Continued)

Abstract #

#364   Poster Board Number .....................................721
ROLE OF THE ARYL HYDROCARBON RECEPTOR IN INFLAMMATORY BOWEL DISEASES. H. Swanson 1, V. Arsenescu 2, E. Choi 1, R. Dingle 1 and R. Arsenescu 1. 1Department of Molecular and Biomedical Pharmacology, University of Kentucky, Lexington, KY; 2Graduate Center for Nutritional Sciences, University of Kentucky, Lexington, KY and 3Digestive Diseases and Nutrition, University of Kentucky, Lexington, KY.

#365   Poster Board Number .....................................722
MULTIPLE INTRACELLULAR SIGNAL MODULATORS AS EFFECTORS OF HUMAN CONSTITUTIVE ANDROSTANE RECEPTOR ACTIVATION. T. Chen, E. M. Laurenzana and C. J. Omiecinski. Center for Molecular Toxicology, Penn State University, University Park, PA.

#366   Poster Board Number .....................................723
CONSTRUCTING A PPARγ-MEDIATED TRANSCRIPTIONAL NETWORK IN PRIMARY HUMAN AND RAT HEPATOCYTES. C. G. Woods 1, K. M. Yarbrough 1, L. J. Piota 1, J. Pf 2, R. S. Thomas 1 and M. E. Andersen 1. 1Computational Biology, The Hamner Institutes for Health Sciences, Research Triangle Park, NC and 2Translational Biology, The Hamner Institutes for Health Sciences, Research Triangle Park, NC.

#367   Poster Board Number .....................................724
MODE OF ACTION (MOA) AND DOSE-RESPONSE APPROACHES FOR NUCLEAR RECEPTORS. D. Schrenk 1, R. Budinsky 2, J. Corton 1, C. Elcombe 1, J. Klaunig 1 and D. Wolf 1. 1Dow, Midland, MI, 2CRX Bioscience, Dundee, Scotland, United Kingdom, 3U.S. EPA, Research Triangle Park, NC, 4Indiana University, Indianapolis, IN and 5University of Kaiserslautern, Kaiserslautern, Germany.

#368   Poster Board Number .....................................725
TESTING STRUCTURE-BINDING PREDICTIONS FROM COMPARATIVE MODELING OF THE AHR LIGAND-BINDING DOMAIN: STUDIES WITH ZEBRAFISH AHR 1. S. J. Karchner 1, D. G. Franks 1, A. Pasdini 1, A. A. Soshilov 1, L. Bonati 2, M. S. Dennis 1 and M. E. Hahn 1. 1Computational Biology, The Hamner Institutes for Health Sciences, Research Triangle Park, NC and 2Center for Molecular Toxicology, Penn State University, University Park, PA.

#369   Poster Board Number .....................................726
DISCOVERING TRANSCRIPTIONAL REGULATORS OF CYTOCHROME P450 1A THROUGH SRNA HIGH-THROUGHPUT SCREENINGS. P. Sollaini 1, O. Hankinson 1 and R. Danoiseau 2. 1Molecular Toxicology IDP, University of California Los Angeles, Los Angeles, CA and 2Califomia NanoSystems Institute, University of California Los Angeles, Los Angeles, CA.

Poster Board Number .....................................727
EPITHELIAL REGULATION OF PEROXISOME PROLIFERATOR-ACTIVATED RECEPTOR BY CHEMICAL RIBOSOME-INACTIVATING STRESS. S. Park, H. Choi, H. Yang and Y. Moon. Department of Microbiology and Immunology, Pusan National University School of Medicine and Medical Research Institute, Yangsan, Republic of Korea.

#370   Poster Board Number .....................................728
FOXO1 IS ESSENTIAL FOR THE AHR-DEPENDENT REGULATION OF CYCLIN G2. S. Ahmed, S. Al-Saigh and J. Matthews. Pharmacology & Toxicology, University of Toronto, Toronto, ON, Canada.

#371   Poster Board Number .....................................729
DIVERGENT ROLES FOR THE ARYL HYDROCARBON RECEPTOR NUCLEAR TRANSLOCATOR IN ESTROGEN SIGNALING. M. P. Labrecque 1, J. T. Jam 1, B. D. Hollingshead 1, G. G. Prefontaine 1, G. H. Peredw 1 and T. V. Betschlag 1. 1Faculty of Health Sciences, Simon Fraser University, Burnaby, BC, Canada and 2Veterinary and Biomedical Sciences, The Pennsylvania State University, University Park, PA.

#372   Poster Board Number .....................................730
THE ARYL HYDROCARBON RECEPTOR INTERACTS WITH ATP5a1, A SUBUNIT OF THE ATP SYNTHASE COMPLEX, AND MODULATES MITOCHONDRIAL FUNCTION. D. M. Tappenden 1,2, S. Lynn 1,2, R. B. Crawford 1, N. E. Kannistsi 1, R. S. Thomas 1,2 and J. J. LuPres 1,2. 1Biochemistry, Michigan State University, East Lansing, MI, 2Center for Integrative Toxicology, Michigan State University, East Lansing, MI, 3Department of Pharmacology and Toxicology, Michigan State University, East Lansing, MI and 4The Hamner Institutes for Health Sciences, Research Triangle Park, NC.

#373   Poster Board Number .....................................731
REGULATION OF ChOLESTEROL BIOSYNTHETIC GENE EXPRESSION BY AH RECEPTOR THROUGH A DNA-INDEPENDENT MECHANISM. R. Tanos 1, R. Patel 1 and G. H. Peredw 1. Penn State University, University Park, PA.

#374   Poster Board Number .....................................732
MULTI-SPECIES ANALYSES OF DIRECT ACTIVATORS OF THE CONSTITUTIVE ANDROSTANE RECEPTOR. C. Omiecinski 1, D. M. Coslo 1,2, T. Chen 1 and R. C. Peffer 1. 1Center for Molecular Toxicology, Penn State University, University Park, PA and 2Syngenta Crop Protection, Inc., Greensboro, NC.

#375   Poster Board Number .....................................733
A FUNCTIONAL CROSS-TALK BETWEEN CAR AND LXR LINKS XENOBIOTIC RESPONSE AND LIPOGENESIS. W. Xie 1, T. Wada and Y. Zhai 1. University of Pittsburgh, Pittsburgh, PA.
Program Description (Continued)

Abstract #  Poster Board Number .....................................734
#377 SPECIES-DEPENDENT AND RECEPTOR-SELECTIVE EFFECT OF BILOBALIDE ON THE ACTIVITY OF CONSTITUTIVE ANDROSTANE RECEPTOR AND PREGNANE X RECEPTOR. A. Lau1, G. Yang1, G. Rajaraman1, C. C. Bauscom1 and T. K. Chang1.
1Faculty of Pharmaceutical Sciences, The University of British Columbia, Vancouver, BC, Canada,
2CellzDirect - Life Technologies, Austin, TX and
3CellzDirect - Life Technologies, Durham, NC.

Abstract #  Poster Board Number .....................................803
#380 POSTER BOARD NUMBER .....................................803
#381 POSTER BOARD NUMBER .....................................803
#382 POSTER BOARD NUMBER .....................................803
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#390 POSTER BOARD NUMBER .....................................803

Monday Morning, March 7
9:30 AM to 12:30 PM
Exhibit Hall

Poster Session: Cell Signaling and Gene Regulation

Chairperson(s): Joseph Landolph, University of Southern California, Los Angeles, CA.

Displayed: 9:30 AM–12:30 PM

Author Attended: 9:30 AM–11:00 AM

Abstract #  Poster Board Number .....................................801

Abstract #  Poster Board Number .....................................802
#381 EFFECTS OF RIFAMPIN ON DRUG METABOLIZING ENZYME AND TRANSPORTER GENE EXPRESSION IN HUMAN HEPATOCYTES. Q. Yang, U. Doshi and A. P. Li. In Vitro ADMET Laboratories, Advanced Pharmaceutical Sciences, Columbia, MD.

Abstract #  Poster Board Number .....................................803
#382 MICROTUBULE ACETYLATION ENHANCES BINDING AND INTRACELLULAR TRAFFICKING OF PLASMA DNA IN GENE TRANSFER. M. A. Badding and D. A. Dean. Pediatrics, University of Rochester Medical Center, Rochester, NY. Sponsor: B. Lowneace.

Abstract #  Poster Board Number .....................................804
#383 INHIBITION OF A549 LUNG CANCER CELL MIGRATION BY PROPOLIS LBT-7G MICRONA. S. Park, A. Minai Tehrani and M. Cho. Laboratory of Toxicology, College of Veterinary Medicine, Seoul National University, Seoul, Republic of Korea.

Abstract #  Poster Board Number .....................................805

Abstract #  Poster Board Number .....................................806
#385 GESTATIONAL UDP-GLUCURONOSYLTRANSFERASE IA GENE REGULATION IS CONTROLLED BY THE PREGNANE X RECEPTOR. S. Chen and R. H. Tukey. Pharmacology, University of California San Diego, La Jolla, CA.

Abstract #  Poster Board Number .....................................807
#386 BREAST MILK SUPPRESSES UDP-GLUCURONOSYLTRANSFERASE IA1 GENE EXPRESSION IN THE GASTROINTESTINAL TRACT AND INCREASES THE RISK FOR SEVERE HYPERBILIRUBINEMIA AND BRAIN DAMAGE. R. Fujiwara, S. Chen and R. H. Tukey. Pharmacology, University of California San Diego, La Jolla, CA.

Abstract #  Poster Board Number .....................................808

Abstract #  Poster Board Number .....................................809
1Secretaria de Investigacion y Posgrado, Universidad Autonoma de Nayarit, Tepic, Nayarit, Mexico and
2Departamento de Biologia Celular, Centro de Investigacion y de Estudios Avanzados del IPN, Mexico, DF, Mexico. Sponsor: B. Quinlan.

Abstract #  Poster Board Number .....................................810
#389 IDENTIFICATION OF TRANSCRIPTOMIAL REGULATORS OF C. ELEGANS METALLOTHIONEIN GENE EXPRESSION. J. Hall and J. H. Freedman. NIEHS, Durham, NC.

Abstract #  Poster Board Number .....................................811
#390 ANILINE-INDUCED CELL CYCLE PROGRESSION OF SPLENOCYTES: RESPONSE OF CYCLINS AND CYCLINDEPENDENT KINASES IN G1/S AND G2/M PHASES. J. Wang, G. Wang and M. Khan. University of Texas Medical Branch, Galveston, TX.
Program Description (Continued)

Abstract #

Poster Board Number .................................#391 ENHANCED PDE4B EXPRESSION IN GLUCOSE-PRIMED MONOCYTES: A POTENTIAL PATHOGENIC ROLE FOR PHOSPHODIESTERASES (PDES) IN THE DEVELOPMENT OF DIABETIC COMPLICATIONS. E. Chambers 1, L. Gobejsjvili 2, S. Joshi-Barve 1, C. McClain 1,2 and S. Barve 1, 1Department of Medicine/GI, University of Louisville, Louisville, KY and 2Robley Rex Veterans Administration Medical Center, Louisville, KY.

#392 CURCUMIN EPIGENETICALLY REACTIVATES SILENCED TUMOR SUPPRESSOR GENE - TISSUE FACTOR PATHWAY INHIBITOR-2 AND DECREASES CELL SURVIVAL AND INVASIVENESS IN HEPATOCELLULAR CARCINOMA CELLS. A. Moghe 1, A. S. Barve 1, D. Barker 1, S. Ghare 1, L. Gobejsjvili 2, S. Joshi-Barve 1, C. McClain 1,2 and S. Barve 1, 1Department of Medicine/GI, University of Louisville, Louisville, KY and 2Robley Rex Veterans Administration Medical Center, Louisville, KY.

#393 THE HEPATOCYTE AUTONOMOUS CLOCK MODULATES THE CHRONOTOXICITY OF ACETAMINOPHEN. B. P. Johnson 1, J. Walisser 1, Y. Liu 1, A. Shen 1, E. McDermont 1, B. McIntosh 1, A. Schook 1, J. Takahashi 1 and C. Bradfield 1, Oncology, University of Wisconsin Madison, Madison, WI and 2Northwestern University, Evanston, IL.

#394 ARSENITE EXPOSURE DOWN-REGULATES GLUTAMATE TRANSPORTER EXPRESSION IN GLIAL CELLS. Y. Castro-Coronel 1, A. Ortega 1, L. Del Razo 1 and E. Lopez-Bayghen 1, 1Department Genetica y Biol.Mol., CINVESTAV, México, Mexico and 2Department Toxicología, CINVESTAV, México, Mexico.

#395 DOWN-REGULATION OF TWO HSP FAMILIES BY TNIP1 IN HAC7 KERATINOCYTES. V. P. Ramirez 1, C. Zhang 1, W. Krueger and B. J. Aneskievich. Department of Pharmaceutical Sciences, School of Pharmacy, University of Connecticut, Storrs, CT.

#396 SEXUALLY DIMORPHIC ROLE FOR THE CIRCADIAN CLOCK IN MODULATING XENOBIOTIC METABOLISM. L. A. Hooven 1, K. Sherman 1, E. Chow 1, L. Beaver 1 and J. Giebultanowicz 1, Oregon State University, Corvalis, OR.

#397 CHARACTERIZATION OF THE PROMOTER-PROXIMAL REGION OF HUMAN MULTIDRUG RESISTANCE-ASSOCIATED PROTEIN 4 GENE. J. E. Manautou 1 and X. Gu 1, Pharmaceutical Sciences, University of Connecticut, Storrs, CT.

Abstract #


#399 ASSESSMENT OF NUCLEAR FACTOR KAPPA B (NF-κB) SIGNALING IN THE HIPPOCAMPUS DURING KANIC ACID EXPOSURE USING TRANSGENIC REPORTER MICE. J. A. Miller 1, R. A. Bialecki 2 and R. B. Tjalkens 1, 1Center for Environmental Medicine, Colorado State University, Fort Collins, CO and 2Safety Assessment U.S., AstraZeneca, Wilmington, DE.

#400 ALTERATIONS OF SIGNALING PROTEIN INTERACTIONS IN RESPONSE TO INCREASING DOSE. C. Kinzer, H. Williams, X. Gao, N. Rubenstein, A. Cook, J. Vrana 1, J. Boyd 1, 1Bennett Department of Chemistry, West Virginia University, Morgantown, WV.

#401 IMPACT OF ENERGY METABOLISM ON THE DESIGN OF KINASE-TARGETED THERAPEUTICS. A. Cook, H. Williams, X. Gao and J. Boyd. Bennett Department of Chemistry, West Virginia University, Morgantown, WV.

#402 INCREASE P27KIP1 CYCLIN DI THROUGH THE RAP-GTP/BRAF MAPK SIGNALING PATHWAY IN RENAL CANCER. N. Mastrandrea, K. Y. Tham, J. D. Cohen, T. J. Monks and S. L. Lau 1, 1Pharmacology/Toxicology, University of Arizona, Tucson, AZ.

#403 EFFECT OF P, P′-DDE ON STAT1a, AND NFκB ACTIVATION IN MACROPHAGES J774A.1. N. A. Torres-Aviles 1, L. C. Acosta-Saavedra 1, A. L. Luna 2, E. K. Silbergeld 1 and E. S. Calderon-Aranda 1, 1Department of Toxicologia, CINVESTAV, Mexico, Mexico and 2BSPH, Johns Hopkins University, Baltimore, MD.

#404 A ROLE FOR STRESS-RESPONSIVE SIGNALING IN THE REGULATION OF ERK OSCILLATIONS. T. J. Weber 1, H. Shankaran 1, K. M. Waters 1, W. B. Christler 1 and R. L. Sontag 1, 1Cell Biology & Biochemistry, PNNL, Richland, WA and 2Computational Biology, PNNL, Richland, WA.

#405 HARMINE MODULATES DIOXIN-INDUCED CYPIA1 ENZYME THROUGH TRANSCRIPTIONAL AND POST TRANSLATIONAL MECHANISMS. M. El Genidy and A. El-Kadi, Faculty of Pharmacy and Pharmaceutical Sciences, University of Alberta, Edmonton, AB, Canada.
Program Description (Continued)

Abstract # | Poster Board Number .....................................827 | Abstract # | Poster Board Number .....................................833
---|---|---|---
#406 | E7 VIRAL ONCOPROTEIN NEGATIVELY INFLUENCES THE TRANSCRIPTIONAL ACTIVITY OF THE LIMP RETROTRANSPOSON PROMOTER UNDER CONDITIONS OF CELLULAR STRESS. D. E. Montoya-Durango1,2 and K. S. Ramos1,2. 1Biochemistry and Molecular Biology, University of Louisville, Louisville, KY and 2Center for Genetics and Molecular Medicine, University of Louisville, Louisville, KY. | #412 | THE KEAP1-NRF2 SYSTEM REGULATES METALLOTHIONEIN EXPRESSION AND PROTECTS VASCULAR ENDOTHELIAL CELLS FROM CADMIUM CYTOTOXICITY. Y. Shinkai1, Y. Kumagai1, T. Kimura3, C. Yamamoto1, M. Yamamoto4, H. Jinno1, T. Tanaka-Kagawa2 and T. Kaji1. 1Graduate School of Comprehensive Human Sciences, University of Tsukuba, Tsukuba, Japan, 2Faculty of Pharmaceutical Sciences, Setsunan University, Osaka, Japan, 3Faculty of Pharmaceutical Sciences, Hokuriku University, Kanazawa, Japan, 4Graduate School of Medicine, Tohoku University, Sendai, Japan, 5Division of Environmental Chemistry, National Institute of Health Sciences, Tokyo, Japan and 6Faculty of Pharmaceutical Sciences, Tokyo University of Science, Noda, Japan. Sponsor: A. Nagamune.

#407 | NEOPLASTIC LUNG CELL PROLIFERATION, STIMULATED BY ALVEOLAR MACROPHAGE-DERIVED IGF-1, CAN BE ABROGATED BY THE COMBINED INHIBITION OF MEK AND PI3K. J. M. Fritz, L. D. Dwyer-Nield and A. M. Malkinson. Department of Pharmaceutical Sciences, University of Colorado Denver, Aurora, CO. | #413 | MECHANISTIC INVOLVEMENT OF THE NRF2/KEAP1 ANTI-OXIDANT RESPONSE IN THE REGULATION OF HUMAN ABCG3. M. D. Merrell1, M. J. Canet1, F. Zhao1, T. Wu1, J. M. Maher2 and N. J. Cherrington1. 1Pharmacology and Toxicology, University of Arizona, Tucson, AZ and 2Department of Medical Biochemistry, Tohoku University, Sendai, Japan.

#408 | MASS SPECTROMETRY TECHNIQUES TO STUDY PROTEIN-LIGAND INTERACTIONS AND MOLECULAR TOXICOLOGY PATHWAYS. K. E. Yamada1,2, C. M. Ryan3, J. P. Whitelegge1 and C. D. Eckhart1,2. 1Molecular Toxicology IDP, University of California Los Angeles, Los Angeles, CA, 2Environmental Health Sciences, University of California Los Angeles, Los Angeles, CA and 3The Pasarow Mass Spectrometry Laboratory, The NPI-Semel Institute, David Geffen School of Medicine, University of California Los Angeles, Los Angeles, CA. | #414 | ATTENUATION OF THE NRF2 SIGNALING PATHWAY IN HEPATOCYTES LACKING SIRTUIN 1 (SIRT1). W. Wei1, J. Xu1, S. Kulkarni1, X. Li2 and A. Siltti1. 1BPS, University of Rhode Island, Kingston, RI and 2National Institute of Environmental Health Sciences, Research Triangle Park, NC.


#410 | NRF2B: A NOVEL NRF2 PARALOG IN ZEBRAFISH. A. R. Timme-Laragy1, S. I. Karchner1, D. G. Franks1, M. J. Jenny1 and M. E. Hahn1. 1Biology, Woods Hole Oceanographic Institution, Woods Hole, MA and 2University of Alabama, Tuscaloosa, AL. | #416 | INDIRUBIN-3’-(2, 3 DIHYDROXYPROPYL)-OXIMETHER (E804) IS A POTENT AHR-AGONIST AND MODULATOR OF INFLAMMATION PROFILES IN LPS-TREATED RAW264.7 MACROPHAGES. A. S. Babcock and C. D. Rice. Biological Sciences, Clemson University, Clemson, SC.

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Monday Morning, March 7
10:30 AM to 11:30 AM
Room 156

Exhibitor Hosted Session: First in Human Monoclonal Antibody Development Strategies for the Treatment of Cancer Patients

Presented by: Huntingdon Life Sciences

Monoclonal antibodies have demonstrated to provide huge healthcare benefits in treatment of cancer. Designing and performing the optimal IND enabling nonclinical safety package is very important. Some non-standard approaches are discussed which highlight the need for focus upon the pathophysiology of the disease, the biology of the drug target and the risks that need to be considered with drug intervention.
Monday Morning, March 7
10:30 AM to 11:30 AM
Room 140B

Exhibitor Hosted Session: From Guidelines to Protocol: Lessons from EDSP Validation
Presented by: Harlan Laboratories, Inc.
This session will discuss the challenges faced in developing laboratory test protocols from the original OPPTS guidelines that were issued, as well as the final resolution of those challenges. A summary of validation data will be presented along with a perspective on interpreting results obtained from the assays.

Monday Morning, March 7
11:00 AM to 11:45 AM
Room 102

Undergraduate Education Program Wrap Up
Chairperson(s): Adrian Nanez, Amgen, Thousand Oaks, CA.
Sponsor:
Committee on Diversity Initiatives
The Monday Undergraduate Education Program events are for those undergraduate students and advisors receiving SOT travel funding and SOT program volunteers. Full program details can be found on pages 85–86.

Monday Morning, March 7
11:45 AM to 12:45 PM
Room 146

Exhibitor Hosted Session: Urine and Blood Based Biomarkers for Detecting Nephrotoxicity
Presented by: Rules-Based Medicine
Hear the pertinent facts from a recent set of publications by the Predictive Safety Testing Consortium (PSTC) Nephrotoxicity Working Group on qualifying a panel of seven biomarkers for preclinical studies of nephrotoxicity. Data demonstrating the utility of the biomarkers for human kidney injury will also be presented.

Monday Morning, March 7
11:45 AM to 12:45 PM
Room 140A

Exhibitor Hosted Session: Nonclinical Evaluation of Drug-Abuse Liability
Presented by: Porsolt & Partners Pharmacology
Evaluation of abuse liability is currently a major topic in drug safety. Recent documents from European and U.S. authorities provide guidance as to how to address this issue but many issues remain. This session will explore this topic from the point of view of pharma companies, regulatory agencies, and CROs.
Program Description (Continued)

MONDAY AFTERNOON

Monday Afternoon, March 7
12:00 NOON to 1:20 PM
Salon G
(Ticket Required)

In Vitro Toxicology Lecture and Luncheon for Students: Full Speed into an Alternative Future

Lecturer: Robert E. Chapin, Pfizer, Groton, CT.
Chairperson(s): Aaron Barcowsky, University of Pittsburgh, Pittsburgh, PA.

Sponsor: Colgate-Palmolive Company

The purpose of this lecture is to discuss the importance of animal research to biomedical sciences and toxicology and the ethical obligations of the scientific community to follow the “3Rs” of animal testing (refine, reduce, replace) whenever it is feasible.

Graduate students, undergraduates, postdoctoral scholars, and recipients of Colgate-Palmolive awards are among the guests at the In Vitro Toxicology Lecture and Luncheon. The goal of the In Vitro Toxicology Lecture series is to feature important research using in vitro and alternative techniques to study basic mechanisms and to illustrate how these test methods benefit animal welfare by refining and reducing animal use. Students and postdocs can reserve a ticket for the luncheon with a $10 deposit when they register for the SOT Annual Meeting. Lunch is served at the beginning of the event and service concludes before the talk/main program begins. Meal service may not be available to guests who arrive after 12:30 PM.

The “Toxicity Testing in the 21st Century” vision promulgates an in vitro approach to safety assessment based heavily on knowing the pathways responding in a cell and then correctly relating that to an in vivo exposure and response to predict the likely health outcome. But we are now much like Galileo was with our Moon: seeing the goal is many, many times easier than actually getting there. However, given that animal models correctly predict only 40–70% of human responses, in vitro models won’t actually have to do that well to be better than the current in vivo models (i.e., the bar is low). Thus, for both animal-use issues and for correct-predictivity issues, an in vitro future is a worthy and achievable goal. Meanwhile, there is much trial and error (and error) (and error) to pursue.

This talk will quickly reprise an in vitro testing vision, and then put it into an industry perspective. It will soon become clear that we’re a long way from where we want to be. After this stage-setting, the audience will be asked to discuss and then present their answer to a set of related questions.

(See page 84 for more information)

Monday Afternoon, March 7
12:00 NOON to 1:00 PM
Room 103

Special Interest Group Presidents and Officers Meeting
If you will be a President or a Vice President of a Special Interest Group in 2011–2012, please make plans to attend the Special Interest Groups Presidents and Officers meeting. The agenda for the meeting will include an overview of the SOT Strategic Plan, SOT Headquarters administrative support information, ToXchange, a review of 2010–2011 activities and plans for the future.

MONDAY

Abstract #

Monday Afternoon, March 7
12:00 NOON to 2:00 PM
Embassy Suites, Capital Ballroom B

Regional Chapter Meeting/Luncheon: Central States

Monday Afternoon, March 7
12:00 NOON to 1:00 PM
Room 149

Specialty Section Meeting/Luncheon: Toxicologic and Exploratory Pathology

Monday Afternoon, March 7
12:10 PM to 1:30 PM
Room 144

Roundtable Session: Reforming the Toxic Substances Control Act (TSCA): Challenges, Opportunities, and Timing


Sponsor: Regulatory and Safety Evaluation Specialty Section

Endorsed by: Nanotoxicology Specialty Section

Risk Assessment Specialty Section

The Toxic Substances Control Act (TSCA) of 1976 significantly changed the regulatory landscape for chemicals in the United States. It gave the federal government greater powers to track the introduction of new chemicals into the consumer marketplace, provided the U.S. EPA with limited powers to require testing of new chemicals, and allowed for case-by-case restriction of chemicals shown to be particularly hazardous. Yet the basic provisions of TSCA are now 35 years old, and unlike most major environmental laws passed in the 1970s, the TSCA legal framework remains essentially unchanged. Achieving the goals of TSCA, namely to ensure that adequate data are available to allow assessment of the effect of chemical substances and mixtures on health and the environment has also proven difficult. The regulatory apparatus has been unable to cope with the large number of chemicals requiring evaluation, has focused on new rather than existing chemicals, has largely ignored the potential interaction of chemicals occurring in mixtures, and has generally failed to keep up with advances in technology. While once a model regulation for other nations, the TSCA framework has now been superseded by chemical safety regulations adopted by other jurisdictions (e.g., REACH). Given the dramatic changes in chemical technology, toxicology, and risk assessment that are expected to occur in the near future, reform of TSCA is seen as a high priority by many stakeholders. Issues that are likely to be addressed by reform of TSCA include the distinct toxicology and exposure scenarios posed by nanotechnology, the possibility of basing hazard identification for the large number of chemicals requiring assessment on mechanistic and in vitro data rather than standard animal tests, and consideration of special population groups (not only children but also those with genetic susceptibilities or chronic health conditions). Reform of TSCA has the potential to greatly affect the way chemical risks are assessed in the U.S. and may therefore have a significant impact on the daily lives of society members.

#417 12:10 REFORMING THE TOXIC SUBSTANCES CONTROL ACT (TSCA): CHALLENGES, OPPORTUNITIES, AND TIMING. Thomas Lewandowski

1Gradient, Seattle, WA and 2U.S. EPA, Washington, D.C.
The international cooperation on alternative test methods (ICATM): translating science into public health safety assessment tools. William S. Stokes (NIEHS, Research Triangle Park, NC; Consumer Product Safety Commission, Bethesda, MD).

12:20 The NTP Interagency Center for the Evaluation of alternative toxicological methods (NICEATM) and the interagency coordinating committee on the validation of alternative methods (ICCVAM): recent ICATM contributions and future plans. Marilyn Wind (NIEHS, Research Triangle Park, NC; Consumer Product Safety Commission, Bethesda, MD).

12:30 The European Center for the Validation of alternative methods (ECVAM): recent contributions to ICATM and REACH and future plans. Joachim Kreysa (ECVAM, EURL, Member of ECVAM, Joint Cooperation Center for Risk Assessment).


12:50 Health Canada's role in ICATM. David Blakey (Health Canada, Ottawa, Canada).

1:00 The Korean Center for the Validation of alternative methods (KOCVAM): recent progress and the future plans. Soon Young Han (KOCVAM, Korea).
Program Description (Continued)

Abstract #

Methylmercury (MeHg) is a potent neurotoxin disrupting multiple homeostatic pathways within both the developing and mature central nervous system (CNS). Since the 1980s, our efforts have been directed at addressing the role of glia in modulating MeHg neurotoxicity. We have focused on astrocytes, and more recently microglia, two cell types that assume multiple roles in maintaining neuronal function. Collaborative work with multiple groups, both nationally and internationally, has led us to recognize that reactive oxygen species (ROS) are key mediators of MeHg’s toxic effects. Collectively, these studies have shown that (i) in cultured astrocytes and neurons, as well as in vivo, F2-IsopPs and F2-NeuropsPs (isoprostanes) can be reliably quantified as oxidative damage markers; (ii) MeHg inhibits astrocytic uptake systems for cystine and cysteine transport, compromising glutathione (GSH) synthesis; (iii) MeHg-induced ROS formation is attenuated by antioxidants, reversing MeHg’s functional effects on glutamate uptake inhibition; (iv) cytosolic phospholipase A2 (cPLA2) is a target for MeHg toxicity, supporting the notion that cPLA2-stimulated hydrolysis and arachidonic acid release play a central role in MeHg-induced ROS generation; (v) consistent with oxidative stress, MeHg leads to reduced ATP production and collapse of the mitochondrial membrane potential (Δψm).

(vi) in vivo, prenatal MeHg exposure in mice alters CNS GSH antioxidant system onsetogenesis, causing long-lasting oxidative stress; and (vii) nuclear factor erythroid 2-related factor 2 (Nrf2) coordinates the upregulation of cytoprotective genes that combat MeHg-induced oxidative injury, suggesting that genetic and biochemical changes that negatively impact upon Nrf2 function may increase MeHg’s neurotoxicity. My talk will address the functions of astrocytes and microglia, emphasizing their varied roles in mediating MeHg-induced neurotoxicity, while highlighting the global nature of these studies and crucial input of faculty and students alike (supported by NIEHS 07331).

F. Aschner

Regional Interest Session

Society of Toxicology 2011

Monday Afternoon, March 7
1:00 PM to 4:30 PM
Exhibit Hall

Poster Session: Drug Induced Liver Injury

Chairperson(s): Yvonne Dragen, Astra Zeneca, DE.

Displayed: 1:00 PM–4:30 PM

Author Attended: 1:00 PM–2:45 PM


#422 Poster Board Number ..................................... 103 CYTOTOXICITY OF 3-(3,5-DICHLOROPHENYL)-2,4- THIAZOLIDINEDIONE (DCPT) AND ANALOGUES IN WILD TYPE AND CYP3A4-TRANSFECTED HEPG2 CELLS. D. M. Frederick, E. Y. Jacinto, T. H. Rushmore, R. Tchao and P. J. Harvison. Department of Pharmaceutical Sciences, University of the Sciences, Philadelphia, PA.

#423 Poster Board Number ..................................... 104 DEVELOPMENT OF ANIMAL MODEL OF AMODIAQUINE-INDUCED LIVER INJURY. P. Cui, T. Nakgawa and J. Uetrecht. Faculty of Pharmacy, University of Toronto, Toronto, ON, Canada.

#424 Poster Board Number ..................................... 105 DEVELOPMENT OF ANIMAL MODEL OF ISONIAZID-INDUCED LIVER INJURY. I. G. Metschi and J. P. Uetrecht. Pharmacology, University of Toronto, Toronto, ON, Canada and 3Faculty of Pharmacy, University of Toronto, Toronto, ON, Canada.
Abstract #

#425 Poster Board Number .....................................109


#426 Poster Board Number .....................................108


#427 Poster Board Number .....................................107


#428 Poster Board Number .....................................106

MONOCYTE TO MACROPHAGE DIFFERENTIATION-ASSOCIATED 2 (MMD2) IS A NEW CANDIDATE GENE FOR HEPATOPROTECTIVE EFFECT OF TAMOXIFEN AGAINST DRUG-INDUCED LIVER INJURY. T. Yokoi, Y. Yoshikawa, Y. Toyoda, S. Higuchi, T. Tsukui, K. Tsuneyama, T. Fukami and M. Nakajima. 1Graduate School of Medical Science, Kanazawa University, Kanazawa, Ishikawa, Japan, 2Research Center for Genomic Medicine, Saitama Medical University, Hidaka, Saitama, Japan and 3Department of Diagnostic Pathology, Toyama University, Toyama, Japan.

#429 Poster Board Number .....................................105


#430 Poster Board Number .....................................104


#431 Poster Board Number .....................................103

AUTOMATED IMAGING, QUANTIFICATION, AND CLASSIFICATION OF NF-KAPPA B AND NRF2 RESPONSES TO IDENTIFY ADVERSE DRUG REACTIONS IN HepG2 CELLS. B. Herpers, L. Fredriksson, Z. Di and B. van de Water. Division of Toxicology - LACDR, Leiden University, Leiden, Netherlands.

#432 Poster Board Number .....................................111


#433 Poster Board Number .....................................111

THE HEMOSTATIC SYSTEM AND NEUTROPHILS IN AMIODARONE/ LIPOPOLYSACCHARIDE-INDUCED LIVER INJURY IN RATS. J. Lu, R. A. Roth1 and P. E. Ganey2. 1Department of Biochemistry and Molecular Biology, Michigan State University, East Lansing, MI and 2Department of Pharmacology and Toxicology, Michigan State University, East Lansing, MI.

#434 Poster Board Number .....................................115

STUDY OF LIVER LYMPHOCYTES IN AMODIAQUINE-INDUCED HEPATOTOXICITY IN BROWN NORWAY RATS. F. Liu1, P. Cai2, J. Li1 and J. Uetrecht3. 1Faculty of Pharmacy, University of Toronto, Toronto, ON, Canada and 2Immuno toxicology, Bristol-Myers Squibb Company, New Brunswick, NJ.

#435 Poster Board Number .....................................116


#436 Poster Board Number .....................................117

EVALUATION OF PHOSPHOLIPIDOSIS-INDUCING POTENTIAL OF DRUGS FROM ORAL SINGLE-DOSE RAT LIVER GENE EXPRESSION PROFILING. T. Ka1, H. T. Yudate1, Y. Minowa1, M. Aoki1, T. Yamada2, T. Kimura3, A. Ono4, H. Yamada5, Y. Ohno6 and T. Urushidani7. 1Strategic Planning & Management, Dainippon Sumitomo Pharmacology Co., Ltd., Osaka, Japan, 2Genomic Science Laboratories, Dainippon Sumitomo Pharmacology Co., Ltd., Osaka, Japan, 3Toxicogenomics-Informatics Project, National Institute of Biomedical Innovation, Osaka, Japan, 4Research Planning & Management, Dainippon Sumitomo Pharmacology Co., Ltd., Osaka, Japan, 5Research Laboratories, Dainippon Sumitomo Pharmacology Co., Ltd., Osaka, Japan, 6Division of Risk Assessment, National Institute of Health Sciences, Tokyo, Japan, 7National Institute of Health Sciences, Tokyo, Japan and 8Department of Pathophysiology, Doshisha Women’s College of Liberal Arts, Kyoto, Japan.

#437 Poster Board Number .....................................118

#438
Poster Board Number .....................................119
UNTARGETED METABOLOMICS IDENTIFIED A PANEL OF MARKERS FOR

#439
Poster Board Number .....................................120
EVALUATION OF ALT ISOZYMES AS REFINED BIOMARKERS OF
DRUG-INDUCED LIVER DAMAGE: CHARACTERIZATION AND
DEVELOPMENT OF METHODS FOR ANALYZING ALT1 AND ALT2 ISOZYMES.
M. S. Mondal1, J. Gabriel1, K. Zhu1 and F. Pognan2. 1Investigative Toxicology, Preclinical Safety, Novartis Institute of Biomedical Research, Inc., Cambridge, MA, 2Analycal Sciences, Novartis Institute of Biomedical Research, Inc., Cambridge, MA and 3Investigative Toxicology, Preclinical Safety, Novartis Institute of Biomedical Research, Inc., Basel, Switzerland.

#440
Poster Board Number .....................................121
SORBITOL DEHYDROGENASE AND GLUTAMATE DEHYDROGENASE ARE
NOT SUPERIOR TO TRADITIONAL BIOMARKERS OF LIVER INJURY: A

#441
Poster Board Number .....................................122
IMPORTANCE OF IL-6 SIGNALING FOR MITOCHONDRIAL STATE EXPRESSION

#442
Poster Board Number .....................................123
GENE EXPRESSION AND MORPHOLOGICAL ANALYSIS OF HEART

#443
Poster Board Number .....................................124
TROVAFLOXACIN ENHANCEMENT OF LPS-MEDIATED SIGNALING IS
ASSOCIATED WITH REDUCED SOCS-1 EXPRESSION. R. Singhal, K. L. Poulsen, P. E. Ganey and R. A. Roth. Pharmacology and Toxicology, Michigan State University, East Lansing, MI.

Abstract #

Monday #

#444
Poster Board Number .....................................129
ENHANCED ACETAMINOPHEN HEPATOTOXICITY IN VAIN-1 NULL
MICE IS INDEPENDENT OF DIFFERENCES IN BASAL HEPATIC GLUTATHIONE,
LEVELS AND GENE EXPRESSION OF DRUG METABOLIZING ENZYMES AND
TRANSPORTERS. D. W. Ferreira1, P. Naquet2, F. Galland2 and J. E. Manautou1. 1Pharmaceutical Sciences, University of Connecticut, Storrs, CT and 2Centre d’Immunologie de Marseille-Luminy CNRS-INSERM-Université de la Méditerranée, Marseille, France.

#445
Poster Board Number .....................................130
DIFFERENTIAL HEPATIC EXPRESSION OF ID GENES BY ACETAMINOPHEN
TREATMENT IN MICE. X. Gu and J. E. Manautou. University of Connecticut, Storrs, CT.

#446
Poster Board Number .....................................131
PROFILING THE HEPATIC PROTEOME TO EXPLORE THE MOLECULAR
BASIS OF THE CHRONOTOXICITY OF ACETAMINOPHEN. P. J. Starkey Lewis1, C.
E. Goldring1, V. Platt1, A. M. Obeng1, L. Randle1, C. Row1, J. Mogs1 and K. Park1. 1Molecular & Clinical Pharmacology, University of Liverpool, Liverpool, Merseyside, United Kingdom and 2Investigative Toxicology, Novartis, Basel, CH-4132, Switzerland. Sponsor: D. Mendrick.

#447
Poster Board Number .....................................132
ACUTE LIVER TOXICITY OF ACETAMINOPHEN IS NOT POTENTIATED IN HCV TRANSGENIC MICE. T. Uehara1, O. Kosyk1, E. Jeannot2, B. Bradford1, J. Grimes2, T. O’Connell1, G. Boorman1, S. Melnyk1, S. Weinman1 and J. Ruysn1. 1Department of Environmental Sciences and Engineering, University North Carolina, Chapel Hill, NC, 2The Hamner Institutes, Research Triangle Park, NC. Sponsor: T. Singer.

#448
Poster Board Number .....................................133
INTRAVITAL IMAGING OF ACETAMINOPHEN (APAP) HEPATOTOXICITY. J. Hu1, V. K. Ramshesh1, H. Jaeschke2 and J. L. Lemasters1. 1Medical University of South Carolina, Charleston, SC and 2University of Kansas Medical Center, Kansas City, KS.
Abstract # | Poster Board Number | Abstract # | Poster Board Number
---|---|---|---
#449 | THE ALPHA MUPA MICE, A MODEL OF CALORIC RESTRICTION, ARE MORE SUSCEPTIBLE TO ACETAMINOPHEN HEPATOTOXICITY. Z. Fu¹, Y. Zhang², R. Miskin³ and C. D. Klaassen¹.¹ Department of Pharmacology, Toxicology and Therapeutics, University of Kansas Medical Center, Kansas City, KS and ²Department of Biological Chemistry, The Weizmann Institute of Science, Rehovot, Israel. | #450 | ACTIVATION OF CASPASES DURING ACETAMINOPHEN TOXICITY IS A STRAIN DEPENDENT PHENOMENON. H. Jaeschke, M. Koerner and C. D. Williams. University of Kansas Medical Center, Kansas City, KS. |
#451 | INHIBITION OF THE MITOCHONDRIAL MEMBRANE PERMEABILITY TRANSITION PORE PROTECTS AGAINST ACETAMINOPHEN-INDUCED MITOCHONDRIAL OXIDANT STRESS AND LIVER INJURY IN VIVO. A. Ramachandran¹, M. Lebofsky¹, C. Baines², S. A. Weiman¹, J. J. Lemasters³ and H. Jaeschke¹.¹ Pharmacology, Toxicology & Therapeutics, University of Kansas Medical Center, Kansas City, KS, ²University of Missouri, Columbia, MO and ³Medical University of South Carolina, Charleston, SC. | #452 | ROLE OF THE NALP3 INFLAMMASOME IN NEUTROPHIL ACTIVATION AND CELL INJURY DURING ACETAMINOPHEN-INDUCED HEPATOTOXICITY. C. D. Williams¹, P. J. Shaw² and H. Jaeschke¹.¹ University of Kansas Medical Center, Kansas City, KS and ²New York University, New York, NY. |
#453 | ACETAMINOPHEN HEPATOTOXICITY IN HUMANS: MITOCHONDRIAL INJURY AND DNA FRAGMENTATION IN OVERDOSE PATIENTS. M. R. McGill¹, M. R. Sharpe², C. Williams¹, M. Taha² and H. Jaeschke¹.¹ Pharmacology, Toxicology, and Therapeutics, University of Kansas Medical Center, Kansas City, KS and ²Internal Medicine, University of Kansas Medical Center, Kansas City, KS. | #454 | KAVA EXTRACT, AN HERBAL ALTERNATIVE FOR ANXIETY RELIEF, POTENTIATES ACETAMINOPHEN-INDUCED CYTOTOXICITY IN RAT HEPATIC CELLS. X. Yang and W. F. Salminen. Division of Systems Biology, U.S. FDA, NCTR, Jefferson, AR. |
#455 | HEPATIC ENDOTHELIAL CELLS REGULATE LIVER CELL REPAIR FOLLOWING ACETAMINOPHEN INTOXICATION. Y. Liu, C. R. Gardner, M. Francis, J. D. Laskin and D. L. Laskin. Pharmacology & Toxicology, Rutgers University, Piscataway, NJ. | #456 | NEGATIVE REGULATION OF CLASSICAL MACROPHAGE ACTIVATION BY THE STK RECEPTOR DURING ACETAMINOPHEN-INDUCED HEPATOTOXICITY. C. R. Gardner¹, Y. Liu¹, P. A. Hankey², J. D. Laskin¹ and D. L. Laskin¹.¹ Rutgers University, Piscataway, NJ, ²Pennsylvania State University, University Park, PA and ³UMDNJ-Robert Wood Johnson Medical School, Piscataway, NJ. |
#457 | ROLE OF MACROPHAGE-DERIVED GALECTIN-3 IN ACETAMINOPHEN-INDUCED HEPATOTOXICITY. A. Dragomir², R. Sun¹, J. D. Laskin¹ and D. L. Laskin¹.¹ Pharmacology and Toxicology, Rutgers University, Piscataway, NJ and ²Environmental and Occupational Medicine, UMDNJ-Robert Wood Johnson Medical School, Piscataway, NJ. |
#458 | TARGETING OF THIOREDOXIN REDUCTASE BY THE ACETAMINOPHEN METABOLITE N-ACETYL-P-BENZOQUINONE IMINE. Y. Jan¹, D. E. Heck², D. L. Laskin¹, Y. Liu¹, A. Dragomir² and J. D. Laskin¹.¹ Environmental & Occupational Medicine, UMDNJ-Robert Wood Johnson Medical School, Piscataway, NJ, ²Environmental Health, New York Medical College, Valhalla, NY and ³Pharmacology & Toxicology, Rutgers University, Piscataway, NJ. |
#459 | TRIFLUOPIPERAZINE MEDIATED HEPATOPROTECTION AND REDUCTION OF HIF-1α IN ACETAMINOPHEN MEDIATED TOXICITY IN MICE. S. Chaudhuri¹, S. S. McCullough¹, A. Brown¹, J. A. Hinson² and L. P. James³,²,³.¹Pediatrics Clinical Pharmacology, Arkansas Childrens Hospital Research Institute, Little Rock, AR and ²Pharmacology and Toxicology, University of Arkansas for Medical Sciences, Little Rock, AR. |
#460 | SULFORAPANE PREVENTS ACETAMINOPHEN-INDUCED HEPATIC INJURY IN MICE. R. Schmidt¹, K. C. Falkiner²,³, J. Beier¹ and G. Arteel¹,³.¹Pharmacology & Toxicology, University of Louisville, Louisville, KY, ²Alcohol Research Center, University of Louisville, Louisville, KY and ³Medicine, University of Louisville, Louisville, KY. Sponsor: C. States. |
#461 | ACETAMINOPHEN (APAP) AND S-ADENOSYL-L-METHIONINE (SAME) EFFECTS ON OXIDATIVE STRESS ENZYMES: ATTENUATION BY SAME. J. Brown, J. G. Ball, T. Ahmad and M. Valentovic. Pharmacology, Physiology, and Toxicology, Marshall University School of Medicine, Huntington, WV. |
#462 | NERVE GROWTH FACTOR (NGF) IN MOUSE LIVER HAS AN AUTOCRINE ACTIVITY AND ITS TRANSCRIPTION IS MODULATED BY ISO, ACETAMINOPHEN, AND ARSENIC. C. Valdivinos and M. E. González. Instituto de Investigaciones Biomédicas, Universidad Nacional Autónoma de México, Mexico, D.F., Mexico. |
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#463
Poster Board Number .....................................148
URINE PROTEOMIC PROFILING FOR BIOMARKERS OF ACETAMINOPHEN-INDUCED ACUTE LIVER INJURY IN MICE AND HUMANS. R. P. van Swelm, C. M. Laarakkers, R. Maserereeuw and F. G. Russel.
#464
Poster Board Number .....................................207
#465
Poster Board Number .....................................208
#466
Poster Board Number .....................................209
3D ORGANOntyPIC EPIOCULAR EYE IRRITATION TEST (EIT) RESULTS – USE OF ALTERNATIVE TISSUE CULTURE INSERTS. M. Klausner, Y. Kaluzhny, P. J. Hayden, L. d’Argembeau-Thornton and H. Kandarova. MatTek Corp, Ashland, MA.
#467
Poster Board Number .....................................210
GUIDING FORMULA DEVELOPMENT UTILIZING THE CLINICAL CUMULATIVE IRRITATION CLINICAL TESTING WHEN INGREDIENTS INTERFERE WITH IN VITRO IRRITATION ASSAY. D. Orak, P. Kazmi, V. Srivivasan and T. A. Re. Safety Evaluation, L’Oreal USA, Clark, NJ.
#468
Poster Board Number .....................................211
A WEIGHT OF EVIDENCE APPROACH TO IMPROVING SAR PREDICTION OF ALLERGIC CONTACT DERMATITIS. C. Seaman, A. Quayson, M. J. Olson and F. Guerrieri. HS&P, GlaxoSmithKline, Ware, Herts, United Kingdom. School of Biosciences, University of Birmingham, Birmingham, West Midlands, United Kingdom, HS&P, GlaxoSmithKline, Research Triangle Park, NC and HS&P, GlaxoSmithKline, Philadelphia, PA.
#469
Poster Board Number .....................................212
A MECHANISTIC RATIONALE FOR THE PREDICTION OF SKIN IRRITANCY EFFECTS IMPLEMENTED IN A WORKFLOW PROCESS. C. Yang, S. Ringeissen, J. F. Rathman, B. Brumier, R. Note and J. Meunier.
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#476 Poster Board Number .....................................219
THE HUMAN-RELEVANT-POTENCY-THRESHOLD: UNCERTAINTY ANALYSIS AND HUMAN CALIBRATION FOR CUMULATIVE RISK ASSESSMENTS. E. Sargent¹, R. Golden¹, D. Dietrich¹, G. Casella¹ and C. Borgert¹. 1Applied Pharmacology & Toxicology, Inc., Gainesville, FL; 2EV Sargent LLC, Clearwater, FL. 1Faculty of Biology, University of Konstanz, Konstanz, Germany, 2ToxLogic, Potomac, MD and 3Department of Statistics, University of Florida, Gainesville, FL.

#477 Poster Board Number .....................................220
THRESHOLD ANALYSES FOR ACRYLONITRILE AND BRAIN TUMORS IN RATS. D. E. Strother² and C. R. Kirman². 1ToxSolve LLC, Manassas, VA and 2Summit Toxicology LLP, Orange, OH.

#478 Poster Board Number .....................................221
EFFICIENT DESIGN OF BIOLOGICAL EXPERIMENTS FOR DOSE-RESPONSE MODELING IN TOXICOLOGY STUDIES. F. Yang¹ and D. Porter². 1West Virginia University, Morgantown, WV and 2NIOSH, Morgantown, WV.

#479 Poster Board Number .....................................222
PHARMACOKINETIC AND TOXICOLOGICAL PROFILING OF NATURAL PRODUCTS AND DRUGS. C. Hasselgren¹, H. Chen¹, Y. Yang², S. Boyer³, T. I. Oprea¹ and S. Muresan¹. 1Global Safety Assessment, AstraZeneca, Möln达尔, Sweden, 2DECS, AstraZeneca, Möln达尔, Sweden and 3Division of Bioinformatics, University of New Mexico, Albuquerque, NM.

#480 Poster Board Number .....................................223
A FLEXIBLE METHOD FOR BUILDING AND USING PREDICTIVE MODELS APPLIED TO SAFETY ENDPOINTS. O. Spjuth², L. Carlsson¹, M. Ekland¹, E. Ahlberg Helgée¹ and S. Boyer³. 1Computational Toxicology, AstraZeneca, Möln达尔, Sweden and 2Department of Pharmaceutical Biosciences, Uppsala University, Uppsala, Sweden.

#481 Poster Board Number .....................................224
ASSESSING DOSE-RESPONSE OF ENVIRONMENTAL CHEMICALS INTERACTION WITH DNA USING A SYSTEM BIOLOGY MODELING APPROACH. J. M. Gavina, Y. Feng and A. Nong, Environmental Health Science and Research Bureau, Health Canada, Ottawa, ON, Canada.

#482 Poster Board Number .....................................225
USING A MULTIPLE STAGE DECISION TREE TO MAKE ACTIVITY CALLS IN QUANTITATIVE HIGH-THROUGHPUT SCREENING (QHTS) DATA. K. R. Shockley¹, G. E. Kissling¹, R. Huang¹, M. Xia¹, C. P. Austin¹ and R. R. Tice¹. 1National Toxicology Program/ National Institute of Environmental Health Sciences, Research Triangle Park, NC and 2NIH Chemical Genomic Center, Bethesda, MD.

#483 Poster Board Number .....................................226
TESTING MULTIPLE AVAILABLE QSARS FOR REPRODUCTIVE TOXICITY AND CARCINOGENICITY TO DRINKING WATER CONTAMINANTS. M. Hering¹, A. Roncaglioni², R. Benigni² and A. Worth³. 1KWR Waterycle Research Institute, Nieuwegein, Netherlands, 2Istituto di Ricerche Farmacologiche "Mario Negri" (IRFMN), Milan, Italy, 3Istituto Superiore di Sanità (ISS), Rome, Italy and 4European Commission - Joint Research Centre (JRC), Ispra, Italy.

#484 Poster Board Number .....................................227
CONSENSUS MULTIPLE-POTENCY QSAR MODELING FOR PREDICTION OF RODENT CARCINOGENICITY. E. J. Matthews¹ and K. P. Cross¹. 1Leadscope, Inc., Columbus, OH and 2U.S. FDA/CFSAN/OFAS, College Park, MD. Sponsor: R. Tice.

#485 Poster Board Number .....................................228
DECISION ANALYSIS APPROACH TO MODE-OF-ACTION MODELS: EXPLICIT EXPRESSION OF DATA QUALITY AND RELIABILITY TO EVALUATE CAUSALITY. A. M. Jarabek² and D. Crawford-Brown². 1U.S. EPA, Research Triangle Park, NC and 2DESE University North Carolina, Chapel Hill, NC.

#486 Poster Board Number .....................................229
CASE STUDIES ON THE ROLE OF DNA ADDUCT DATA IN CANCER RISK ASSESSMENT: CONTEXT IS KEY. J. Skare¹, L. H. Pottenger¹, L. Andrews², A. Bachman³, P. J. Boogaard¹, J. Cadet¹, P. Farmer², M. Himmelstein¹, A. Jarabek³, J. Kim², E. Martin², R. Mauhle¹, R. Persaud¹, J. Preston¹, R. Schoeny³, J. Swenberg¹, G. Williams¹, F. Zhang² and E. Zeiger³. 1Procter & Gamble, Cincinnati, OH, 2The Dow Chemical Company, Midland, MI, 3EMBSI Annandale, NJ, 4Shell International, The Hague, Netherlands, 5CEA/ Grenoble, Grenoble, France, 6U. Leicester, Leicester, United Kingdom, 7DuPont, Newark, DE, 8U.S. EPA, Research Triangle Park, NC, 9HESI, Washington, D.C., 10AstraZeneca, Macclesfield, United Kingdom, 11Pfizer, Groton, CT, 12L’Oreal, Clark, NJ, 13University of North Carolina, Chapel Hill, NC, 14NY Medical College, Valhalla, NY and 15E. Zeiger Consulting, Chapel Hill, NC.

#487 Poster Board Number .....................................230
QSAR PREDICTION OF CARCINOGENIC POTENCY (TD50) AND THE RISK SPECIFIC DOSE(RSD) ADJUSTED THRESHOLD OF TOXICOLOGICAL CONCERN (TTC) FOR GENOTOXIC CHEMICALS AND PHARMACEUTICAL IMPURITIES. J. F. Contreras, Computational Toxicology Services LLC, Rockville, MD.

#488 Poster Board Number .....................................231
VIRTUAL CHEMICAL-PROTEIN RECEPTOR INTERACTIONS CAN DIFFERENTIATE TUMOR SITE SELECTIVE CARCINogens. N. Malik, S. Qamar, C. Carrusquer and A. R. Cunningham. James Graham Brown Cancer Center, University of Louisville, Louisville, KY.
Abstract #        Poster Board Number .....................................232
#490

USE OF ’OMICS DATA TO IMPROVE PAH MIXTURES CANCER RISK ASSESSMENT. P. McClure1, H. Carlson-Lynch1, J. Stickney1, K. Salinas1, J. Cote2 and L. Flower2. 1Chemical, Biological, and Environmental Center, SRC, Inc., North Syracuse, NY and 2Office of Research and Development, EPA, Washington, D.C.

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IMPLEMENTING COMPUTATIONAL METHODS IN AN INSTITUTIONAL KNOWLEDGE-BASE AT FDA’S CENTER FOR FOOD SAFETY AND APPLIED NUTRITION: A MODE-OF-ACTION-BASED APPROACH TO BUILDING QSAR MODELS. L. Ye, R. Brown, K. Arvidson and C. Jorg, CFSAN, U.S. FDA, College Park, MD.

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POSTER BOARD NUMBER .....................................236

ASSESSMENT OF MITOCHONDRIAL TOXICITY OF ENVIRONMENTAL CHEMICALS USING A QUANTITATIVE HIGH-THROUGHPUT SCREENING APPROACH. M. S. Attene-Ramos1, R. Huang1, S. Sakamuru1, S. Shahane1, I. Shou1, K. L. Witt1, R. R. Tice1, C. P. Austin1 and M. Xu1. 1National Institutes of Health Chemical Genomics Center (NCGC), Rockville, MD and National Toxicology Program (NTP), National Institute of Environmental Health Sciences (NIEHS), Research Triangle Park, NC.

#495

POSTER BOARD NUMBER .....................................237

QUANTITATIVE STRUCTURE-ACTIVITY RELATIONSHIP (QSAR) MODELING OF ESTROGEN RECEPTOR (ER) BINDING AFFINITY AND VIRTUAL SCREENING FOR POTENTIAL ENDOCRINE DISRUPTING COMPOUNDS (EDCs). L. Zhu1, H. Zhu1, A. Afnanita2, G. Melagraki1, H. Sarimveis1, I. Rasyu3 and A. Tropsha1. 1Esshelman School of Pharmacy, University of North Carolina at Chapel Hill, Chapel Hill, NC, 2NovaMechanics Ltd., Nicosia, Cyprus and 3Environmental Sciences and Engineering, University of North Carolina at Chapel Hill, Chapel Hill, NC.

#496

DEHP: COMPARISON OF IN SILICO PREDICTIONS WITH IN VITRO AND IN VIVO TOXICITY. M. M. Dingemans1, E. Rorije2, A. Efremenko3, H. Clewell4 and B. Blauweer1. 1Institute for Risk Assessment Sciences (IRAS), Utrecht University, Utrecht, Netherlands, 2National Institute for Public Health and the Environment (RIVM), Bilthoven, Netherlands and 3The Hamner Institutes, Research Triangle Park, NC.

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#498

APPLICATION OF AGE-SPECIFIC ADJUSTMENTS TO CANCER POTENCY FOR CHILDREN AT CALIFORNIA SCHOOL SITES. S. A. Knadle1, H. Bolstad2, M. S. Sandy1, M. A. Marty1 and J. Carlisle1. 1Cal /U.S. EPA, OEHHA, Sacramento, CA and 2Environmental Toxicology, University of California at Davis, Davis, CA.

#499

DERMAL DNEL SETTING: USING QSAR PREDICTIONS FOR DERMAL ABSORPTION FOR A REFINED ROUTE-TO-ROUTE EXTRAPOLATION. V. Mostert and A. Goergens. Toxicology/Human Exposure, Knoell Consult GmbH, Leverkusen, Germany.

#500

EVALUATION OF THE IMPACT OF DEMOGRAPHY ON THE ADEQUACY OF THE HUMAN KINETIC ADJUSTMENT FACTOR (HKAF). K. Krishnan1 and M. Valcke2,3. 1Santé environnementale et Santé au travail, Université de Montréal, Montréal, QC, Canada and 3Direction de la Santé environnementale et de la Toxicologie, Institut national de santé publique du Québec, Montréal, QC, Canada.

#501

EVOLUTION OF THE IMPACT OF HAZARDOUS WASTE SITES. K. Fehling1, T. Copada2, I. Otani3 and B. Kerger4. 1The Fehling Group, LLC, Novato, CA and 2Health Science Resource Integration, Inc., Tallahassee, FL, 3Consultant, Agoura Hills, CA and 4Consultant, Menlo Park, CA.
Program Description (Continued)

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#503 Poster Board Number ............................... 246
EFFECTS OF AN ASYMMETRY
PARAMETER ON CURVE-FITTING FOR
SINGLE CHEMICAL AND MIXTURE
CONCENTRATION-RESPONSE DATA: 3)
MONO-HALOGENATED ACETONITRILES
AND ETHYL ACETATES, D. A. Dawson¹, G.
Poch² and T. W. Schultz³. ‘Biology/Toxicology,
Ashland University, Ashland, OH, ‘Pharmacology
and Toxicology, University of Graz, Graz, Austria
and ‘Comparative Medicine, College of Veterinary
Medicine, The University of Tennessee, Knoxville,
TN. Sponsor: D. Fort.

#504 Poster Board Number ............................... 247
EFFECTS OF AN ASYMMETRY
PARAMETER ON CURVE-FITTING FOR
SINGLE CHEMICAL AND MIXTURE
CONCENTRATION-RESPONSE DATA: 2)
TWENTY RANDOMLY SELECTED SOFT
ELECTROPHILE-CONTAINING MIXTURES,
N. Genco¹, H. Hessinger², Z. Il’gievne³, D. A.
Dawson¹, T. W. Schultz² and G. Poch³. ‘Biology/
Toxicology, Ashland University, Ashland, OH,
‘Comparative Medicine, College of Veterinary
Medicine, The University of Tennessee, Knoxville,
TN and ‘Pharmacology and Toxicology, University
of Graz, Graz, Austria. Sponsor: D. Fort.

#505 Poster Board Number ............................... 248
EFFECTS OF AN ASYMMETRY
PARAMETER ON CURVE-FITTING FOR
SINGLE CHEMICAL AND MIXTURE
CONCENTRATION-RESPONSE DATA: 1)
MONO-, DI- AND TRI-HALOGENATED
ACETONITRILE COMBINATIONS, D.
Guinn¹, D. A. Dawson¹, T. W. Schultz² and G. Poch³.
‘Biology/Toxicology, Ashland University, Ashland,
OH, ‘Comparative Medicine, College of Veterinary
Medicine, The University of Tennessee, Knoxville,
TN and ‘Pharmacology and Toxicology, University
of Graz, Graz, Austria. Sponsor: D. Fort.

Monday Afternoon, March 7
1:00 PM to 4:30 PM
Exhibit Hall

Poster Session: Animal Models in Toxicological Research
Chairperson(s): Lori Moilanen, 3M, St. Paul, MN.

Displayed: 1:00 PM–4:30 PM
Author Attended: 2:45 PM–4:30 PM

#506 Poster Board Number ............................... 301
PROPENTOFYLLINE ATTENUATES
METHAMPHETAMINE–INDUCED
DOPAMINE RELEASE IN THE RAT
CAUDATE-PUTAMEN, Z. Binienda¹, B. Gough¹,
F. C. Pereira² and S. F. Ali³. ‘Neurotoxicology,
U.S. FDA NCTR, Little Rock, AR and ‘Medicine,
University of Coimbra, Coimbra, Portugal.

#507 Poster Board Number ............................... 302
A DOSE VOLUME TOLERABILITY STUDY TO EVALUATE WHETHER CD-1 MICE ARE EXTRAORDINARILY SENSITIVE TO LIPID-BASED DRUG DELIVERY VEHICLES:
CAPMUL PG-12, CAPMUL MCM, AND CREMOPHOR EL., R. Yeager¹, B. Padden², J.
Lipari³, J. Maher⁴, K. Desno³, P. Katsavolos⁵, D.
Weddle⁶ and K. Scheckel⁶. ‘Toxicology, Abbott,
Abbott Park, IL, ‘Pharmaceutics, Abbott, Abbott
Park, IL, ‘Investigative Toxicology and Pathology,
Abbott, Abbott Park, IL, ‘Drug Metabolism, Abbott,
Abbott Park, IL, and ‘Pathology, Abbott, Abbott
Park, IL...

#508 Poster Board Number ............................... 303
ESTABLISHMENT OF 2-STEP ULTRA-
SHORT-TERM CARCINOGENICITY TEST
IN CB6F1 TG RASH2 MICE: STUDY ON
SEVERAL PROMOTERS-, K. Urayo¹, M.
Kawabe¹, M. Suguro², T. Numano³, M. Yasuda⁴, H.
Tsutsumi¹ and F. Furukawa². ‘Central Institute for
Experimental Animals, Kawasaki, Japan and ‘DIMS
Institute of Medical Science Inc., Ichinomiya, Japan.

#509 Poster Board Number ............................... 304
THE EFFECT OF CLOZAPINE TREATMENT ON NEUTROPHIL KINETICS IN SPRAGUE-
DAWLEY RATS, A. Lobach and J. Uetrecht.
Pharmaceutical Sciences, University of Toronto,
Toronto, ON, Canada.

#510 Poster Board Number ............................... 305
TROGLITAZONE-INDUCED LIVER INJURY IN CHIMERIC MICE WITH HUMANIZED LIVER, M. Kakuni¹, M. Morita², Y. Kato³, M.
Nakajima², C. Tateno³ and T. Yoko³. ‘Study Service
Department, PhoenixBio Co., Ltd., Higashi-
Hiroshima, Japan and ‘Division of Pharmaceutical
Sciences, Faculty of Pharmaceutical Sciences,
Kanazawa University, Kanazawa, Japan.

#512 Poster Board Number ............................... 306
CHARACTERIZATION OF IRON OVERLOAD IN RATS AS A POTENTIAL MODEL OF HUMAN HEMOCROMATOSIS, S. J. Wildt¹, T. Bartnikas², M. D. Fleming³ and D.
M. Cooper¹. ‘Laboratory Animal Medicine, Harlan
Laboratories, Indianapolis, IN and ‘Department of
Pathology, Children’s Hospital Boston, Boston, MA.
Sponsor: A. Jackson.

#513 Poster Board Number ............................... 307
PAIN ASSESSMENT IN MONOSODIUM
IDOACETATE (MIA)-INDUCED
OSTEOARTHRITIS (OA) MODEL. R.
Samaifam, L. Chouinard and S. Y. Smith.
Toxicology, Charles River Preclinical Services,
Montrealé, QC, Canada. Sponsor: M. Vézina.

#514 Poster Board Number ............................... 308
PROTEOMIC ANALYSIS OF MAINSTREAM CIGARETTE SMOKE-EXPOSED FISHER RAT NOSES IN A SHORT-TERM STUDY. C.
A. Carter and M. Misra. Life Sciences, Lorillard
Tobacco Company, Greensboro, NC.
Abstract #  
#514 
Poster Board Number .....................................309 

#515 
Poster Board Number .....................................310 
TOXIC EFFECTS OF ETHYL TERTIARY BUTYL ETHER EXPOSURE IN CYP2E1 KNOCKOUT MICE. R. Wang1, Y. Yanagiba1, K. Ohtani2, M. Suda1, Z. Weng1 and T. Nakajima1. 1Japan National Institute of Occupational Safety and Health, Kawasaki, Japan and 2Nagoya University School of Medicine, Nagoya, Japan. Sponsor: N. Mei.

#516 
Poster Board Number .....................................311 

#517 
Poster Board Number .....................................312 
FEASIBILITY OF APPLYING DRIED BLOOD SPOT (DBS) SAMPLING IN EXPLORATORY TOXICITY STUDIES IN THE RAT. W. Scott1, R. Hunter2, Z. Shen2, J. McI1, L. Liu1, S. Veikhi2, W. Huang1, R. Rahavendran2 and A. Saccan2. Drug Safety Research and Development, Pfizer Inc., San Diego, CA and 1Pharmacokinetics Dynamics and Metabolism, Pfizer Inc., San Diego, CA.

#518 
Poster Board Number .....................................313 
APPLICATION OF PREDICTION INTERVAL BASED MIXED-EFFECT MODELS TO EVALUATE MONKEY BODY WEIGHT CHANGE IN PRECLINICAL TOXICOLOGY STUDIES. D. Zhao1, R. Yeager1, Y. Lan1, C. Lin2 and M. Duwall1. Toxicology, Abbott, Abbott Park, IL and 2Statistics, Abbott, Abbott Park, IL.

#519 
Poster Board Number .....................................314 
LONGITUDINAL COMPARISON OF SPONTANEOUS OCULAR LESIONS IN THE NORMAL RAT AND MOUSE ON CHRONIC TOXICOLOGY STUDIES. K. Tenneson, N. Cucci and M. Vézina. Toxicology, Charles River Preclinical Services, Montréal, QC, Canada.

#520 
Poster Board Number .....................................315 
COMPARISON OF ANESTHETIC EFFECTS ON ELECRORETINOGRAMS (ERG) IN DOGS. G. Glazier, D. Martel, T. Halle, S. Duval, T. Bryant and M. Vézina. Toxicology, Charles River Preclinical Services, Montréal, QC, Canada.

#521 
Poster Board Number .....................................316 
APPLICATION OF THE rasH2 MOUSE IN CARCINOGENESIS AND BIOMARKER STUDIES. Y. Shimamura1, R. Arai1, A. Sunohara1, F. Babal, K. Urano2, H. Tsuuta1, M. Ito1, A. Hirayama1, M. Sugimoto1, T. Soga1, T. Nomura2 and M. Tomita1. Institute for Advanced Biosciences, Keio University, Tsuruoka, Yamagata, Japan and 2Central Institute for Experimental Animals, Kawasaki, Kanagawa, Japan.

Abstract #  
#522 
Poster Board Number .....................................317 
DEVELOPMENT OF INDUCIBLE IN VIVO KNAI MOUSE MODELS FOR TARGET VALIDATION. J. Hitchcock1, V. Beuger2, H. Kissel2, N. Pullen1 and A. Ross1. 1Phizer Ltd., Sandwich, Kent, United Kingdom and 2TaconicArtemis GmbH, Cologne, Germany. Sponsor: M. Sharpe.

#523 
Poster Board Number .....................................318 
METABOLIC ASSESSMENT OF TEMPORAL CHANGES INDUCED DURING THE COURSE OF A TYPICAL OVERNIGHT FAST IN THE SD RAT. D. G. Robertson, S. Stryker and J. Vassallo. Discovery Toxicology, Bristol-Myers Squibb Company, Princeton, NJ.

#524 
Poster Board Number .....................................319 
BACKGROUND OCULAR CHANGES FOLLOWING TRANSVITREAL SUBRETINAL DOSING IN THE RHESUS AND CYNOMOLGUS MONKEY. A. Préfontaine, M. Bussières and M. Vézina. Toxicology, Charles River Preclinical Services, Montréal, QC, Canada.

#525 
Poster Board Number .....................................320 
DOSE RESPONSE OF DIURON-INDUCED URINARY BLADDER HYPERPLASIA IN MALE WISTAR RATS. A. F. Cardoso, S. M. Ihlaeseh, M. S. da Rocha, M. G. Nascimento, J. V. de Camargo and M. C. de Oliveira. Pathology, Sao Paulo State University - UNESP - Medical School, Botucatu, Brazil.

#526 
Poster Board Number .....................................321 
BIOAVAILABILITY AND DISTRIBUTION OF SOIL BOUND POLYCYCLIC AROMATIC HYDROCARBONS IN SWINE. R. E. Peters1, S. D. Siciliano1 and M. Wickstrom2. 1Soil Science, University of Saskatchewan, Saskatoon, SK, Canada and 2Toxicology Centre, University of Saskatchewan, Saskatoon, SK, Canada. Sponsor: L. Weber.

#527 
Poster Board Number .....................................322 
CENTELLA ASIATICA AN EMERGING ALTERNATIVE TO ALZHEIMER’S DISEASE. M. Abuja, M. Dhanasekaran, M. A. Babuieid, V. Suppiramaniam and E. A. AbdelRahman. Harrison School of Pharmacy, Auburn, AL.

#528 
Poster Board Number .....................................323 
CHARACTERIZATION OF LYMPHOCYTE SUBSETS IN PERIPHERAL BLOOD OF HEALTHY, OBESE, AND TUMOR-BEARING DOGS. M. Ko1, Q. Peng1, A. Gonzales2, E. McCanless3, M. Aloe1, R. McCull1, S. Kamelring2, Q. Zong1, D. Sae1, R. Yafawi1, J. Wang2 and A. John-Baptiste1. 1Drug Safety Research & Development, Pfizer, San Diego, CA and 2Animal Health, Pfizer, Kalamazoo, MI. Sponsor: W. Huang.

#529 
Poster Board Number .....................................324 
Program Description (Continued)

Abstract #

#530 IGE POSITIVITY IN B LYMPHOCYTES: A VALUABLE BIOMARKER FOR DIAGNOSIS OF CANINE ALLERGY. Q. Peng1, M. Ko2, A. Gonzales2,2, E. McCandless2,2, Q. Zong1, F. Sace1, R. Yafawi1, J. Wang1 and A. John-Baptiste1. 1DSRD, Pfizer, San Diego, CA and 2Animal Health, Pfizer, Kalamaizaro, MI. Sponsor: G. Stevens.

#531 INFLUENCE OF A MIXTURE OF FIVE PESTICIDES ON THE REPRODUCTIVE SYSTEM OF FEMALE SPRAGUE-DAWLEY RATS. V. M. Pacotto1, M. T. Guerra2, J. V. de Camargo1 and C. S. Franchi3. 1Pathology, Sao Paulo State University - UNESP - Medical School, Botucatu, Sao Paulo, Brazil and 2Graduate Program in Cell and Structural Biology, State University of Campinas, Campinas, Sao Paulo, Brazil. Sponsor: S. Cohen.

#532 BIOLOGICAL PATHWAY ANALYSES OF HEPATOTOXICANT-INDUCED CHANGES IN HEPATIC GENE EXPRESSION IN CHIMERIC PXB-MOUSE® WITH HIGHLY HUMANIZED LIVER. S. Nagatsuka1, D. Hynes1, S. Ninomya1, M. Kakumi1, C. Tateno-Mukaidani1, T. Shimada1 and Y. Yamazoe2. 1R&D, Sekisui Medical Co., ADME & Toxicology Research Institute, Tokai-mura, Ibaraki, Japan, 2PhoenixBio Co., Higashi-Hiroshima, Hiroshima, Japan and 3Graduate School of Pharmaceutical Sciences, Tokoh University, Sendai, Miyagi, Japan. Sponsor: T. Miyaoaka.

#533 THE EFFECTS OF CILOSTAZOL ON MOUSE OOCYTE MEIOTIC MATURATION AND MORPHOLOGY. A. M. Taiyeb1, D. Kraemer2, V. Faj1 and C. M. Sayes3. 1Veterinary Physiology & Pharmacology, Texas A&M University, College Station, TX and 2Interdisciplinary Program in Toxicology, Texas A&M University, College Station, TX.


Monday Afternoon, March 7
1:00 PM to 4:30 PM
Poster Session: Animal Models in Toxicology

Chairperson(s): Jessica Whitenour, Pfizer Global Research and Development, Groton, CT.

Displayed: 1:00 PM–4:30 PM

Author Attended: 1:00 PM–2:45 PM

#535 ATP-BINDING-CASSETTE TRANSPORTER KNOCKOUT RAT MODELS. I. D. Carbery1, C. Little1, E. J. Weinstein1 and X. Cui2. SAGE, Sigma-Aldrich, St. Louis, MO.

#536 PATHOLOGY OF A BROWN-NORWAY RAT MODEL OF AMODIAQUINE-INDUCED LIVER INJURY. H. C. Workman1, J. L. P. Ca1, M. Odin1, M. David2 and J. Uetrecht3. 1Nonclinical Safety, Hoffmann-La Roche, Nutley, NJ, 2Immunotoxicology, Bristol-Myers Squibb, New Brunswick, NJ, 3Pharmacy, University of Toronto, Toronto, ON, Canada and 4Medicine, University of Toronto, Toronto, ON, Canada.

#537 ALTERED BEHAVIOR, BODY WEIGHT, AND BRAIN CHEMISTRY IN PAK5-/-, PAK6-/-/AND PAK5-/-/PAK6-/-MICE. M. A. Parra1, M. L. Jones2, T. Nekrasova3, A. Minden4 and G. C. Wagner4. 1Joint Graduate Program in Toxicology, Rutgers University, Piscataway, NJ, 2Susan Lehman Cullinan Laboratory for Cancer Research, Rutgers University, Piscataway, NJ and 3Psychology, Rutgers University, Piscataway, NJ.

#538 THE TOXICITY OF METHIMAZOLE IN THE MOUSE OLFACTORY MUCOSA IS AT LEAST PARTLY MEDIATED THROUGH TARGET-TISSUE METABOLIC ACTIVATION BY CYP2A5. J. Gu1, F. Xie2, X. Zhou2, M. Genter3 and X. Ding4. 1Wadsworth Center, New York State Department of Health, Albany, NY and 2Department of Environmental Health, University of Cincinnati, Cincinnati, OH.


#540 EVALUATING THE CELLULAR CHANGES IN BLEOMYCIN-INDUCED PULMONARY FIBROSIS MODELS: IT VS. INHALATION. M. Doyle-Eisele, R. W. Spindle, A. Gigliotti and J. D. McDonald. LRRRI, Albuquerque, NM.

#541 THE PATHOPHYSIOLOGY OF PROGRESSIVE EXPOSURE TO TOBACCO SMOKE IN A RODENT MODEL OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD). L. Wang1, S. Bolton2 and K. E. Pinkerton3. 1Center for Health and the Environment, University of California, Davis, Davis, CA and 2Safety Assessment, AstraZeneca R&D, Loughborough, United Kingdom.

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<td>#543</td>
<td>Efficacy of pharmaceutical drug cocktails for treating chlorine vapor induced cutaneous lesions. J. Rhone1, J. L. Plakhovinovsk1, E. M. Benson1, R. C. Hamilton1, F. M. Reid1, J. F. Dillman2 and J. S. Graham2. Biomedical Research Center, Battelle, Columbus, OH and 'U.S. Army Medical Research Institute of Chemical Defense, Aberdeen, MD.</td>
<td>#550</td>
<td>Co-exposure of a novel mouse model to low-dose trichloroethylene and inorganic arsenic; interactions, genetics, and renal toxicity. M. C. DeSimone1,2, G. Glavich1, A. Bohn2 and D. Threadgill1,2. 'Curriculum in Toxicology, University of North Carolina at Chapel Hill, Chapel Hill, NC and 'Department of Genetics, North Carolina State University, Raleigh, NC.</td>
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<tr>
<td>#544</td>
<td>Efficacy of pharmaceutical drug cocktails for amelioration of cutaneous sulfur mustard injuries. F. M. Reid1, J. L. Plakhovinovsk1, M. D. Etheridge2, J. Rhone1, J. F. Dillman2 and J. S. Graham2. Biomedical Research Center, Battelle, Columbus, OH and 'U.S. Army Medical Research Institute of Chemical Defense, Aberdeen, MD.</td>
<td>#551</td>
<td>Lipidomic changes in the livers of hepatic alcohol dehydrogenase-deficient deer mice after subchronic exposure to ethanol. H. Fernando, K. K. Bhopale, G. A. Ansari and B. S. Kaphalia. Department of Pathology, University of Texas Medical Branch, Galveston, TX.</td>
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<td>#547</td>
<td>Diuron-induced decrease of CD4+ lymphocytes in the spleen of male Wistar rats. S. M. Illesish1, A. Domingues1, A. F. Cardoso1, A. T. Spinardi- Barbisan1, M. C. de Oliveira1 and J. V. de Camargo. Pathology, Sao Paulo State University - UNESP - Medical School, Botucatu, Brazil.</td>
<td>#554</td>
<td>Endothelial cell-specific aryl hydrocarbon receptor knockout mice are hypertensive and exhibit diminished responses to angiotensin II. L. N. Agbor, M. T. Walsh and M. K. Walker. Pharmaceutical Sciences, University of New Mexico, Albuquerque, NM.</td>
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<td>#548</td>
<td>Increased secondary bile acids in oaptial-null mice can be explained by an overgrowth of intestinal bacteria. P. B. Limaye1, Y. Zhang1, J. L. Csanak2, L. Lehman-McKeeman2 and C. D. Klaassen1. Department of Pharmacology, Toxicology, and Therapeutics, University of Kansas Medical Center, Kansas City, KS and 'Discovery Toxicology, Bristol-Myers Squibb Co., Princeton, NJ.</td>
<td>#555</td>
<td>Study design considerations for accurate cardiac troponin evaluation in non-human primates and rats. W. J. Reagan, D. Blackwell, L. Correia, K. Alger, C. Kaplan and F. Geoly. Pfizer, Groton, CT.</td>
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<td>#549</td>
<td>Treatment paradigm for assessment of etiologies of paforamidine-induced kidney and liver toxicity. K. D. Desmou1, A. Harrill2, J. Hall2, M. Paine2, M. Wang2, R. Tidwell2 and P. Watkins1. Institute for Drug Safety Sciences, The Hamner Institutes for Health Sciences, Research Triangle Park, NC, 'Department of Pathology and Laboratory Medicine, University of North Carolina at Chapel Hill, Chapel Hill, NC and 'Estherman School of Pharmacy, University of North Carolina at Chapel Hill, Chapel Hill, NC.</td>
<td>#556</td>
<td>Effects of training on blood pressure measurement by HDO in cynomolgus monkeys. B. Niggemann, M. Niehoff, J. Luft and G. Weinbauer. Covance Laboratories GmbH, Muenster, Germany.</td>
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<td>#550</td>
<td>Co-exposure of a novel mouse model to low-dose trichloroethylene and inorganic arsenic; interactions, genetics, and renal toxicity. M. C. DeSimone1,2, G. Glavich1, A. Bohn2 and D. Threadgill1,2. 'Curriculum in Toxicology, University of North Carolina at Chapel Hill, Chapel Hill, NC and 'Department of Genetics, North Carolina State University, Raleigh, NC.</td>
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<td>#552</td>
<td>Development and evaluation of a mucociliary clearance model in beagle dogs via planar gamma camera image analysis. P. Kuehl, R. Chand, M. Doyle-Eische and J. McDonald. LRRI, Albuquerque, NM.</td>
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<td>#553</td>
<td>Repression of multiple CYP2B members by RNAi in mice. B. Demiri, X. Yu, E. Holle and W. S. Baldwin. Biology/ Clemson University, Environmental Toxicology, Clemson, SC.</td>
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#558
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STATISTICAL ANALYSIS OF ELECTROCARDIOGRAPHIC (ECG) DATA COLLECTED BY JACKETED EXTERNAL TELEMETRY (JET) AND IMPLANTED TELEMETRY (IMPTELM) IN NONHUMAN PRIMATES. J. J. Kremer, M. A. Osinski, Z. Xiang, E. Lemke, T. W. Beck and C. M. Foley, Covance Laboratories Inc., Madison, WI.

#559
Poster Board Number ..........................357

MINIMALLY-INVASIVE TELEMERIC MEASUREMENT OF ARTERIAL BLOOD PRESSURE IN THE FREELY MOVING MINIPIG. ISOPRENALINE VALIDATION. S. Baudet¹, S. Milano², O. Boucheix², E. Chalencon³, P. Lege¹, C. Bory¹, C. Dupuin¹, E. Rieux² and S. Tissia³. ¹Ricerca Biosciences SAS, Lyon, France and ²Data Sciences International, St. Paul, MN.

#560
Poster Board Number ..........................358


#561
Poster Board Number ..........................359


#562
Poster Board Number ..........................360

TELEMETRY ECG LEAD PLACEMENT IN CYMOMOLGS MONKEYS (MACACA PASCULARIS): METHOD TO MAXIMIZE SIGNAL QUALITY. S. Authier¹, M. Stonerok², S. Fournier¹, B. Moon¹ and E. Troney¹. ¹Lab. Research Inc., Laval, QC, Canada, ²Vertex Pharmaceuticals, Cambridge, MA, ³Data Science International, St. Paul, MN and ⁴Faculty of Veterinary Medicine, University of Montreal, St. Hyacinthe, QC, Canada. Sponsor: K. Draper.

Monday Afternoon, March 7
1:00 PM to 4:30 PM
Exhibit Hall

Poster Session: Inhalation and Cardiopulmonary Toxicology

Chairperson(s): Mehdi Hazari, U.S. EPA, Research Triangle Park, NC, and Jonathan Shannahan, University of North Carolina Chapel Hill, Chapel Hill, NC.

Displayed: 1:00 PM–4:30 PM

Author Attended: 2:45 PM–4:30 PM

#563
Poster Board Number ..........................401


#564
Poster Board Number ..........................402

ACUTE INHALATION STUDY OF ALLYL ALCOHOL FOR DERIVATION OF ACUTE EXPOSURE GUIDELINE LEVELS (AEGL). A. Li¹, J. Fowles², M. Banton³, C. Picut¹ and D. Kirkpatrick. ¹Exponent Inc., San Francisco, CA, ²LyonelBaseI, Rotterdam, Netherlands and ³WIL Research Laboratories, LLC, Ashland, OH.

#565
Poster Board Number ..........................403

COMPARING ELECTROSTATIC AEROSOL IN VITRO EXPOSURE SYSTEM (EAVES) TO TRADITIONAL PARTICULATE MATTER EXPOSURE TECHNIQUE. K. Lichtveld, S. Ebersviller, K. G. Sexton, H. Jeffries and F. Jaspers. 1Environmental Sciences & Engineering, University of North Carolina at Chapel Hill, Chapel Hill, NC and 2CEMALB, Chapel Hill, NC.

#566
Poster Board Number ..........................404


#567
Poster Board Number ..........................405

SUSTAINED TRANSCRIPTIONAL RESPONSES ACCOMPANY PULMONARY ACROLEIN EXPOSURE IN MICE. P. C. Burcham, B. Laufer, A. Raso and P. Henry. Pharmacology Unit, University of Western Australia, Nedlands, WA, Australia.

#568
Poster Board Number ..........................406

GAS-PHASE AND PARTICULATE COMPONENTS OF DIESEL EXHAUST PRODUCE DIFFERENTIAL CARDIOPHYSIOLOGICAL IMPAIRMENTS IN HEALTHY RATS. C. Gordon¹, Q. Krantz², P. J. Rowsay³, M. C. Schladweiler¹, A. D. Ledbetter² and U. P. Kodavanti³. ¹Toxicity Assessment Division, U.S. EPA, Research Triangle Park, NC, ²Environmental Public Health Division, U.S. EPA, Research Triangle Park, NC and ³University of North Carolina, Chapel Hill, NC.

#569
Poster Board Number ..........................407

A POSSIBLE MECHANISM ASSOCIATED WITH AMIODARONE-INDUCED PULMONARY TOXICITY. B. M. Al-Shammari¹, S. AlBakheet² and M. Khalifa³. ¹National Food and Drug Authority, Riyadh, Saudi Arabia and ²Pharmacology, King Saud University, Riyadh, Saudi Arabia.

#570
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VARIABILITY IN ONSET OF ECG CHANGES INDICATIVE OF ISCHEMIA AFTER EXPOSURE TO WHOLE VS FILTERED DIESEL EXHAUST IN HYPERTENSIVE RATS—INSIGHT ON MECHANISM? C. M. Lamb¹, N. Haykal-Coates², A. P. Carll³, M. S. Hazari¹, D. W. Winslett¹, D. L. Costa¹ and A. K. Farrow³. ¹Toxicology, University of North Carolina at Chapel Hill, Chapel Hill, NC, ²EPHD, U.S. EPA, Research Triangle Park, NC, ³EHE, University of North Carolina School of Public Health, Chapel Hill, NC and ⁴ORD, U.S. EPA, Research Triangle Park, NC.
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#571  Poster Board Number .....................................#409

#572  Poster Board Number .....................................#410
TOXIC LOAD METHOD FOR CALCULATING INhalATION DOSES FOLLOWING TOXIC VAPOR EXPOSURES. S. Chesler1, H. Salem2 and J. Moser3. 1Edgewood Chemical Biological Center, Gunpowder, MD and 2Chemical Security Analysis Center, Aberdeen Proving Ground, MD.

#573  Poster Board Number .....................................#411
PRELIMINARY ASSESSMENT OF PULMONARY TOXICITY OF MIDDLE EASTERN SOIL EXTRACT IN A RAT MODEL. M. L. Foster1, K. H. Taylor1, M. G. Stockelmann1, J. A. Centeno1 and D. C. Dorman1. 1College of Veterinary Medicine, North Carolina State University, Raleigh, NC; 2Naval Medical Research Unit, Dayton, Wright-Patterson AFB, OH and 3Armed Forces Institute of Pathology, Washington, D.C.

#574  Poster Board Number .....................................#412
THE CIGARETTE ADDITIVE MENTHOL BLOCKS THE RESPIRATORY TRACT IRRITATION RESPONSE TO ACRELIN, A PRIMARY IRRIANTED IN CIGARETTE SMOKE. D. N. Willis1, B. Liu2, J. B. Morris1 and S. Jordi3. 1Toxicology Program, University of Connecticut, Storrs, CT and 2Pharmacology, Yale University Medical School, New Haven, CT.

#575  Poster Board Number .....................................#413
THE USE OF E-CADHERIN IMMUNOFLUORESCENCE IN PULMONARY TOXICOLOGIC PATHOLOGY STUDIES. L. A. Battelli, V. Castranova, D. W. Porter, S. Friend, D. Schwegler-Berry, P. Willard and A. F. Hubbs. HELD, NIOSH, Morgantown, WV.

#576  Poster Board Number .....................................#414
TELEMETERED THORACIC IMPEDANCE PNEUMOGRAPHY: COMPARISON WITH AMBULATORY RESPIRATION MEASUREMENT STANDARDS IN THE ANESTHETIZED BEAGLE DOG AND PHARMACOLOGICAL VALIDATION. S. Milano1, C. Bory2, S. Baudet2 and B. Moon2. 1Ricerca Biosciences SAS, Lyon, France and 2Data Sciences International, St. Paul, MN.

#577  Poster Board Number .....................................#415
INHALATION CAPSULE DOSECONSERVING TEST ARTICLE IN SMALL SCALE INHALATION EXPOSURES. S. A. Moore1, R. Goodway1, C. Hardy1, D. Coombs1, A. Allen1, S. Cracknell2, G. Paul1, G. Somers1, A. Smith2, A. Taylor2, S. Sparrow4 and D. Hassall1. 1Inhalation, Huntingdon Life Sciences, Huntingdon, United Kingdom; 2Huntingdon Life Sciences, East Millstone, NJ and 4Gliaxosmithkline (GSK), Ware, United Kingdom.

#578  Poster Board Number .....................................#416
IN VITRO MACROPHAGE CYTOTOXICITY OF INDIUM-PHOSPHIDE AND INDIUM-TIN OXIDE PARTICLES IS DEPENDENT UPON PHAGOSOME ACIDIFICATION AFTER PARTICLE UPTAKE. W. M. Gwinn1, C. J. Shines2, R. W. Bousquet3 and D. L. Morgan4. 1Laboratory of Toxicology and Pharmacology, NIEHS, Research Triangle Park, NC and 2Alien Science and Technology Corporation, Research Triangle Park, NC.

#579  Poster Board Number .....................................#417
THE EFFECT OF PARTICLE SIZE AND SEASON ON THE TOXICITY OF URBAN AND RURAL PM. J. E. Mitrowsky1, C. Hickey1, M. Lipiec Rosen1, R. Petter2, L. Horton3, K. Gallanes1 and T. Gordon4. 1Environmental Medicine, New York University, Tuxedo Park, NY and 2Environmental Health, University of Massachusetts, Amherst, MA.

#580  Poster Board Number .....................................#418
BIOMARKERS FOR NASAL RESPONSE TO NAPHTHALENE VAPOR. J. B. Morris1, L. S. Van Winkle1, J. Cichocki1 and A. R. Buckpitt2. 1Toxicology Program, University of Connecticut, Storrs, CT and 2Veterinary Medicine, University California Davis, Davis, CA.

#581  Poster Board Number .....................................#419
AMBIENT PARTICLE COMPOSITION AND MECHANISMS OF ENDOTHelial DYSFUNCTION IN A MURINE MODEL. A. Cuevas, E. Libeida and L. Chen. Environmental Medicine, New York University School of Medicine, Tuxedo, NY.

#582  Poster Board Number .....................................#420
GENERATION AND CHARACTERIZATION OF A CYP2F2-NULL MOUSE MODEL AND STUDIES ON THE ROLE OF CYP2F2 IN NAPHTHALENE-INDUCED TOXICITY IN THE LUNG AND NASAL MUCOSA. L. Li1,2, Y. Wei1,2, L. Van Winkle1, X. Zhou1, J. Hu1, F. Xie1,2, K. Kluzetman1 and X. Ding1. Wadsworth Center, New York State Department of Health, Albany, NY, 1School of Public Health, State University of New York at Albany, Albany, NY and 2Center for Health and the Environment, University of California Davis, Davis, CA.

#583  Poster Board Number .....................................#421
GENDER-RELATED DIFFERENCES IN AIR POLLUTION–MEDIATED EXPRESSION OF FACTORS ASSOCIATED WITH PROGRESSION OF ATHEROSCLEROSIS. A. K. Lund1, J. Lucero1, L. Blair1 and J. D. McDonald2. Lovelace Respiratory Research Institute, Albuquerque, NM.

#584  Poster Board Number .....................................#422
CHANGES IN MOUSE PULMONARY RESPONSES AS A FUNCTION OF METHACHOLINE AEROSOL CHARACTERISTICS. B. A. Haghverdian1, L. Mender1, A. Keabough1, G. Groeskin1 and M. Kleinman1. 1Medicine, University of California Irvine, Irvine, CA and 2Microbiology and Molecular Genetics, University of California Irvine, Irvine, CA.
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<td>#593</td>
<td>ACUTE INHALATION SAFETY ASSESSMENT OF ACETYLATED LECITHIN, S. A. MacKenzie, T. A. Kegelman and M. P. DeLorme. Inhalation Toxicology, DuPont Haskell Global Centers for Health and Environmental Sciences, Newark, DE.</td>
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<td>#586</td>
<td>#594</td>
<td>6:2 FLUOROTELOMER ALCOHOL: INHALATION EXPOSURE ATMOSPHERE CHARACTERIZATION AND ACUTE INHALATION TOXICITY. D. P. Kelly, T. L. Serex, R. C. Buck, S. E. Loveless and M. P. DeLorme. Inhalation Toxicology, DuPont Haskell Global Centers for Health and Environmental Sciences, Newark, DE.</td>
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<td>#587</td>
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<td>6:2 FLUOROTELOMER ALCOHOL: ONE-WEEK INHALATION TOXICITY STUDY. M. P. DeLorme, T. L. Serex, S. R. Frame, R. C. Buck and S. E. Loveless. Inhalation Toxicology, DuPont Haskell Global Centers for Health and Environmental Sciences, Newark, DE.</td>
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<td>#596</td>
<td>BEHAVIORAL EFFECT OF CHRONIC INHALATION EXPOSURE TO MOTORCYCLE EXHAUST IN RATS. H. Yu, T. Li and T. Ueng. National Taiwan University, Taipei, Taiwan.</td>
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<td>#597</td>
<td>STUDY OF GENERATING AND MONITORING PROTEIN AEROSOL FOR INHALATION STUDY. J. Song, H. Yang, S. Kwon, K. Jung, Y. Yang, K. Lee, J. Heo, C. Kim and C. Song. Koeran Institute of Toxicology, Jeong-Up, Republic of Korea.</td>
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<td>IN VITRO AND IN VIVO ANALYSIS OF SIZE-FRACTIONATED PM FROM DIFFERENT U.S. CITIES. C. A. Hickey, L. Horton, K. Galdanes, M. Lippmann and T. Gordon. Environmental Medicine, New York University School of Medicine, Tuxedo, NY.</td>
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<td>TOBACCO SMOKE MODULATES THE PULMONARY AND CNS EFFECTS OF OZONE INHALATION IN RATS. V. Bhooopalan, M. M. Shah, D. M. Thomas, S. Han and D. K. Bhalla. Pharmaceutical Sciences, Wayne State University, Detroit, MI; Animal and Food Sciences, University of Kentucky, Lexington, KY and R&amp;D Service, John D. Dingell VAMC, Detroit, MI.</td>
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<td>EFFECT OF ETHANOL VAPORS, OZONE, AND NANOPARTICLES ON PULMONARY INFLAMMATION IN A RAT MODEL OF ALLERGIC ASTHMA. A.Scarino1, R. Tardi1, P. Renzi2 and M. Charbonneau1, 1INRS-Institut Armand-Frappier, Université du Québec, Laval, QC, Canada and 2Université de Montréal, Montréal, QC, Canada.</td>
<td>MODULATION BY NANO-SIZED CERIUM OXIDE OF THE TOXICITY OF INHALED DIESEL ENGINE EXHAUST IN ATHEROSCLEROSIS-PRONE APOLIPOPROTEIN E-DEFICIENT MICE. F. R. Cassee1, J. F. Boere1, P. H. Fokkens1, D. L. Leseman1, F. Krystek1, I. Gossens1 and M. R. Miller2. 1Centre for Environmental Health, National Institute for Public Health and the Environment (RIVM), Bilthoven, Netherlands, 2Centre for Cardiovascular Science, University of Edinburgh, Edinburgh, United Kingdom and 3MiPlaza Material Analysis, Eindhoven, Netherlands.</td>
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<td>LONG TERM RESPONSE OF RATS TO SINGLE INTRATRACHEAL EXPOSURE OF LIBBY AMPHIBOLE (LA) OR AMOSITE. J. M. Cyphert1, D. J. Padilla-Carlin1, M. C. Schladweiler1, A. Nyska1, J. H. Shannahah2, U. P. Kodavanti2 and S. H. Gavett1. 1Curriculum in Toxicology, University of North Carolina School of Medicine, Chapel Hill, NC, 2EPHD, NHEERL, U.S. EPA, Research Triangle Park, and 3Sackler School of Medicine, Tel Aviv University, Tel Aviv, Israel.</td>
<td>COMBINED EFFECTS OF DIESEL EXHAUST PARTICLES AND HIGH GLUCOSE ON MMP-2 EXPRESSION IN HUMAN MONOCYTES. R. Wan1, Y. Mo2, S. Chien2, D. J. Tollerud1 and Q. Zhang1. 1Environmental and Occupational Health Sciences, University of Louisville, Louisville, KY and 2Surgery, University of Louisville, Louisville, KY.</td>
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<td>LIBBY AMPHIBOLE-INDUCED INFLAMMATION IS MODULATED BY IN IRON IN VITRO AND IN VIVO. J. Shannahah1, M. Schladweiler2, J. McGee3, J. Richards3, S. Gavett1, A. Ghio2 and U. Kodavanti2. 1University of North Carolina Chapel Hill, Chapel Hill, NC and 2NHEERL, U.S. EPA, Research Triangle Park, NC.</td>
<td>A SINGE EXPOSURE TO DIESEL EXHAUST PARTICLES AND HIGH GLUCOSE ON MMP-2 EXPRESSION IN HUMAN MONOCYTES. R. Wan1, Y. Mo2, S. Chien2, D. J. Tollerud1 and Q. Zhang1. 1Environmental and Occupational Health Sciences, University of Louisville, Louisville, KY and 2Surgery, University of Louisville, Louisville, KY.</td>
</tr>
<tr>
<td>#604</td>
<td>Poster Board Number</td>
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</table>
**Program Description (Continued)**

**Abstract #

Monday Afternoon, March 7**

1:00 PM to 4:30 PM

Exhibit Hall

**Poster Session: Children’s Health/Juvenile Toxicology**

Chairperson(s): Christopher Bowman, Pfizer Drug Safety Research and Development, Groton, CT.

Displayed: 1:00 PM–4:30 PM

Author Attended: 1:00 PM–4:45 PM

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**Poster Board Number: 501**

**Abstract #

1:00 PM–4:30 PM**

**Poster Board Number: 503**

**Abstract #

1:00 PM–4:30 PM**

**Poster Board Number: 505**

**Abstract #

1:00 PM–4:30 PM**

**Poster Board Number: 506**

**Abstract #

1:00 PM–4:30 PM**

**Poster Board Number: 507**

**Abstract #

1:00 PM–4:30 PM**

**Poster Board Number: 508**

**Abstract #

1:00 PM–4:30 PM**

**Poster Board Number: 509**

**Abstract #

1:00 PM–4:30 PM**

**Poster Board Number: 510**

**Abstract #

1:00 PM–4:30 PM**

**Poster Board Number: 511**

**Abstract #

1:00 PM–4:30 PM**

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**DISORDERED PORPHYRIN METABOLISM AMONG AUTISTIC CHILDREN IS NOT ASSOCIATED WITH MERCURY EXPOSURE.**

J. S. Woods1, S. E. Armel1, 2, D. Echeverria1 and N. J. Heyer1, 2. Environmental and Occupational Health Sciences, University of Washington, Seattle, WA.

**Prenatal Exposure to Dioxins and PCBs is associated with increased risk of wheezing and increased number of upper airway infections in one-year-old children.**

S. B. Stolevik1, B. Graman1, 2, U. C. Nygaard1, E. Namork1, M. Haugen1, H. E. Kvalaen1, H. M. Meltzer1, J. Alexander1, H. van Loveren1, 2, J. H. van Delft1 and M. Løvik1, 4. Norwegian Institute of Public Health, Oslo, Norway, National Institute of Public Health and the Environment, Bilthoven, Netherlands, Maastricht University, Maastricht, Netherlands and Norwegian University of Science and Technology, Trondheim, Norway.

**Prenatal exposure to Flavonoids: Implication for Cancer Risk.**


**Effects of IntraVenous and Oral Administration of DEHP in the Lungs of Neonatal Male Rats.**

J. R. Latendresse1, L. Conacho1, L. Miskulehnalvili1, S. J. Moon1 and K. Delcos1. Division of Biochemical Toxicology, National Center for Toxicological Research. U.S. FDA, Jefferson, AR and Toxilogic Pathology Associates, Jefferson, AR.

**Juvenile Toxicity Assessment of Anidulafungin in Rats.**

G. Chmielewski1, C. J. Bowman1, S. L. Ripp1, E. M. Lewis1, C. M. Sawaryn1 and D. M. Cross1. Pfizer Inc., Groton, CT. Charles River Laboratories Preclinical Services, Horsham, PA and Pfizer Inc., Sandwich, United Kingdom.

**Organ System Assessments in Juvenile Dog Toxicology Studies.**


**Chemical Intolerance, Attention Deficit/Hyperactive Disorder, and Autism—A Link?**

#621
Poster Board Number...............................512
ANALYSIS OF TRANSFER RATE OF CONGENERS OF PCBs AND OH-PCBs FROM MOTHER TO FETUS THROUGH PLACENTA IN HUMAN. C. Mori2, E. Todaka1, Y. Motzu1,2, T. Fujisaki1, M. Shimoda2, H. Nakaoka1,2 and M. Hanazato1; 1Department of Bioenvironmental Medicine, Graduate School of Medicine, Chiba University, Chiba, Japan and 2Center for Preventive Medical Science, Chiba University, Chiba, Japan.

#622
Poster Board Number...............................513
ENDOCRINE EFFECTS OF A NOVEL HIV-NNRTI IN SEXUALLY IMMATURE FEMALE CYNOMOLGUS MONKEYS. F. van Velsen1, J. Sirenborg1, B. Niggemann2, S. Friderichs-Gromoll1, G. Weinbauer1, I. Vanwelkenhuysen2, L. Grooten1, S. Lachau-Durand2, S. De Jonghe1, L. De Schaeyprijser1, T. Coogan1, L. Lammens2, A. Raasch2 and W. Coussen1; 1Covance Laboratories GmbH, Muenster, Germany, 2GPCD, Janssen Pharmaceutica, Beerse, Belgium, 3PCD, Centocor, Radnor, PA, and 4PCD, Tibetee, Beerse, Belgium.

#623
Poster Board Number...............................514
IMPAIRMENT OF PRODUCTION IN ADULT MALE, BUT NOT FEMALE, RATS FOLLOWING JUVENILE TREATMENT WITH THE AROMATASE INHIBITOR, EXEMESTANE, G. Cappon2, M. E. Hurtt3, R. E. Chapin1 and L. Burns-Naasz3; 1DSRD, Pfizer, Groton, CT and 3DSRD, Pfizer, LaJolla, CA.

#624
Poster Board Number...............................515
MOST BPA-FREE PLASTICS RELEASE CHEMICALS HAVING ESTROGENIC ACTIVITY (EA): BPA-FREE DOES NOT MEAN EA-FREE. G. Bittner1,2, C. Z. Yang2, S. Yaniger1 and D. Klein1; CertiChem, Inc., Austin, TX, 1PlastiPure, Inc., Austin, TX and 2University of Texas, Austin, TX. Sponsor: R. Rice.

#625
Poster Board Number...............................516
MANGANESE LEVELS IN CARPET DUST ARE ASSOCIATED WITH PROXIMITY TO AGRICULTURAL USE OF MANEB AND MANCOZEB. R. Gunier1, D. R. Smith2, A. Bradman1 and B. Eskenazi1; 1University of California Berkeley, Berkeley, CA and 2University of California Santa Cruz, Santa Cruz, CA.

#626
Poster Board Number...............................517
BLOOD LEAD LEVELS AND IQ AMONG PRESCHOOL CHILDREN. J. Liu1, A. McCauley1, J. Pinto-Martín1, C. Yan3, X. Shen3 and H. Needleman3; 1University of Pennsylvania, Philadelphia, PA, 2Emory University, Atlanta, GA, 3Shanghai Jiaotong University, Shanghai, China and 4University of Pittsburgh, Pittsburgh, PA.

#627
Poster Board Number...............................518
CHARACTERISTICS OF HISTOPATHOLOGICAL CHANGES INDUCED BY SEMICARBAZIDE HYDROCHLORIDE IN RATS. M. Takahashi, M. Yoshida, K. Inoue, T. Morikawa and A. Nishikawa; Pathology, National Institute of Health Sciences, Tokyo, Japan.

#628
Poster Board Number...............................519
EFFECTS OF BLOOD LEAD LEVEL ON COGNITIVE AND PERSONAL ABILITY IN SCHOOL CHILDREN. D. Kim1, S. Yu1 and J. Cha1; 1Department of Environmental Health, National Institute of Environmental Research, Inchon, Republic of Korea, 2Department Environmental Health, National Institute of Environmental Research, Inchon, Republic of Korea and 3Lab. Industrial Environment, Research Institute of Industrial health and Environment, Korean Industrial Health Association, Seoul, Republic of Korea. Sponsor: J. Park.

#629
Poster Board Number...............................520
NEUROMOTOR AND SENSORY CHANGES IN ITALIAN CHILDREN RESIDENT IN THE VICINITY OF FERROALLOY INDUSTRY. R. Lucchini1, F. Donna1, S. Zoni1, S. Guzzetti1, E. Bontempi2, D. R. Smith3 and N. Zimmerman4; 1University of California Santa Cruz, Santa Cruz, CA, 2University of Brescia, Brescia, Italy, 3PHS, Reggio Emilia, Italy and 4Purdue University, West Lafayette, IN.

#630
Poster Board Number...............................521

Abstract #

#631
Poster Board Number...............................525
NOVEL DUOX INDUCTION IN EPIDERMAL KERATINOCYTES BY IFN-γ AND IL-4. T. Hill and R. H. Rice; Environmental Toxicology, University of California at Davis, Davis, CA.

#632
Poster Board Number...............................526
IN VIVO DERMAL UPTAKE PATTERN FOR 20 DILUTE AQUEOUS ORGANIC CHEMICALS IS POORLY PREDICTED BY MODELS BASED ON INVITRO DATA. K. T. Bogen; Health Sciences, Exponent, Inc., Oakland, CA.

#633
Poster Board Number...............................527
PREDICTING SKIN PERMEABILITY FROM COMPLEX CHEMICAL MIXTURES: THE IMPACT OF BIOLOGICAL SKIN MODEL SYSTEMS ON QUANTITATIVE STRUCTURE PERMEATION RELATIONSHIPS (QSPR). J. E. Riviere and J. D. Brooks; Center for Chemical Toxicology Research and Pharmacokinetics, North Carolina State University, Raleigh, NC.
Program Description (Continued)

#634 Poster Board Number .........................528

**IN VITRO EVALUATION OF THE EFFECT OF DOSE, RECEPTOR FLUID, AND VEHICLE ON THE ABSORPTION OF FIVE PHYSICOCHEMICALLY DIFFERENT COMPOUNDS IN PORCINE SKIN.** D. Karadzovska, E. L. Koivisto, J. D. Brooks and J. E. Riviere. Center for Chemical Toxicology Research and Pharmacokinetics, North Carolina State University, Raleigh, NC.

#635 Poster Board Number .........................529

**CHARACTERIZATION OF NORMAL SKIN THICKNESS FOR VARIOUS BODY REGIONS, AGES, AND GENDERS OF YUCATAN MINIATURE SWINE.** L. Brown1, D. Kim1, C. Hanks2, D. Brocksmith1, M. Hodges1, J. Liu1 and G. Bouchard1. Sinclair Research Center, Columbia, MO and 2VMDL CVM University of Missouri, Columbia, MO.

#636 Poster Board Number .........................530

**NORMAL PHYSIOLOGICAL RANGES FOR HANFORD MINIATURE SWINE.** M. Ross, L. Brown, D. Unterreiner, C. Hanks, J. Liu, M. Hodges and G. Bouchard. Sinclair Research Center, Columbia, MO.

#637 Poster Board Number .........................531


#638 Poster Board Number .........................532

**A STUDY OF PHOTOTOXICITY FOLLOWING INTRAVENOUS ADMINISTRATION OF CIPROFLOXACIN HYDROCHLORIDE IN THE MICROMINIPIG.** H. Kawaguchi1, N. Miyoshi1, A. Tanimoto1, Y. Takahashi1, S. Utsunoymiya2, T. Motokado1, Y. Ooshima2, H. Izumi1, T. Sukamoto2 and R. Nagata1. Kagoshima University, Kagoshima, Japan and 2Shin Nippon Biomedical Laboratories (SNBL), Ltd., Kagoshima, Japan.

#639 Poster Board Number .........................533

**INFLUENCE OF THE ARYL HYDROCARBON RECEPTOR ON PROLIFERATION OF HUMAN KERATINOCYTES (HACAT).** M. Kalms, J. Hennen, J. Clemons and B. Blömeke. Environmental Toxicology, University of Trier, Trier, Germany.

#640 Poster Board Number .........................534

**WHAT IS THE BEST SKIN PREPARATION FOR DERMAL PENETRATION STUDIES IN VITRO? A COMPARISON OF FULL-THICKNESS SKIN AND DERMATOMED SKIN.** K. Guth1, M. Schaefer-Korting1, E. Fahn1, B. van Ravenzwaay1 and R. Landsiedel1. 1BASF SE, Experimental Toxicology and Ecology, Ludwigshafen, Germany and 2Freie Universitaet, Berlin, Germany.

#641 Poster Board Number .........................535

**ANTI-INFLAMMATORY DRUG EFFICACY FOR TREATING SULFUR MUSTARD INDUCED CUTANEOUS LESIONS, J. L. Plahovinska1, M. D. Etheridge1, J. Rhone1, F. M. Reid1, J. F. Dimliewicz1 and J. S. Graham1. Battelle, Columbus, OH and 2U.S. Army Medical Research Institute of Chemical Defense, Aberdeen, MD.

#642 Poster Board Number .........................536

**DERMAL ABSORPTION OF DICYCLOHEXYLAMINE (DCHA) IN METAL WORKING FLUID FORMULATIONS.** R. Baynes, A. Linthicum, J. Yeatts, J. Brooks and E. Koivisto. North Carolina State University, Raleigh, NC.

#643 Poster Board Number .........................537

**INTERLEUKIN 6 EXPRESSION MODULATES IRRITANT DERMATITIS SEVERITY.** E. G. Lee, B. M. Mickle and R. Gallucci. Pharmaceutical Sciences, Oklahoma University State Health Sciences Center College of Pharmacy, Oklahoma City, OK.

#644 Poster Board Number .........................538

**THE EPICUPLAR™ ASSAY FOR TESTING EYE IRRITATION IN VITRO: IN HOUSE VALIDATION WITH 60 TEST SUBSTANCE IN A ROUTINE LAB OF THE CHEMICAL INDUSTRY.** A. Schrage1, S. Koffel1, B. Wareing1, R. B. Tacou1, B. van Ravenzwaay1, H. Kanderoova1 and R. Landsiedel1. 1Experimental Toxicology and Ecology, BASF SE, Ludwigshafen am Rhein, Germany, 2Master Program in Toxicology, Technical University of Kaiserslautern, Kaiserslautern, Germany and 3MatTek Corporation, Ashland, MA.

#645 Poster Board Number .........................539

**EVALUATION OF THE IN VITRO EPISKIN AND SKINETHIC RHE SKIN IRRITATION TEST METHODS FOR HAZARD IDENTIFICATION OF CHEMICALS.** D. Lelièvre1, N. Alépée2, J. Cotovio1, M. H. Grandadier1, A. De Bruggerolle de Fraissinet1, C. Tornier1 and J. R. Meunier1. 1SkinEthic Laboratories, Lyon, France and 2SkinEthic Laboratories, Lyon, France. Sponsor: H. Toutain.

#646 Poster Board Number .........................540

**ADAPTATION OF THE VALIDATED SKINETHIC RHE SKIN CORROSION TEST METHOD TO 0.5 CM2 TISSUE SAMPLE.** C. Tornier1, M. Roquet1, N. Alépée2, J. R. Meunier2 and A. De Bruggerolle de Fraissinet1. SkinEthic Laboratories, Lyon, France and 2L’Oréal, Aulnay sous Bois, France and 3SkinEthic Laboratories, Lyon, France. Sponsor: H. Toutain.

#647 Poster Board Number .........................541

Program Description (Continued)

Abstract #    Poster Board Number .....................................542

Poster Session: Immunotoxicity: Methods and Evaluation

Chairperson(s): Raj Krishnaraj, Covance Inc., Madison, WI.

Displayed: 1:00 PM–4:30 PM

Author Attended: 1:00 PM–2:45 PM

#649        Poster Board Number .....................................547
#650        ANALYTICAL VALIDATION OF IMMUNOPHENOTYPING FOR CD5 IN PERIPHERAL BLOOD, SPLEEN, AND THYMUS FOR CD 1 MICE. P. Sims2, P. Joshi2, J. E. Arrington and J. Puchalski2. 1Toxicology Study Direction, Covance, Madison, WI and 2Immunotoxicology, Covance, Madison, WI.

#651        POSTER BOARD NUMBER .....................................548
#652        IN VITRO MODEL FOR IMMUNOTOXICITY: SURFACE MARKER EXPRESSION AND CYTOKINE RELEASE IN NORMAL HUMAN DENDRITIC CELLS. T. Landry, M. Klauser, A. Hunter, J. Sheasgreen, P. J. Hayden and S. Ayehunie. MatTek Corp, Ashland, MA.

#653        USE OF AN ELECTROSPUN POLYCAPROLACTONE NANOFIBROUS SCAFFOLD AS A POTENTIAL DRUG DELIVERY SYSTEM FOR IMMUNOMODULATORY COMPOUNDS, C. E. McLoughlin, M. J. Smith, W. Auttachot, G. L. Bowlin and K. L. White. Virginia Commonwealth University, Richmond, VA.

#654        TCDD ADSORBED ONTO NATURAL AND SYNTHETIC SILICA SUPPRESSES HUMORAL IMMUNITY IN MICE. N. Kovalova1, R. Crawford3, B. Kaplan2, S. Kim2, S. Boyd2, B. Teppen1, C. Johnston1, T. Pinnavaia1 and N. Kamiński2. 1Pharmacology & Toxicology, Michigan State University, East Lansing, MI, 2Center for Integrative Toxicology, Michigan State University, East Lansing, MI, 3Crop & Soil Science, Michigan State University, East Lansing, MI, 4Chemistry, Michigan State University, East Lansing, MI and 5Soil Chemistry & Mineralogy, Purdue University, W. Lafayette, IN.

#655        TITANIUM DIOXIDE NANOPARTICLES: LACK OF IMMUNOSUPRESSIVE AND CONTACT HYPERSENSITIVITY EFFECTS IN FEMALE MICE. W. Auttachot1, C. E. McLoughlin1, M. J. Smith1 and K. L. White1. 1Pharmacology & Toxicology, Virginia Commonwealth University, Richmond, VA and 2Biomedical Engineering, Virginia Commonwealth University, Richmond, VA.

#656        ACTIVATED CYTOTOXIC AND HELPER T-CELLS ARE REDUCED IN C57BL6 MICE EXPOSED TO TUNGSTATE IN A ONE-GENERATION EXPOSURE. A. R. Osterburg1, C. T. Robinson1, V. P. Mokshin1, M. G. Stockelmann1 and G. L. Babcock2. 1Naval Medical Research Unit - Dayton, Wright-Patterson AFB, OH and 2Shriners Hospitals for Children and the University of Cincinnati, Cincinnati, OH. Sponsor: K. Mummy.

#657        ASSOCIATIONS OF PERFLUOROCHEMICALS (PFCS) WITH IMMUNE, BIOCHEMICAL, AND HEMATOLOGICAL PARAMETERS IN BOTTLENOSE DOLPHINS. P. Fair1, T. Romano1, T. Harley1, J. Reif1, G. Bossart1, J. Adams1, M. Houde1, D. Muir1, C. Rice1 and P. Margie1. 1Pharmacology & Toxicology, Michigan State University, East Lansing, MI, 2Mystic Aquarium, Mystic, CT, 3Medical University of South Carolina, Charleston, SC, 4Colorado State University, Fort Collins, CO, 5Harbor Branch Oceanographic Institute at Florida Atlantic University, Fort Pierce, FL, 6Environment Canada, Burlington, ON, Canada, 7Clemson University, Clemson, SC and 8University of Nevada Las Vegas, Las Vegas, NV.

#658        COMPARISON EFFECTS OF IN VITRO PFOS EXPOSURE ON BOTTLENOSE DOLPHIN AND MURINE IMMUNE FUNCTION. J. R. Wirth1, M. M. Peden-Adams1, N. Henry1 and P. A. Fair1. 1Graduate Program of Marine Biology, College of Charleston, Charleston, SC, 2Harry Reid Center for Environmental Science, University of Nevada Las Vegas, Las Vegas, NV and 3NOAA/NOS/CECCHR, Charleston, SC.
Abstract #

#660

#661
IMMUNOTOXICOLOGIC EVALUATION OF RITUXIMAB AND CYCLOSPORINE IN CYNOMOLGUS MONKEYS. J. Legrand1, E. Grosdidier1, R. Fleurance1, C. Mimouni1, A. N’Guyen1, F. Gervais1 and J. Descotes1. CIT, Evreux, France and ‘Poison Center, Lyon, France.

#662
IMMUNOTOXICITY IN JUVENILE RATS. M. Rhodes1, S. Laffan2, C. Genell2, J. Gower2, C. Maier2, G. Nichols1, T. Fukushima5, J. Chism1, G. Tabolt1 and A. Bassiri. GlaxoSmithKline, Research Triangle Park, NC, GlaxoSmithKline, King of Prussia, PA and ‘Shionogi Pharmaceuticals, Osaka, Japan.

#663
THE EFFECTS OF TRIBUTYLtin (TBT) ON SPLENOCYTES IN F1 RATS EXPOSED TO TBT VIA PLACENTA, THEIR DAM’S MILK, AND/OR FOOD. M. Tsumoda, T. Kido1, R. Ikeuchi1, T. Kaido1, M. Hosokawa2, C. Sugaya3, H. Ohta4, H. Katagiri5, K. Hayashi5, T. Kosaka5, Y. Takeuchi5, T. Tashiro5 and Y. Aizawa5. Preventive Medicine and Public Health, Kitasato University School of Medicine, Sagamihara, Japan, Juntendo University Faculty of Medicine, Tokyo, Japan, Kitasato University School of Allied Health Sciences, Sagamihara, Japan, Institute of Environmental Toxicology, Tokyo, Japan and ‘Aoyama Gakuin University School of Science and Engineering, Sagamihara, Japan.

#664
USE OF TDAR (SRBC) IMMUNOTOXICITY MONITORING IN AN EXTENDED ONE GENERATION REPRODUCTIVE TOXICITY TEST WITH LEAD ACETATE. J. Hargitai1, D. J. Esdale1, R. Kubaszky1, T. Hanley2, D. Minnema2 and R. Lewis3. ‘LAB Research Ltd., Veszprem, Hungary, Syngenta Crop Protection LLC, Greensboro, NC and ‘Syngenta, Jealotts Hill, Bracknell, United Kingdom.

Abstract #

#665
LONG-TERM IMMUNOTOXIC EFFECTS OF COMBINED PRENATAL AND NEONATAL ATRAZINE EXPOSURE IN BALB/C MICE. I. Holaskova, R. Schafer, K. Brandung, E. Lukomska and J. B. Barnett. Microbiology, Immunology & Cell Biology, West Virginia University, Morgantown, WV.

#666
EFFECTS OF CIGARETTE SMOKE ON INFECTIOUS BURDEN, RESPIRATORY INFECTION, AND INFLAMMATORY RESPONSE WITH CHLAMYDIA PNEUMONIAE IN A MOUSE MODEL. S. P. Doherty-Lyons, C. Hoffman1, S. Kumar1, S. Kolhoff1, M. R. Hammerschlag2 and J. T. Zeikoff2. Environmental Medicine, New York University School of Medicine, Tuxedo, NY and ‘Pediatrics, State University of New York Downstate, Brooklyn, NY.

#667
EVALUATION OF THE IMMUNOMODULATORY POTENTIAL OF DIETHYL PHTHALATE FOLLOWING DERMAL EXPOSURE IN A MURINE MODEL. J. J. Franko, E. Lukomska, B. J. Meade and S. E. Anderson. NIOSH, Morgantown, WV.

Monday Afternoon, March 7
1:00 PM to 4:30 PM
Exhibit Hall

Poster Session: Mechanisms of Immunotoxicity

Chairperson(s): Alhaji Njai, University of Wisconsin Madison, Madison, WI, and Marc Williams, U.S. EPA, Durham, NC.

Displayed: 1:00 PM–4:30 PM

Author Attended: 2:45 PM–4:30 PM

#668
AFRICAN DUST ENDOTOXINS AND THEIR PRO-INFLAMMATORY ROLE IN HUMAN BRONCHIAL EPITHELIAL CELLS. M. G. Ortiz-Martínez1,2, E. Riverà1, L. B. Méndez3 and B. D. Jiménez Véliz3,1. Biochemistry, University of Puerto Rico Medical Sciences Campus, San Juan, ‘Department of Microbiology and Molecular Genetics, University of California Irvine, Irvine, CA, Center for Environmental and Toxicological Research, University of Puerto Rico San Juan and Department of Biology, University of Puerto Rico Rio Piedras, San Juan.

#669
AFRICAN DUST PM1, REACHING PUERTO RICO INDUCES OXIDATIVE STRESS AND PRO-INFLAMMATORY MEDIATORS IN HUMAN LUNG CELLS. R. I. Rodríguez1,3, L. B. Méndez Torres2 and B. D. Jiménez Véliz1,3. Biochemistry, University of Puerto Rico Medical Sciences Campus, San Juan, Puerto Rico, Department of Microbiology and Molecular Genetics, University of California Irvine, Irvine, CA and ‘Center for Environmental and Toxicological Research, University of Puerto Rico San Juan, Puerto Rico.
#670
**Abstract #**
**Poster Board Number** .......................... 620
**HEALTH EFFECTS DUE TO ACUTE EXPOSURE OF DUST SAMPLES COLLECTED FROM NELLIS DUNES RECREATIONAL AREA.** S. Proper1, M. Peden-Adams2, N. Ayala3, J. Berger-Ritchie3, S. Labahn4, S. Young5, B. Buck6, O. Goosens7,8, D. Soukap9, R. Sudowe10, Y. Teng11, D. Baron12, J. R. Harkema13 and D. E. Keil14,15,16. 1Michigan State University, East Lansing, MI, 2University of Nevada, Las Vegas, NV, 3Katholieke Universiteit, Leuven, Belgium, 4California State University, Bakersfield, CA and 5University of Utah, Salt Lake City, UT.

#671
**Abstract #**
**Poster Board Number** .......................... 621
**INFLAMMATION AND TISSUE DAMAGE IN THE MOUSE LUNG INDUCED BY WOOD SMOKE PARTICULATE MATTER FROM NEW AND OLD TECHNOLOGY HEATING APPLIANCES.** O. Uski1, M. Happo1, P. Jalava1, H. Lamberg1, P. Hakulinen1, P. Yli-Piirilä1, J. Ruusunen1, J. Mäki-Paakkanen1, R. Hillamo3, J. Jokiniemi2,4,6 and M. Hirvonen1,2. 1National Institute for Health and Welfare, Kuopio, Finland, 2University of Eastern Finland, Kuopio, Finland, 3Bioenergy 2020+ GmbH, Graz, Austria, 4Graz University of Technology, Graz, Austria, 5Bios Bioenergiesysteme GmbH, Graz, Austria and 6VTT Technical Research Centre of Finland, Espoo, Finland. Sponsor: M. Viluksela.

#672
**Abstract #**
**Poster Board Number** .......................... 622
**COMBUSTION CONDITIONS AFFECT TOXICOLOGICAL AND CHEMICAL PROPERTIES OF WOOD COMBUSTION PARTICLES.** M. Tapanainen1, P. Jalava2, H. Lamberg2, P. Hakulinen2, P. Yli-Piirilä3, J. Ruusunen2, J. Mäki-Paakkanen2, R. Hillamo3, J. Jokiniemi2,4,6 and M. Hirvonen1,2. 1National Institute for Health and Welfare, Kuopio, Finland, 2University of Eastern Finland, Kuopio, Finland, 3Finnish Meteorological Institute, Helsinki, Finland and 4VTT Technical Research Centre of Finland, Espoo, Finland. Sponsor: M. Viluksela.

#673
**Abstract #**
**Poster Board Number** .......................... 623
**DENDRITIC CELLS IN ALLERGIC ASTHMA EXHIBIT HEIGHTENED FUNCTIONAL INFLAMMATORY RESPONSES ON ACTIVATION BY AMBIENT PARTICULATE MATTER.** M. A. Williams1, S. M. Bauer2 and S. N. George3. 1NIH/NIH, EPHD, U.S. EPA, Research Triangle Park, NC and 2Department of Medicine, University of Rochester, Rochester, NC.

#674
**Abstract #**
**Poster Board Number** .......................... 624
**CHEMOKINE-MEDIATED INDUCTION OF CD11b+Gr1+ MYELOID-DERIVED SUPPRESSOR CELLS (MDSCs) BY CANNABINOIDS AND THEIR ROLE IN IMMUNOSUPPRESSION.** V. L. Hegde, P. S. Nagarkatti and M. Nagarkatti. Pathology, Microbiology & Immunology, University of South Carolina, Columbia, SC.

#675
**Abstract #**
**Poster Board Number** .......................... 625
**Δ⁹-TETRAHYDROCANNABINOL DECREASES ANTIGEN PRESENTATION ON DENDRITIC CELLS AFTER INFLUENZA INFECTION IN VITRO AND TOLL-LIKE RECEPTOR STIMULATION IN VITRO.** P. Karmaus1, W. Chen1,2, B. Kaplan1,4 and N. Kaminski1,2. 1Cell & Molecular Biology Program, Michigan State University, East Lansing, MI, 2Microbiology & Molecular Genetics, Michigan State University, East Lansing, MI, 3Center for Integrative Toxicology, Michigan State University, East Lansing, MI and 4Pharmacology & Toxicology, Michigan State University, East Lansing, MI.

#676
**Abstract #**
**Poster Board Number** .......................... 626
**ANTI-INFLAMMATORY PROPERTIES OF ENDOGENOUS CANNABINOIDS CAN BE ATTRIBUTED TO INDUCTION OF A TRANSIENT POPULATION OF IMMUNOSUPPRESSIVE MYELOID DERIVED SUPPRESSOR CELLS THAT PROGRESS INTO IMMATURE MACROPHAGES.** A. R. Jackson, V. Hegde, P. Nagarkatti and M. Nagarkatti. Pathology, Microbiology, and Immunology, University of South Carolina, Columbia, SC.

#677
**Abstract #**
**Poster Board Number** .......................... 627
**Δ⁹-TETRAHYDROCANNABINOL MODULATES ELICITATION AND FUNCTION OF CYTOTOXIC T LYMPHOCYTE (CTL) DIRECTED AGAINST HIV GP120.** W. Chen1,4, S. Pike5, P. Karmaus1, B. Kaplan1,4 and N. Kaminski1,2. 1Microbiology & Molecular Genetics, Michigan State University, East Lansing, MI, 2Cell & Molecular Biology, Michigan State University, East Lansing, MI, 3Pharmacology & Toxicology, Michigan State University, East Lansing, MI and 4Center for Integrative Toxicology, Michigan State University, East Lansing, MI.

#678
**Abstract #**
**Poster Board Number** .......................... 628
**EFFECTS OF CANNABINOIDS ON ANTI-HIV-TAT INDUCED ANTIBODY PRODUCTION.** E. Velez1, R. Dasgupta2, N. E. Kaminski2 and B. F. Kaplan1,2. 1Center for Integrative Toxicology, Michigan State University, East Lansing, MI, 2Pharmacology and Toxicology, Michigan State University, East Lansing, MI and 3Chemistry, University of Puerto Rico at Cayey, Cayey, PR.

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**GLOBAL AND TEMPORAL GENE EXPRESSION ANALYSIS OF PERITONEAL MACROPHAGES IN A MOUSE ALCOHOL BINGE DRINKING MODEL WITH REDUCED RESISTANCE TO SEPSIS.** X. Deng1, B. Cheng2, R. Fan2 and S. Pruett2. 1Department of Basic Sciences, Mississippi State University, Mississippi State, MS and 2Cellular Biology and Anatomy, Louisiana State University Health Sciences Center, Shreveport, LA.
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1,3-DIBROMOPROPANE UP-REGULATES INDUCIBLE NITRIC OXIDE SYNTHASE EXPRESSION VIA NF-κB ACTIVATION IN MACROPHAGES. J. Yang1, E. Han1, J. Im1, K. Lee2, T. Jeong2 and H. Jeong2. 1Pharmacy, Chungnam National University, Daejeon, Republic of Korea, 2Pharmacy, Chonnam National University, Gwangju, Republic of Korea and 3Pharmacy, Yeungnam University, Kyungsan, Republic of Korea.

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CONTINUOUS AND LOW-DOSE EXPOSURE TO ASBESTOS ENHANCES TGF-β1 PRODUCTION IN A HUMAN ADULT T CELL LEUKEMIA VIRUS-IMMORTALIZED T CELL LINE. T. Otsuki, M. Maeda, N. Kumagai, N. Miyahara, M. Katoh, S. Yamamoto, T. Hatayama and Y. Nishimura. Hygiene, Kawasaki Medical School, Kurashiki, Japan.
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#695  Poster Board Number ..................................645  
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#697  Poster Board Number ..................................647  
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#698  Poster Board Number ..................................648  
IMMUNOMODULATORY ROLES OF THE PROKARYOTIC METALLOTHIONEIN, K. Pietrosimone1, S. Davis1, D. Laukens2, D. A. Lawrence3 and M. Lynes1, 1University of Connecticut, Storrs, CT, 2University of Gent, Ghent, Belgium and 3Wadsworth Laboratory, Albany, NY.

Monday Afternoon, March 7
1:00 PM to 4:30 PM
Exhibit Hall

Poster Session: Biological Modeling: Computational Approaches, Mixtures, Multiroute and Lifestage Applications

Chairperson(s): Andy Nong, Health Canada, Ottawa, Ontario, Canada, and John Wambaugh, U.S. EPA, Research Triangle Park, NC.

Displayed: 1:00 PM–4:30 PM

Author Attended: 1:00 PM–2:45 PM

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#700  Poster Board Number ..................................702  
DOSIMETRY ASSESSMENT OF SILICOXANES IN COSMETIC PRODUCTS USING PHYSIOLOGICALLY-BASED PHARMACOKINETIC MODELING, A. Nong, R. Wang and J. Zha, Environmental Health Science and Research Bureau, Health Canada, Ottawa, ON, Canada.

#701  Poster Board Number ..................................703  
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#703  Poster Board Number ..................................705  
AGE-DEPENDENT METABOLISM OF CHLORPYRIFOS AND CHLORPYRIFOS-OXON IN HUMAN PLASMA AND HEPATIC MICROSOMES, T. S. Poet1, C. Timchalk1, M. J. Bartels2 and J. N. Smith3, 1Biological Monitoring & Modeling, Battelle, Pacific Northwest Division, Richland, WA and 2The Dow Chemical Company, Midland, MI.

#704  Poster Board Number ..................................706  
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#705  Poster Board Number ..................................707  
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<td>1Department of Toxicology and Environmental Medicine, ATSDR, Atlanta, GA, University of South Carolina, Columbia, SC, U.S. FDA, National Center for Toxicological Research, Jefferson, AR and Summit Toxicology Inc., Lyons, CO.</td>
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<td>BELIEF THEORY IN MECHANISTIC PHARMACOVIGILANCE: USING THE BIOMEDICAL LITERATURE TO CONFIRM ADVERSE DRUG EVENT REPORTS FROM ELECTRONIC HEALTH RECORDS. E. Ahlberg Helgee and S. Boyer. Computational Toxicology, AstraZeneca and EU-ADR Consortium, Malmö, Sweden.</td>
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<td>PREDICTING ADAPTIVE RESPONSE TO FADROZOLE EXPOSURE: COMPUTATIONAL MODEL OF THE FATTHEAD MINNOWS HYPOTHALAMIC-PITUITARY-GONADAL AXIS. M. Breen, D. Villeneuve, G. Ankle, K. Watanabe, M. Breen, A. Lloyd, and R. Conolly. U.S. EPA, Research Triangle Park, NC, North Carolina State University, Raleigh, NC and Oregon Health and Science University, Beaverton, OR.</td>
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APPLICATION OF A HUMAN PHYSIOLOGICALLY-BASED PHARMACOKINETIC MODEL TO EVALUATE BENZENE BLOOD LEVELS FOR PUBLIC HEALTH CONCERN. D. A. Fowler1, R. R. Worley1, J. S. Wheeler1, C. Welsh1, D. Moffett1 and J. Fisher1. 1Agency for Toxic Substances and Disease Registry, CDC/ATSDR/ NCEH, Atlanta, GA and 2National Center for Toxicological Research, U.S. FDA, Jefferson, AR.

#734

MOLECULAR DYNAMICS STABILITY STUDY OF THE WILD-TYPE AND MUTANTS OF THE HEPATAPETIDE (NNFGAIL) SEGMENT OF AMYLIN AGGREGATE. W. M. Berhanu2 and A. E. Massino2,1. 1Chemistry, University of Central Florida, Orlando, FL and 2Nanoscience Technology Center, University of Central Florida, Orlando, FL.

#735

MECHANISTIC UNDERSTANDING OF DRUG EFFECTS USING METABOLOMICS: A COMPUTATIONAL APPROACH BASED ON A RAT LIVER MODEL. O. Shaikh, S. Das, R. Kumar, S. Raghavan and K. Subramanian. Strand Life Sciences, Bangalore, India.

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1Renal Division, Brigham and Women’s Hospital, Harvard Medical School, Boston, MA and 2CDRH, U.S. FDA, Silver Spring, MD.

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M. V. Milburn1, D. Alexander1, J. R. Zgoda-Polsi2, S. Chowdhury3, M. Wirth4 and K. B. Alton5.  
1+2Metabolon, Durham, NC and 3Department of Drug Metabolism and Pharmacokinetics, Merck Research Laboratories, Kenilworth, NJ.  
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1Veterinary Toxicology and Chemistry, National Veterinary Research and Quarantine Service, Anyang, Republic of Korea and 2GLP Research Center, Hoseo University, Asan, Republic of Korea.

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V. Kale and R. Schnellmann.  
Department of Pharmaceutical and Biomedical Sciences, Medical University of South Carolina, Charleston, SC.

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M. A. Smith and R. G. Schnellmann.  
Pharmaceutical Sciences, Medical University of South Carolina, Charleston, SC.

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Pharmaceutical and Biomedical Sciences, Medical University of South Carolina, Charleston, SC.

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Department of Pharmaceutical and Biomedical Sciences, Medical University of South Carolina, Charleston, SC.

#753  Poster Board Number .....................................815  
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Pharmacology, Wayne State University School of Medicine, Detroit, MI.

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Department of Pharmacology and Toxicology, College of Pharmacy, University of Arizona, Tucson, AZ.

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R. M. Irving1, M. S. Brownfield2 and A. A. Elfarra1, 2.  
1Molecular and Environmental Toxicology Center, University of Wisconsin Madison, Madison, WI and 2Department of Comparative Biosciences, University of Wisconsin Madison, Madison, WI.

#757  Poster Board Number .....................................819  
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B. Li1,2, L. Miao1 and J. Cui1.  
1University of Louisville, Louisville, KY and 2Nephrology, Jilin University, Changchun, Jilin, China.

#758  Poster Board Number .....................................820  
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L. Arezola-Mendoza1,2, J. L. Reyes1, E. I. Sanchez2 and L. M. Del Razo1,2.  
1Biosciences and Engineering, CHIEMAD-IPN, Mexico D.F., Mexico, 2Toxicology, Cinvestav-IPN, Mexico D.F., Mexico and 3Physiology & Biophysics, Cinvestav-IPN, Mexico D.F., Mexico.
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#759 Poster Board Number .....................................822
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#760 Poster Board Number .....................................823
BODY ADIPOSITY AND DIETARY FATTY ACIDS INDUCE CYTOKINE EXPRESSION AND ACTIVATION OF TUMOR PROMOTING PATHWAYS IN THE RAT KIDNEY. A. Bort1, G. Ananthakrishnan1, D. Perez-Tilve1, D. R. Dietrich1, M. H. Töschö1, P. T. Pfizer1 and K. Stemmer1,2. Department of Internal Medicine, University of Cincinnati, Cincinnati, OH and 3Human and Environmental Toxicology, University of Konstanz, Konstanz, Germany.

#761 Poster Board Number .....................................824
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#762 Poster Board Number .....................................825
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#763 Poster Board Number .....................................826
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#764 Poster Board Number .....................................827

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FIBRINOGEN IS SYNTHESIZED BY THE KIDNEY AND MODULATES TISSUE REPAIR FOLLOWING RENAL INJURY. A. Krishnamoorthy1, A. K. Ajay1, D. Hoffmann1, T. Kim1, S. Selvakumar1, V. Ramirez2, N. Bobadilla1, P. Park1 and V. S. Vaidya1. Renal Division, Brigham and Women’s Hospital, Harvard Medical School, Boston, MA. 1Center for Biomedical Informatics, Harvard Medical School, Boston, MA and 2National Autonomous University of Mexico, Mexico City, Mexico.

#766 Poster Board Number .....................................829
ETHANOLETHYLEXPOSURE IN VIVO POTENTIATES DICLOFENAC(DCLF)-INDUCED NEPHROTOXICITY BY DESTABILIZING GENOMIC INTEGRITY AND PRO- AND ANTIAPOTOTIC GENES. S. D. Pravasi, S. N. Desai and S. D. Roy. Molecular Toxicology Labs, Division of Pharmaceutical Sciences, Arnold & Marie Schwartz College of Pharmacology & Health Sciences, Brooklyn, NY.

#767 Poster Board Number .....................................830
DIVERGENT ASSOCIATIONS OF BLOOD AND URINE CADMIUM LEVELS WITH KIDNEY FUNCTION. V. Weaver1,2, M. Tellez-Priaza1, A. Navas-Acien1, B. Jaur2, J. Fadrowski2, P. S. Ray3, K. E. McMartin4, S. M. Ford5, J. Parson6, D. Huh1,3,4 and E. Guallar1,2,3. Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, 1Johns Hopkins University School of Medicine, Baltimore, MD, 2Centro Nacional de Investigaciones Cardiovasculares School of Medicine, Madrid, Spain and 3University of Alabama, Birmingham, AL.

#768 Poster Board Number .....................................831
PARADOXICAL ASSOCIATIONS OF URINE CADMIUM WITH SERUM CREATININE BUT NOT CYSTATIN-C-BASED eGFR. J. Fadrowski1, N. Kim1, B. Jaur2,3, J. Spector1, P. Parsons1, A. Steuerwald1, A. Todd1, D. Simon1, B. Lee1, B. Schwartz2,3 and V. Weaver1,2,3. Johns Hopkins University School of Medicine, Baltimore, MD, 1Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, 2SoonChunHyang University, Asan, Republic of Korea, 3University of Washington, Seattle, WA, 4New York State Department of Health, Albany, NY, 5Mount Sinai School of Medicine, New York and 6Biostatistical Consulting, Cincinnati, OH.

#769 Poster Board Number .....................................832
TISSUE DEPOSIT AND TOXIC MECHANISM OF CADMIUM IN THE KIDNEY OF FE-DEPLETED RATS. J. Park1, D. Kim1, H. Bae2, T. Lee2 and B. Choo3. Preventive Medicine, Chung-Ang University, Seoul, Republic of Korea and 2Pathology, Chung-Ang University, Seoul, Republic of Korea.
Program Description (Continued)

Abstract #

#770
Poster Board Number .....................................833
CADMIUM CAUSES OVER-ACUMULATION OF PS3 THROUGH THE SUPPRESSION OF GENE EXPRESSION OF UBE2D FAMILY IN RAT PROXIMAL TUBULE CELLS.  M. Tokumoto1,2, Y. Fujiwara2, T. Hasegawa1, Y. Seko1, H. Nagase1 and M. Satoh1.
1Laboratory of Hygienic Chemistry and Molecular Toxicology, Gifu Pharmaceutical University, Gifu, Japan, 2Laboratory of Pharmaceutical Health Science, School of Pharmacy, Aichi Gakuin University, Nagoya, Japan and 3Department of Environmental Biotechnology, Yamanashi Institute of Environmental Sciences, Fujyoshida, Japan.

#771
Poster Board Number .....................................834
CHANGES TO CONNEXIN EXPRESSION IN METALLOTHIONEIN-3 POSITIVE AND NEGATIVE HUMAN PROXIMAL TUBULE CELLS EXPOSED TO CADMIUM.  S. H. Garrett, K. Clarke, D. A. Sosa, S. Soneji, M. Seng and K. Zhang.  Pathology, University of North Dakota, Grand Forks, ND.

#772
Poster Board Number .....................................835
STATISTICAL ANALYSIS OF LONGITUDINAL GENE EXPRESSION PROFILES IN HUMAN PROXIMAL TUBULE CELLS EXPOSED TO CADMIUM.  S. H. Garrett, K. Clarke, D. A. Sosa, S. Soneji, M. Seng and K. Zhang.  Pathology, University of North Dakota, Grand Forks, ND.

#773
Poster Board Number .....................................836
ASSOCIATIONS OF MULTIPLE METALS WITH KIDNEY OUTCOMES IN LEAD WORKERS.  R. L. Shelley1, N. Kim2, P. J. Parsons3, J. Agnew4, A. J. Steuerwald5, B. G. Jaar6, B. Lee7, B. S. Schwartz7, G. Matanoski1, A. C. Todd1, D. Simon1 and V. Weaver1.  Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, 2SoonChunHyang University, Asan, Republic of Korea, 3New York State Department of Health, Albany, NY, 4Mount Sinai School of Medicine, New York, NY and 5Biostatistical Consulting, Cincinnati, OH.

#774
Poster Board Number .....................................837

Abstract #

#775
Monday Afternoon, March 7
1:00 PM to 4:30 PM
Exhibit Hall

Novel Approaches to Preclinical Safety Assessment: Bridging the Gap between Discovery and the Clinic through Translational Toxicology

Poster Session: Pharmaceutical Safety Assessment: Therapeutic Agents

Chairperson(s): Anne Gilson, Forest Research Institute, Jersey City, NJ.

Displayed: 1:00 PM–4:30 PM

Author Attended: 1:00 PM–2:45 PM

#775
Poster Board Number .....................................901

#776
Poster Board Number .....................................902
RELATIVE TOXICITY ANALYSIS OF DL11F, A HER3, AND EGFR DUAL ACTION ANTIBODY, AND CETUXIMAB IN CYNOMOLGUS MONKEYS.  R. Preli1, D. Danilenko1, C. Wang1, A. Kamath1, G. Schaefer1, P. allen2 and W. Halpern1.  Genentech, South San Francisco, CA and 2Valley Biosystems, West Sacramento, CA.

#777
Poster Board Number .....................................903
NONCLINICAL CARCINOGENICITY ASSESSMENT OF PRASUGREL.  L. A. Buckley1, A. Sanbuishio2,1 J. I. Starling1, M. Knadler3 and J. A. Jakubowski4.  Daiichi Sankyo Co., Ltd., Tokyo, Japan and 5Eli Lilly & Co., Indianapolis, IN.

#778
Poster Board Number .....................................904
OFF-TARGET PLATELET ACTIVATION IN MACAQUES BY A THERAPEUTIC MONOCLONAL ANTIBODY.  M. J. Santostefano1, N. E. Everds2, H. M. Nargis3, M. Fort1, P. Narayanan4, D. Tran5, W. Pan1, E. Lesage2, D. A. Sens1, O. Quinones1, M. Loomis1,2, R. Prell3 and T. D. Sweeney.  Therapeutic Agents, 4Water Quality Research and Development, Henderson, NV, 5Center for Advanced Water Technology, Singapore, Singapore, 6Clinical Pathology, Charles River Laboratories, Reno, NV.

#779
Poster Board Number .....................................905
CINACALCET HCL: 6-MONTH ORAL TOXICITY STUDY IN JUVENILE BEAGLE DOGS.  K. Black1, C. Dean1, N. Everds2, E. Lesage2 and M. Loomis1.  Amgen Inc., Thousand Oaks, CA and 2Charles River Laboratories Preclinical Services, Senneville, QC, Canada.
Program Description (Continued)

Abstract #

#780
Poster Board Number .....................................906

#781
Poster Board Number .....................................907

#782
Poster Board Number .....................................908
TOXICITY OF MDL72, 527 ADMINISTERED ORALLY TO RATS AND DOGS. S. D. Grimes1, R. W. Watkins1, J. F. Mann1, H. S. Basu2, I. M. Kapetanovic1 and C. D. Hebert1. 1Southern Research Institute, Birmingham, AL, 2Colby Pharmaceutical Company, Menlo Park, CA and 3National Cancer Institute, Bethesda, MD.

#783
Poster Board Number .....................................909
SAFETY ASSESSMENT OF PHOSPHOIBUPROfen AS A POTENTIAL CANCER CHEMOPREVENTIVE AGENT. R. W. Watkins1, J. F. Mann1, S. D. Grimes1, R. Fulton2, C. V. Rao3, I. M. Kapetanovic1 and C. D. Hebert1. 1Southern Research Institute, Birmingham, AL, 2FVClinPath Consulting, Birmingham, AL, 3University of Oklahoma Health Sciences Center, Oklahoma City, OK and 3National Cancer Institute, Bethesda, MD.

#784
Poster Board Number .....................................910
EARLY SAFETY ASSESSMENT CONSIDERATIONS AND STRATEGIES IN DRUG DISCOVERY. S. Mohr1, A. J. Olaharski2, A. J. Oldakarski2, F. Cramer1, T. Singer1 and T. Weiser1. 1Nonclinical Safety, F. Hoffmann-La Roche, Basel, Switzerland and 2Nonclinical Safety, F. Hoffmann-La Roche, Nutley, NJ.

#785
Poster Board Number .....................................911

#786
Poster Board Number .....................................912
HUMAN NON-RELEVANCE OF MOTILIN AGONIST INDUCED ANAPHYLACTOID REACTIONS IN BEAGLE DOGS. P. Chowdhury and C. Powell. Safety Assessment, GlaxoSmithKline, Ware, United Kingdom.

#787
Poster Board Number .....................................913
Program Description (Continued)

Abstract #  

Poster Board Number .....................................921

#795 SUBCHRONIC ORAL TOXICITY EVALUATION OF CP31398, A P53 STABILIZER. IN DOGS. W. D. Johnson1, M. Muzzio1, C. J. Detrisac2, L. Kopelovich3, I. M. Kapetanovic3 and D. L. McCormick.1 IIT Research Institute, Chicago, IL, 2Pathology Associates, Chicago, IL and 3National Cancer Institute, Bethesda, MD.

#796 Poster Board Number .....................................922 SUBCUTANEOUS ADMINISTRATION STUDY TO DETERMINE THE INFLUENCE OF AN ANTI-MOUSE IL-12/IL-23P40 ANTIBODY ON PHOTOACINOCINOCESIS IN HAIRLESS MICE. W. M. Bracken1, D. Leane2, G. Blaich3 and G. M. Veldman.1 Global Preclinical Safety, Abbott, Abbott Park, IL, 1Pharmacology, CRL, Horsham, PA and 2Bioanalytics Generation, Abbott Bioresearch Center, Worcester, MA.

#797 Poster Board Number .....................................923 ANTIBODY-MEDIATED VASCULITIS: IN VIVO INVESTIGATIONS INTO THE MECHANISM OF TOXICITY. K. Mackay1, T. Sullivan1, M. Carioto1, J. Senn1, J. Lane1, J. S. Michaelson2 and J. C. Clarke2.1 Pharmacotoxicology, Biogen Idec, Cambridge, MA, 2Comparative Pathology, Biogen Idec, Cambridge, MA and 3Immunobiology, Biogen Idec, Cambridge, MA.


#799 Poster Board Number .....................................925 ORAL TWO WEEK (3X/WEek) DOSE RANGE FINDING STUDY OF DECIbatine and Tetrahydouridine in CD-1 Mice. K. Engelske1, E. Hanan1, J. Covey1, Y. Ling2, K. Char1, Y. Saunthararajah1 and P. Tese1.1AVANZA Laboratories, LLC, Gaithersburg, MD, 2National Cancer Institute, Bethesda, MD, 3Ohio State University, Columbus, OH and 4Cleveland Clinic, Cleveland, OH.

#800 Poster Board Number .....................................926 CONSEQUENCES OF REPEATED COMPLEMENT ACTIVATION AFTER CHRONIC TREATMENT IN CYNOmologus Monkeys. L. Shen1, T. Machemer1, P. Giclas2 and S. Henry3.1ISIS Pharmaceuticals, Inc., Carlsbad, CA and 2National Jewish Health, Denver, CO.

#801 Poster Board Number .....................................927 SINGLE INTRACEREBROVENTRICULAR INFUSION TOXICITY, TOXICOkinetics, AND DISTRIBUTION STUDY OF TriPeptidyl Peptidase-1 IN CYNOmologus Monkeys. B. Vuillenemot1, L. Torrua1, D. Kennedy1, D. Musson1, S. Keve1, R. Reed1, R. Boyd1, M. Batt2 and C. O’Neill1.1BioMarin Pharmaceutical Inc., Novato, CA, 2Northern Biomedical Research, Inc., Muskegon, MI and 3ToxPath Specialists, LLC, Hagerstown, MD.
Mounting experimental data indicates that epigenetic programs of gene expression are altered following exposure to carcinogenic chemicals. Carcinogenic metals such as nickel, chrome, and arsenic are excellent examples of agents that cause cancer and induce alterations in epigenetic marks. To better understand these alterations, it is important to address the mechanisms of how metals alter epigenetic programs at a variety of levels ranging from inhibition of histone demethylases, miRNA, DNA methylation, and histone acetylation. Although the focus is mostly on cancer other toxicities can also be manifested as a result of these epigenetic effects. Thus, we will be presenting recent evidence that sustained exposure to low environmental doses of chromium leads to gradual changes in histone marks and signal transduction pathways that cumulatively affect gene expression, silencing expression of tumor suppressor genes and of PAH-induced detoxification genes. We will then examine miRNA and protein-coding gene promoter microarrays to determine the extent and temporal nature of changes in DNA methylation and histone modification in a human urethelial cell model of arsenical-induced malignant transformation. Before concluding a member of the panel will discuss the effects of the epigenetic regulation of PT-3 expression in normal, tumorigenic and metal-transformed cell types will be highlighted. Mt-3 expression is repressed in normal bladder and breast cells but increased in expression in the respective tumors. In summary, we will detail state of the art methodology that examines the epigenetic mechanisms of metal carcinogenesis.

#818 4:13 THE ROLE OF EPIGENETICS IN THE INDUCTION OF METALLOTHIONEIN-3 DURING BLADDER AND BREAST TUMORIGENESIS. S. Garrett. Department of Pathology, University of North Dakota, School of Medicine & Health Sciences, Grand Forks, ND.
Program Description (Continued)

Abstract #

Monday Afternoon, March 7
2:00 PM to 4:45 PM
Room 207

Environment and Disease

Symposium Session: Human Variability in Susceptibility to Environmental Toxica
ts
Chairpersons: Holly Mortensen, U.S. EPA, Durham, NC, and
Sponsor:
Molecular Biology Specialty Section

Endorsed by:
Regulatory and Safety Evaluation Specialty Section
Risk Assessment Specialty Section

Defining the differing levels of susceptibility across human populations in response to environmental chemicals can provide information to define population risk factors and in turn, allow for risk levels to be based on the most susceptible populations. Data from high-throughput/high content (HT/HC) technologies, including ‘omics, have been integral in the identification and characterization of drug-target or disease loci and have the potential to be informative for characterizing the effects and dose-response assessment of chemical exposure and outcomes within genetically heterogeneous populations. Many of the same ‘omics technologies have been successfully utilized to provide data that informs the mechanism of action for environmental chemicals, including the identification of perturbed toxicity pathways. In addition, large scale population genotyping studies, such as the HapMap, can help to establish levels of variability at chemical-associated, target loci across human populations, and in comparison to genome-wide patterns. Individual genotype-phenotype combinations can then be verified using in vitro methods, or extrapolation from animal models. This session includes talks on some of the latest approaches to informing population variability and the identification of susceptible populations through the use of HT/HC data, particularly from genomics technologies. We will discuss how ‘omics data in combination with data from enhanced animal models, publically available datasets and related computational tools can be used to identify biomarkers, and subsequently define risk for genetically heterogeneous populations, and how this variability translates to human risk and progression of disease.

#819 2:00  HUMAN VARIABILITY IN SUSCEPTIBILITY TO ENVIRONMENTAL TOXICANTS. H. Mortensen, NCCT, U.S. EPA, Research Triangle Park, NC.

#820 2:05 POPULATION-BASED DISCOVERY OF TOXICOGENOMICS BIOMARKERS FOR HEPATOTOXICITY. I. Rusyn, Environmental Sciences and Engineering, University of North Carolina at Chapel Hill, Chapel Hill, NC.

#821 2:37 EXPERIMENTALLY DEFINING TOXICITY PATHWAYS USING IN VITRO HIGH-CONTENT SCREENING OF EMBRYONIC FIBROBLASTS FROM THE MOUSE DIVERSITY PANEL. R. Thomas, Genomic Biology and Bioinformatics, The Hammer Institutes for Health Sciences, Research Triangle Park, NC.

#822 3:09 HERITABILITY IN DOSE RESPONSE - PUTTING THE HORSE BEFORE THE CART. A. Motsinger-Reif, Department of Statistics, North Carolina State University, Raleigh, NC. Sponsor: H. Mortensen.

Abstract #

Monday Afternoon, March 7
2:00 PM to 4:45 PM
Room 204

Symposium Session: Toxicological Considerations in the Gulf of Mexico Oil Spill
Sponsor:
Occupational Public Health Specialty Section

The Deepwater Horizon oil rig explosion on April 20, 2010 resulted in a release of petroleum crude oil into Gulf of Mexico waters. The release, 41 miles offshore, was about 1 mile in Department Oil dispersants were employed to change surface oil and underwater properties. Surface oil was also combusted and physical barriers deployed. Oil was estimated to have spread to an estimated 2500 square mile in the Gulf. On July 15, the well head was capped reducing oil flow to a minimum. A number of exposure uncertainties have arisen as a result of the spill related to the locations the oil has dispersed to, including volatilization to the atmosphere; and the dose of contaminant reaching wildlife, humans, and vegetation in the affected areas, and physicochemical properties of the dispersant-treated and aged oil. We will present findings related to understanding the migration of the spill components, the habitats and organisms contaminated, and the characteristics of altered crude. Routes of exposure for humans to oil components will be presented in part based on data from other studied oil spills. Knowledge of these currently unsure parameters will assist in understanding the potential biological and health effects induced by the spill. The major possible ecological effects will be described and compared to the normal Gulf ecosystem dynamics. The choice of the specific oil dispersants utilized will be discussed with an emphasis on the toxicity assays employed; toxicity endpoints still not fully examined will be identified. The types and likelihood of possible human adverse health effects, both acute and latent, will be presented in light of what will be known of the exposure routes and the conditions (e.g. heat). In order to comprehend possible effects in a comprehensive manner in order to develop estimates of various risks, the data sources available to perform such an assessment will be identified (e.g., estimates of contaminated seafood consumption). Finally, data deficiencies needed for risk assessment will be described.

#825 2:00 TOXICOLOGICAL CONSIDERATIONS IN THE GULF OF MEXICO OIL SPILL. M. C. Madden. ORD, NHEERL, HSD, Clinical Research Branch, U.S. EPA, Chapel Hill, NC.

Program Description (Continued)

Abstract #


#829 2:00 SHORT-TERM HEALTH EFFECTS FROM OIL SPILLS. N. Sathiakumar. University of Alabama Birmingham, Birmingham, AL. Sponsor: M. Madden.

#830 2:00 RISK ASSESSMENT OF THE SPILL: CRITICAL INFORMATION NEEDS. W. H. Farland. Colorado State University, Fort Collins, CO.

Monday Afternoon, March 7
2:00 PM to 4:45 PM
Room 147

Emerging Global Public Health Issues

Symposium Session: Translational Toxicology: Molecules to Global Health

Chairperson(s): Thomas Kensler, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, and John Groopman, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD.

Sponsor: Disease Prevention Task Force

Endorsed by:
Risk Assessment Specialty Section

The appreciation that the environment plays a universal role in human health has evolved rapidly in recent decades, drawing largely on new analytic technologies, advanced data acquisition, informatics and modeling, mechanistic studies in toxicology, and the conceptual framework of risk assessment. To adequately explore rapidly evolving issues, we will highlight four case studies detailing exposures through the vectors of air, food and water to agents, natural and anthropogenic that impact health across the lifespan of millions of people across the globe. Specific attention will be given relative to the use of toxicologic and epidemiologic data with improved techniques for quantifying exposure of biologically effective dose produce estimates of risks from environmental hazards to selected target populations. The global health implications of these exposures and possible intervention strategies to mitigate these exposures and their consequent health effects will also be discussed. In conclusion, the panelists will discuss the current status of toxicology and global health and a consideration of the challenges emerging in the next 50 years.

#831 2:00 TRANSLATIONAL TOXICOLOGY: MOLECULES TO GLOBAL HEALTH. T. W. Kensler1,2 and J. D. Groopman2.1Pharmacology & Chemical Biology, University of Pittsburgh, Pittsburgh, PA and 2Environmental Health Sciences, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD.

2:00 INTRODUCTION. Thomas Kensler


Abstract #

#833 2:40 ARSENIC: RECENT FINDINGS FROM THE HEALTH EFFECTS OF ARSENIC LONGITUDINAL STUDY IN BANGLADESH. J. H. Graziano. Environmental Health Sciences, Columbia University, New York, NY.

#834 3:15 SECONHAND TOBACCO SMOKE: USING BIOMARKERS TO INFORM PUBLIC POLICY. S. S. Hecht. Masonic Cancer Center, University of Minnesota, Minneapolis, MN. Sponsor: T. Kensler.

#835 3:50 STRUCTURAL AND FUNCTIONAL CNS EFFECTS OF LEAD IN ADULTS. B. S. Schwartz. Environmental Health Sciences, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD.

4:25 PANEL DISCUSSION/Q&A.

Monday Afternoon, March 7
2:00 PM to 4:45 PM
Room 206

Symposium Session: Vascular Developmental Toxicity: Identification, Prioritization, and Application


Sponsor:
Reproductive and Developmental Toxicology Specialty Section

Endorsed by:
Biological Modeling Specialty Section
Cardiovascular Toxicology Specialty Section
Mechanisms Specialty Section

Advanced research approaches to vascular developmental toxicity, including new computational modeling methods, high-throughput in vitro tests, alternative platforms such as embryonic stem cells and zebrafish reporter gene constructs, and potential chemical prioritization, risk-assessment, and clinical applications to human health are important issues. The formation of the vascular network during embryogenesis is crucial to all aspects of development, both through maternal placental oxygen and nutrient delivery as well as direct effects on morphogenesis. Disruption in local signal-flow phenomena during development alters morphogenetic gradients that control endothelial cell differentiation, proliferation, chemotaxis, and subsequent signals. This, in turn, affects the distribution of nutrients, metabolic products and/or chemicals, and seriously impacts organogenesis. Due to the centralized role and complexity of the signaling networks underlying blood vessel formation and remodeling and their centralized role across all embryonic systems, developmental defects mediated by disruption of the vascular network can be manifested in diverse ways and attributed to a variety of factors. Associated severe developmental effects include embryonic lethality and in less severe cases, phenotypes such as preeclampsia, microphthalmia, and limb defects. Traditional prenatal animal testing is not informative for resolving and attributing the inherent phenotypic ambiguity that arises due to various vascular network perturbations, prompting a new paradigm for toxicity testing (NRC 2007). There is a need to deepen current understanding of developmental vascular biology, to identify biologically significant perturbations in potential toxicity pathways that may lead to vascular disruption, and to develop and implement new testing strategies with greater specificity and predictive power to identify the many vascular signaling pathways during developmental angiogenesis that are highly conserved and factor heavily in pathogenesis of adult vascular disease.


2:00 INTRODUCTION. Nicole Kleinsteuber
Program Description (Continued)

Abstract #

#837  2:05  CELLULAR AND MOLECULAR NETWORKS UNDERLYING NORMAL AND PATHOLOGICAL EMBRYONIC VASCULAR DEVELOPMENT: INSIGHTS GAINED FROM STEM CELL RESEARCH. K. Hirschi. Baylor College of Medicine, Houston, TX. Sponsor: T. Knudsen.


#839  3:25  RESOLVING THE THALIDOMIDE PUZZLE: IDENTIFYING EFFECTS ON THE VASCULATURE AND DEVELOPMENTAL CONSEQUENCES. N. Vargesson. School of Medical Sciences, University of Aberdeen, Aberdeen, United Kingdom. Sponsor: N. Kleinstreuer.

#840  4:05  COMPUTATIONAL MODELING OF EMBRYONIC VASCULAR DEVELOPMENT: AN IN SILICO TESTING PLATFORM FOR VDC PRIORITIZATION. N. C. Kleinstreuer. ORD/NRCC, U.S. EPA, Durham, NC.

Monday Afternoon, March 7
2:00 PM to 4:45 PM
Room 143

Workshop Session: Protein Aggregation As a Common Mechanism of Toxicity in Neurodegenerative Diseases

Chairperson(s): Gary Miller, Emory University, Atlanta, GA, and Anantha Kanthasamy, Iowa State University, Ames, IA.

Sponsor: Neurotoxicology Specialty Section

Endorsed by: Metals Specialty Section

Women in Toxicology Special Interest Group

Neurodegenerative diseases, such as Alzheimer’s disease, Parkinson’s disease, Huntington disease, prion diseases, and amyotrophic lateral sclerosis (ALS) afflict millions of U.S. citizens. In each of these diseases, aggregation of various disease-specific proteins appears to play a primary role in the pathology. This process of protein aggregation now appears to be a fundamental element of disease. Recent discoveries over the past few years have greatly advanced our understanding of this important neurotoxic mechanism. Thus we will use this platform to explore the potential role of environmental factors in the protein aggregation process, potentially opening up a new avenue of research in toxicology.

Abstract #


Monday Afternoon, March 7
2:00 PM to 4:45 PM
Room 145

Workshop Session: Technical Characterization and Dosimetry Challenges Associated with Conducting or Interpreting Nanotoxicity

Chairperson(s): Syed Ali, National Center for Toxicological Research, Jefferson, AR, and Saber Hussain, Wright-Patterson Air Force Base, Dayton, OH.

Sponsor: Nanotoxicology Specialty Section

Recent developments in nanotechnology have generated a degree of apprehension concerning the potential risk to human health and the environment from manufactured engineered nanomaterials (MEN). The unique chemical and physical properties of MEN coupled with their high surface area per unit mass require a re-assessment of exposure protocols and models to assess the toxicity of MEN. Based on ultrafine particle toxicity knowledge and recent toxicity studies on new forms of MEN, the biological activity of MEN will depend on specific physicochemical characteristics that are not usually considered in dissolution chemical toxicological studies. Not only must the size and surface area of the MEN be characterized prior to dose but the size distribution, chemical composition, crystallinity, surface structure, shape, and solubility must be determined. Additionally, the MEN in solution may be destabilized before, during, or after dosing resulting in an agglomeration rate that is dependent on MEN preparation methods and the biological system that the MEN are introduced into. Since agglomeration can modify uptake rates, transport, and clearance by the cell model or organ system, it is critical to interpret the data from MEN toxicity experiments with a detailed knowledge of the physicochemical properties of the MEN at all experimental time points. Therefore we must consider the toxicity assessment of MEN and address technical challenges associated with conducting or interpreting in vitro or in vivo toxicity studies. We will also discuss the technical challenges associated with obtaining accurate and reproducible results and the selection of appropriate controls. Optimal methods for dispersing MEN in solution, monitoring agglomeration, and methods of tracking and visualizing MEN after internalization will be presented. Overall, this important forum will provide for the discussion of these critical issues in the newly emerging field of nanotoxicity.

Abstract #

#846  2:00  TECHNICAL CHARACTERIZATION AND DOSIMETRY CHALLENGES ASSOCIATED WITH CONDUCTING OR INTERPRETING NANOTOXICITY. S. F. Ali and S. Hussain. Neurotoxicology, NCTR, Jefferson, AR and HED Air Force Research Laboratory, Wright-Patterson AFB, Dayton, OH.

#847  2:10  ROBUST CHARACTERIZATION OF NANOMATERIALS IS NECESSARY BEFORE TOXICITY STUDIES/ASSESSMENTS CAN BE UNDERTAKEN. D. B. Warheit. DuPont Haskell Global Centers, Newark, DE.
Monday Afternoon, March 7
2:00 PM to 4:45 PM
Room 144

Workshop Session: Understanding Structural and Physical Chemical Drivers of Drug Toxicity: Utility and Translatable Value

Chairperson(s): Dylan Hartley, Genentech, South San Francisco, CA, and Manfred Kansy, F. Hoffmann-LaRoche, Basel, Switzerland.

Sponsor:
- Drug Discovery Toxicology Specialty Section
- In Vitro and Alternative Methods Specialty Section

Endorsed by:
- Biological Modeling Specialty Section
- Pharmacology, Brussels, Belgium and 2Centrum voor Oppervlaktechemie en Katalyse, Katholieke Universiteit Leuven, Leuven, Belgium.

Given the demands on drug discovery teams to produce effective, specific, and safe new molecules, toxicologists are now finding themselves with new responsibilities in the drug discovery setting as part of lead optimization teams. To be effective members of these teams, toxicologists are now required to gain awareness and experience in recognizing potential structural and physicochemical properties of compounds that often lend to adverse drug reactions. To this end, in vitro assays, e.g., hERG channel inhibition, pharmacology ligand binding panels, enzyme induction, and transporter inhibition, coupled with specific mathematical or statistical models, and pharmacophore models (e.g., hERG channel and PXR activation) can be effective at instructing chemical modifications to attenuate the potential for activity against specific toxicological endpoints a priori. Furthermore, new in silico approaches in chemoinformatics are proving useful for predicting off-target polypharmacology by mapping potential drug-target interactions through ligand-based similarities. Similarly, mapping adverse drug reactions to chemical space may hold promise for predicting specific features of compounds that lead to adverse drug reactions in humans. Finally, detailed assessments of pharmacokinetic or physical chemical drivers of tissue accumulation are improving our understanding of in vitro—In vivo correlations. Overall these approaches demonstrate the importance and utility of understanding structural motifs and physicochemical properties of compounds that lead to off-target activity.
**Abstract #**

**Monday Afternoon, March 7**
2:00 PM to 4:45 PM
Room 202B

**Platform Session: Advancing Assessment Approaches:** Pesticides and Other Key Contaminants

**Chairperson(s):** Jeanelle Martinez, U.S. EPA, Cincinnati, OH, and Paul Price, The Dow Chemical Company, Midland, MI.

**#858 2:00**
**INNOVATIONS IN TOXICITY TESTING – AN INTEGRATED APPROACH TO TESTING OF A NEW AGROCHEMICAL BASED ON SOUND SCIENCE AND THE “3RS” PRINCIPLES ON ANIMAL RESEARCH.** C. Terry, R. J. Rassoulzadegan, B. Gottapati, and R. Billington. 1 Dow AgroSciences LLC, Oxfordshire, United Kingdom and 2 The Dow Chemical Company, Midland, MI.

**#859 2:19**
**CROSS-SPECIES GENE EXPRESSION CHANGES IN PRIMARY HEPATOCYTES EXPOSED TO 2, 3, 7, 8-TETRACHLORODIBENZO-P-DIOXIN.** J. Rowland, R. A. Budinsky, A. A. Dombkowski, and R. S. Thomas. 1 Toxicology and Environmental Research & Consulting, The Dow Chemical Company, Midland, MI, 2 Department of Pediatrics, Wayne State University School of Medicine, Detroit, MI and 3 Center for Genomic Biology and Bioinformatics, The Hammer Institutes for Health Sciences, Research Triangle Park, NC.

**#860 2:38**
**COMPARATIVE QSAR STUDIES OF MONOHYDROXILATED POLYCHLORINATED BIPHENYLS AND THEIR POTENTIAL ESTROGENIC EFFECTS.** P. Ruiz, O. Faroon, B. Fowler, and M. Mumtaz. Department of Toxicology and Environmental Medicine, ATSDR, Atlanta, GA.

**#861 2:57**
**MOLECULAR FIELD TOPOLOGY ANALYSIS OF STRUCTURAL DETERMINANTS FOR ACUTE AND DELAYED NEUROTOXICITY OF O-PHOSPHORYLATED OXIMES.** G. F. Makhava, E. V. Radchenko, V. B. Sokolov, A. Palyulin, N. F. Zefirov, and R. J. Richardson. 1 Institute of Physiologically Active Compounds, Russian Academy of Sciences, Chernogolovka, Russian Federation, 2 Chemistry Department, M. V. Lomonosov Moscow State University, Moscow, Russia and 3 Toxicology Program, Lomonosov Moscow State University, Moscow, Russian Federation and 4 Toxicology Program, Department of Environmental Health Sciences, University of Michigan, Ann Arbor, MI.

**#862 3:15**
**FRAMEWORK FOR INTEGRATION OF HUMAN AND ANIMAL DATA FOR RISK ASSESSMENT PURPOSES: CHLORPYRIFOS NEUROBEHAVIORAL DATA AS CASE-STUDY.** A. A. Li, K. Lowe, L. McIntosh, and F. Mink. 1 Health Sciences, Exponent Inc., San Francisco, CA and 2 Epidemiology, Emory University, Atlanta, GA.

**#863 3:33**

**#864 3:51**

**#865 4:09**

**#866 4:27**
**USE OF A PBPK/PD MODEL TO DERIVE AGEO-SPECIFIC INTERSPECIES (UF) AND INTERINDIVIDUAL (UF) UNCERTAINTY FACTORS FOR CHLORPYRIFOS.** P. S. Price, P. M. Hindleiter, and T. S. Poet. 1 Toxicology & Environmental Research & Consulting, The Dow Chemical Company, Midland, MI and 2 Battelle Pacific Northwest Division, Richland, WA.

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**Monday Afternoon, March 7**
2:00 PM to 4:45 PM
Room 201

**Platform Session: Alternative Methods in Developmental Neurotoxicology: Validation and Application**

**Chairperson(s):** Abby Li, Exponent Health Sciences, San Francisco, CA, and Merle Paule, U.S. FDA, Jefferson, AR.

**#867 2:00**

**#868 2:24**
**TOXIC ALTERATIONS OF DOPAMINERGIC NEURON DEVELOPMENT FROM PLURIPOTENT STEM CELLS AFTER CHRONIC LOW-DOSE EXPOSURE TO METALS DURING THE LATE MATURATION PHASE.** M. Leist, S. Schildknecht, S. Kaderete and B. Zimmer. In Vitro Toxicology and Biomedicine, University Konstanz, Konstanz, Germany.

**#869 2:48**
**IS THE PENTABDE REPLACEMENT, TRIS (1,3-DICHLORO-2-PROPYL) PHOSPHATE (TDCPP), A DEVELOPMENTAL NEUROTOXICANT? STUDIES IN PC12 CELLS.** L. Dishaw, C. M. Powers, I. T. Ryde, S. C. Roberts, F. J. Seidler, T. A. Stohlm and H. M. Stapleton. 1 Nicholas School of the Environment, Duke University, Durham, NC and 2 Pharmacology and Cancer Biology, Duke University, Durham, NC.

**#870 3:12**
**MULTIPARAMETRIC LIVE CELL IMAGING OF IMPAIRED NEURITE OUTGROWTH IN HIGH-DENSITY CULTURES OF HUMAN NEURONAL PRECURSORS.** M. Daneshian, N. Stiegler, F. Matt and M. Leist. In Vitro Toxicology and Biomedicine, University Konstanz, Konstanz, Germany.
Program Description (Continued)

Abstract #


#872 | 3:59 | DRUGS THAT TARGET DOPAMINE RECEPTORS: CHANGES IN LOCOMOTOR ACTIVITY IN LARVAL ZEBRAFISH. T. D. Irons1, K. P. Kelly1, D. L. Hunter1, R. C. MacPhail1 and S. Padilla1. U.S. EPA, Research Triangle Park, NC. 1Curriculum in Toxicology, University of North Carolina at Chapel Hill, Chapel Hill, NC and 2Biological Department, University of North Carolina at Chapel Hill, Chapel Hill, NC.

#873 | 4:22 | EMBRYONIC EXPOSURE TO DELTAMETHRIN RESULTS IN DOPAMINERGIC GENE EXPRESSION CHANGES AND ALTERED SWIM ACTIVITY IN THE ZEBRAFISH. T. S. Kang, J. R. Richardson, K. R. Cooper and L. A. White. EOHSI, Rutgers University/UMDNJ, New Brunswick, NJ.

Monday Afternoon, March 7
2:00 PM to 4:45 PM
Room 202A

Platform Session: Biomarkers of Carcinogenesis

Chairperson(s): John Wisler, Amgen Inc., Thousand Oaks, CA, and Wesley Gray, Southern University A&M College, Baton Rouge, LA.

#874 | 2:00 | DYSREGULATION OF HEPATIC MICRORNA PROFILES ARE ASSOCIATED WITH EARLY STAGES OF CHEMICAL CARCINOGENESIS. C. Kourafis1, J. Wright1, R. A. Currie1 and N. J. Goederham1. 1Biomolecular Medicine, Imperial College London, London, United Kingdom and 2Syngenta, Bracknell, United Kingdom. Sponsor: R. Peffer.

#875 | 2:24 | A LIPIDOMIC INVESTIGATION OF EARLY METABOLIC CHANGES CAUSED BY NON-GENOTOXIC CARCINOGENS. Z. Ament1, R. A. Currie1, J. Wright1 and J. L. Griffith1. 1Department of Biochemistry and Cambridge Systems Biology Centre, University of Cambridge, Cambridge, United Kingdom and 2Syngenta, Bracknell, United Kingdom. Sponsor: R. Peffer.

#876 | 2:48 | DEVELOPMENT AND EVALUATION OF A GENOMIC SIGNATURE FOR THE PREDICTION OF NON-GENOTOXIC HEPATOCARCINOGENS IN THE RAT. R. T. Dunn1, A. Adai2, A. Olaharski1, G. H. Searfoss1, J. Sina1, L. Aubrecht1, E. Boitier1, P. Nioi1, D. Jacobson Kram1, N. Raghavan1, B. Car1, S. Chen1, Y. Yang1, A. Kinkaid1, J. Sherlock1, S. Auerbach1 and M. Fielden1. 1Amgen, Thousand Oaks, CA, 2Asuragen, Inc., Austin, TX, 3F. Hoffmann-LaRoche, Nutley, NJ, 4Lilly Research Laboratories, Indianapolis, IN, 5Merck, West Point, PA, 6Pfizer, Groton, CT, 7sanofi aventis, Vitry-Sur-Seine Cedex, France, 8U.S. FDA, Silver Spring, MD, 9J&J PRD, Raritan, NJ, 10BMS, Princeton, NJ, 11Abbott, Abbott Park, IL, 12Life Technologies, Foster City, CA and 13NIH-NTTP, Research Triangle Park, NC.

Abstract #

#877 | 3:12 | REDOX STATES OF THIOREDOXIN-1 DIFFERENTIATE HUMAN CANCER FROM ITS ADJACENT BENIGN TISSUES. W. Shain1, W. Zhong2, T. D. Oberley3, and J. D. Weisenburger4. 1Department of Pathology and Laboratory Medicine, University of Wisconsin, Madison, WI, 2Department of Pathology and Laboratory Medicine, University of Wisconsin, Madison, WI and 3Pathology and Laboratory Medicine Service, William S. Middleton Veterans Memorial Hospital, Madison, WI. Sponsor: C. Bradfield.

#878 | 3:36 | TROVAFLOXACIN PROMOTES DNA DOUBLE-STRAND BREAKS IN A MACROPHAGE CELL LINE. K. L. Poulsen1, K. Beggs1, R. C. MacPhail1, R. A. Roith2 and R. P. Ganey1. 1Pharmacology and Toxicology, Michigan State University, East Lansing, MI and 2Center for Integrative Toxicology, Michigan State University, East Lansing, MI.


#880 | 4:22 | ASSOCIATION OF ESTROGEN METABOLISM AND RISK OF NON-HODGKIN LYMPHOMA: DETECTION OF NOVEL BIOMARKERS FROM CASE-CONTROL STUDY. L. Yang1, N. W. Gaikwad4, D. D. Weisenburger1, J. Vose2, E. R. Grogan3 and E. Cavaliere1. 1Department of Pharmacology and Chemical Biology, University of Pittsburgh, Pittsburgh, PA, 2Department of Environmental, Agricultural and Occupational Health, College of Public Health, University of Nebraska Medical Center, Omaha, NE and 3Eppley Institute for Research in Cancer and Allied Diseases, University of Nebraska Medical Center, Omaha, NE.

Monday Afternoon, March 7
2:15 PM to 3:15 PM
Room 140A

Exhibitor Hosted Session: How to Comply with the EPA's Endocrine Disruption Screening Program

Presented by: WIL Research Laboratories

The U.S. EPA’s Endocrine Disruption Screening Program (EDSP) was established in response to growing concern that humans and animals may exhibit adverse endocrine effects due to environmental chemicals. The first tier in the U.S. EPA’s EDSP includes a suite of specific assays designed to look at endocrine effects at the molecular, receptor, and functional levels. These assay will be reviewed in this session.

#190

190

Education-Career Development Sessions
Exhibitor Hosted Sessions
Historical Highlights
Informational Sessions
Featured Sessions
Platform Sessions
Program Description (Continued)

Monday Afternoon, March 7
2:15 PM to 3:15 PM
Room 140B
Exhibitor Hosted Session: Nonhuman Primate (NHP) Infant Age and Relevance of Postnatal and Juvenile Assessments: Principles for Understanding Specific Endpoints in Study Designs Supporting Biologics Regulatory Submissions
Presented by: SNBL USA, Ltd.
In regulatory-mandated NHP pre-/post-natal and juvenile studies, infant development milestones and test compound pharmacology dictate the types of parameters to monitor. The pertinent question is how to identify critical parameters from the numerous possibilities that exist. This presentation will highlight approaches to take and provide examples of background data and interpretation.

Monday Afternoon, March 7
3:30 PM to 4:30 PM
Room 140B
Exhibitor Hosted Session: Announcing EPA’s Clean Air Research Centers: Science to Protect Health in a Multipollutant Atmosphere
Presented by: U.S. EPA
The U.S. Environmental Protection Agency is investing $32 million in new Clean Air Research Centers (CLARCs). The CLARCs will investigate exposures to air pollution mixtures, atmospheric transformation products, and associated health outcomes to determine impacts across life stages, amongst vulnerable populations, and within high-risk communities.

Monday Afternoon, March 7
3:30 PM to 4:30 PM
Room 140A
Exhibitor Hosted Session: Screening of Drug Candidates with Idiosyncratic Hepatic Potential: Concepts and Approaches
Presented by: In Vitro ADMET Laboratories, LLC (IVAL)
Experimental assessment of idiosyncratic drug toxicity is elusive due to the rarity of the events and the lack of appropriate animal models. The multiple parameter hypothesis of idiosyncratic drug toxicity and promising experimental approaches based on the hypothesis will be described.

Monday Afternoon, March 7
2:15 PM to 3:15 PM
Room 156
Exhibitor Hosted Session: Utility of Hematopoietic Colony Forming Cell (CFC) Assays in Drug Development
Presented by: STEMCELL Technologies, Inc.
A potential side effect of anticancer and some antiviral/antimicrobial drugs is damage to the hematopoietic (blood) system. Compounds that impair cell proliferation and differentiation can result in neutropenia, anemia or thrombocytopenia. This talk outlines the value of hematopoietic in vitro clonogenic assays for prediction of hematotoxicity.

Monday Afternoon, March 7
3:00 PM to 4:00 PM
Room 103
Specialty Section Governance Group Meeting

Monday Afternoon, March 7
4:30 PM to 6:00 PM
Room 140B
Exhibitor Hosted Session: Utility of Hematopoietic Colony Forming Cell (CFC) Assays in Drug Development
Presented by: STEMCELL Technologies, Inc.

Monday Afternoon, March 7
4:35 PM to 5:55 PM
Room 150
SOT/EUROTOX Debate: Biomarkers from Blood and Urine Will Replace Traditional Histopathological Evaluation to Determine Adverse Responses

EUROTOX Debater: Kim Boekelheide, Brown University, Providence, RI.
Endorsed by:
Society of Toxicology (SOT)
European Societies of Toxicology (EUROTOX)
Each year the SOT Annual Meeting includes a debate that continues a tradition that originated in the early 1990s in which leading toxicologists advocate opposing sides of an issue of great toxicological importance. This year, our debaters will address the proposition: Biomarkers from Blood and Urine Will Replace Traditional Histopathological Evaluation to Determine Adverse Responses.
The strengths and limitations of histopathological and existing renal or hepatic tests (BUN, ALT, etc.) have been examined over the years. These endpoints may have advantages such as long term use but do they offer sufficient potential for early detection and tissue specificity? And now there exists a new generation of potential biomarkers spawned from the promise of genomics, proteomics, metabolomics and imaging. Yet do the data from these potentially minimally invasive, mechanically-based and time course endpoints provide information appropriate to define adverse response? The debate will present some of the challenges that researchers and regulators are facing in the development and integration of new and existing biomarkers to determine adverse responses.
Regardless of framework differences and personal convictions, each scientific delegate will present relevant evidence and compelling scientific arguments to persuade and appeal to the response of the audience in order to obtain the approval or refusal of the motion. In addition to being a featured session at the SOT Annual Meeting, this debate will again take place in Paris, France during the 2011 Eurotox Annual Congress, August 28–31, 2011.
Program Description (Continued)

50th Anniversary Silent Auction
Chairperson(s): Anne Loccisano, The Hamner Institutes for Health Sciences, Research Triangle Park, NC.

In honor of the 50th Anniversary of SOT, the Postdoctoral Assembly is organizing the 50th Anniversary Silent Auction. Bid on vacation getaways or purchase items of historical significance to SOT and toxicology (such as books, laboratory items, memorabilia, photographs) as well as other items of general interest. Bids for some items will close in the E-mail Center Monday, March 7, from 4:45 PM–5:45 PM. Join the excitement! Cash bar available. Bring your laptop or smart phone to join in the bidding.

Bids for remaining items will close beginning at 10:00 AM Wednesday and conclude at 1:00 PM. All proceeds from the Silent Auction will go to the Endowment Priorities Fund.

MONDAY EVENING

Monday Evening, March 7
5:00 PM to 7:00 PM
Fado Irish Pub
Regional Chapter Joint Reception: Gulf Coast/South Central

Monday Evening, March 7
5:00 PM to 6:00 PM
(Roses Depart CC from L Street beginning at 4:00 PM)
Capital Hill, Russell Senate Building

Specialty Section Meeting/Reception: Regulatory and Safety Evaluation—The Great Debate—Hazard Information Provides an Adequate Basis for Restricting Chemical Use
Moderator: James Lamb
Debaters: George Gray and Lorenz Rhomberg
Honorary Host: Senator Johnny Isakson (R-GA)
The reception and debate will take place on Capitol Hill in Suite 325, the Kennedy Caucus Room, of the Russell Senate Office Building. Space is limited and attendance is on a first come first served basis. Buses depart for the event beginning at 4:00 PM at the L Street entrance of the Convention Center. Guests must have valid photo identification. Please wear your SOT Annual Meeting badge to gain entrance.

Monday Evening, March 7
5:00 PM to 7:30 PM
Embassy Suites Capital Ballroom A
Regional Chapter Joint Reception: National Capital Area/NRC Committee on Toxicology

Monday Evening, March 7
6:00 PM to 7:30 PM
RFD Restaurant
Regional Chapter Joint Reception: Mountain West/Southern California

Monday Evening, March 7
6:00 PM to 8:00 PM
Renaissance Grand Ballroom South
Special Interest Group Meeting/Reception: American Association of Chinese in Toxicology

Monday Evening, March 7
6:00 PM to 7:30 PM
District Chophouse Restaurant
Regional Chapter Reception: Northern California

Monday Evening, March 7
6:00 PM to 7:30 PM
Embassy Suites Capital Ballroom B
Special Interest Group Meeting/Reception: Toxicologists of African Origin

Monday Evening, March 7
6:00 PM to 7:30 PM
See room listings below.

Specialty Section Meeting/Reception: Biotechnology (Room 140B), Cardiovascular Toxicology (Room 102), Molecular Biology (Room 159), Neurotoxicology (Salon G), Risk Assessment (Salon I), Stem Cells Inaugural (Room 149)

Monday Evening, March 7
6:30 PM to 8:00 PM
District Chophouse Restaurant
Regional Chapter Reception: Northern California

Monday Evening, March 7
6:30 PM to 8:00 PM
Renaissance Meeting Room 10
Special Interest Group Meeting/Reception: Korean Toxicologists Association in America

50th Anniversary Annual Meeting and ToxExpo™
TUESDAY MORNING

Tuesday Morning, March 8
6:30 AM to 7:50 AM
Room 144

Roundtable Session: Current Uses and Understanding of the Tissue Cross Reactivity Assay
Chairperson(s): Jeanine Bussiere, Amgen, Inc., Thousand Oaks, CA, and Michael Leach, Pfizer, Andover, MA.
Sponsor: Biotechnology Specialty Section

Endorsed by:
Toxicologic and Exploratory Pathology Specialty Section

Tissue cross-reactivity (TCR) studies are screening assays conducted with monoclonal antibodies and related antibody-like biopharmaceuticals primarily to identify off-target binding, and secondarily to identify sites of on-target binding that were not previously identified. As presently utilized by the biopharmaceutical industry and regulatory agencies, TCR studies usually involve the ex vivo immunohistochemical (IHC) staining of a panel of frozen tissues from humans and animals. However, other methods of conducting TCR studies are possible. While ex vivo TCR studies have become routine in the development of antibody therapeutics, their value for the purpose of making safety assessment decisions by both industry and regulatory agencies has been questioned as experience with the assay has increased. Recently, an industry white paper was published to review the use of tissue cross-reactivity studies in the development of antibody-based biopharmaceuticals: history, experience, methodology, and future directions.

In addition, a multinational pharmaceutical and biotechnology company survey was conducted to gain a better understanding of the use and value of the TCR assay in the development of biotherapeutic molecules. The information from this survey can be used to help understand the appropriate use and interpretation of this assay in a nonclinical drug development program. Our panel of experts will address the following issues of importance including how we got to where we are today; the technical aspects of the TCR assay and issues with interpretation; case studies and summary from white paper on use of TCR; industry survey results on use of the TCR assay; and, the new technologies for identifying off-target binding of monoclonal antibodies.

Abstract #


6:45 TECHNICAL ASPECTS OF THE TCR ASSAY AND ISSUES WITH INTERPRETATION. Elizabeth Galbreath

7:00 CASE STUDIES AND SUMMARY FROM THE WHITE PAPER ON USE OF TCR. Tim MacLachlan

7:15 INDUSTRY SURVEY RESULTS ON USE OF THE TCR ASSAY. Jeanine L. Bussiere

7:30 PANEL DISCUSSION/Q&A.

Emerging Global Public Health Issues

Roundtable Session: Risk and Risk Management of Potentially Toxic Compounds Formed by Cooking Food
Chairperson(s): Steven Herrmansky, ConAgra Foods, Inc., Omaha, NE, and Wu Li, Frito-Lay, Inc., Plano, TX.
Sponsor: Food Safety Specialty Section

Endorsed by:
Regulatory and Safety Evaluation Specialty Section
Risk Assessment Specialty Section

The discovery of acrylamide in food in 2002 by Swedish researchers initiated an international effort to assess exposure and manage risk to the public. Millions of dollars and countless hours of resources have been dedicated to this effort around the world. The concept that cooking changes the chemistry of food is not new but the presence of acrylamide across a wide variety of foods brought a new perspective to food safety for the international regulatory community. This issue continues to develop as different research groups focus on multiple heat-formed chemicals and various aspects of toxicology of these naturally occurring compounds. From the recent completion of the European Union HEATOX (Heat-Generated Food Toxictants: Identification, Characterization, and Risk Minimization) project to the development of increasingly sensitive and refined analytical methods that are able to detect ever lower concentrations of compounds in foods, it is becoming increasingly clear that acrylamide only represents one compound of many. This revelation presents challenges to both the scientific and regulatory communities. Just as importantly, resources are more frequently stretched thin as scientific debates are played out in the mass media and the credibility of the scientific and regulatory process is challenged. We will discuss the challenges and opportunities presented by risk management of compounds formed in food during cooking.

Abstract #

6:30 INTRODUCTORY REMARKS AND SUMMARY OF NEW DATA. Steven J. Hermansky

6:35 THE POLITICS OF CHEMICAL FOOD SAFETY. Richard Lane

6:47 THE NEW FOOD LANDSCAPE: BALANCING THE BENEFITS WITH THE CHEMICAL RISKS OF COOKING. Nancy J. Rachman

6:59 EVALUATING THE TOXICOLOGY OF CHEMICALS IN FOOD: DO WE NEED A NEW PARADIGM? Steve S. Olin

7:11 ESTABLISHING A FUTURE RISK MANAGEMENT VISION FOR COOKING TOXINS. Terry Troxell

7:23 PANEL DISCUSSION. Mike Bolger and Angelika Tritscher
Tuesday Morning, March 8
6:30 AM to 7:50 AM
Room 147

Integration of Toxicological and Epidemiological Evidence to Understand Human Risk

Informational Session: Emerging Science for Environmental Health Decisions: Tools, Strategies, and Evidence

Chairperson(s): William Farland, Colorado State University, Fort Collins, CO, and John Balbus, NIEHS, Bethesda, MD.

Sponsor: Risk Assessment Specialty Section

Endorsed by: Association of Scientist of Indian Origin Special Interest Group Biological Modeling Specialty Section

The last year was very productive for the National Research Council’s (NRC) Standing Committee on Emerging Science for Environmental Health Decisions, sponsored by the National Institutes of Environmental Health Science. A number of timely, topical sessions were held that included SOT members that were of special relevance to toxicology, risk assessment, and public health. These topics were designed to extend discussion contained in two 2007 NRC reports—Toxicity Testing in the 21st Century: A Vision and a Strategy and Application of Toxicogenomics Technologies to Predictive Toxicology and Risk Assessment. These sessions brought together government, industry, environmental groups, and the academic community to discuss emerging scientific concepts and advances and their potential implications for environmental health decisions. Specifically, these sessions have explored emerging tools and technologies for epigenetics, computational toxicology, stem cell models, and exposome research and their potential roles in identifying, quantifying, and mitigating environmental impacts on human health. In follow up to these dynamic sessions we will highlight many aspects of this important topic. Our panel of experts will address what was learned linking specifically to the common threads among the sessions, such as bioinformatics and expanding input information for systems approaches to toxicology. In closing, we’ll synthesize how to best integrate data across these emerging and evolving areas of research and explore potential next steps for using such data and insights in environmental health decisions and policy.

Tuesday Morning, March 8
7:00 AM to 7:50 AM
Room 201

Leading Edge in Basic Science Award

Lecture: Roles of Keap1-Nrf2 in Environmental Response

Lecturer: Masayuki Yamamoto, Tohoku University Graduate School of Medicine, Sendai, Japan.

Studies of the erythroid gene expression identified the NF-E2 motif and CNC family of transcription factors. As the NF-E2 motif and antioxidant responsive element (ARE) share high-level sequence similarity, a CNC factor Nrf2 was identified as a key transcriptional activator interacting with ARE. Targeted disruption of the Nr2 gene revealed that Nrf2 is essential for the coordinated induction of cellular defense enzymes. Keap1 was identified as a sensor for xenobiotic and oxidative stresses and a component of ubiquitin E3 ligase. The two-site substrate recognition model proposed for the Keap1-Nrf2 system describes the regulation of nuclear accumulation of Nrf2 by a Keap1-dependent mechanism. Both high-affinity ETGE and low-affinity DLG motifs of the Nrf2 Neh2 domain bind to two Keap1-DC domains of the Keap1 homodimer. This allows correct positioning of the ubiquitin-target lysines within Neh2 for efficient ubiquitination. Oxidative or electrophilic stress modifies multiple reactive cysteines of Keap1, and these modifications lead to alteration of the local conformation, resulting in the dissociation of either lower-affinity DLG motif or an E3 component Cul3 from Keap1. We recently found cancer-related mutations of the Keap1-Nrf2 system. These mutations are activating mutations of Nrf2 and concentrated in the Keap1-Nrf2 interface, strongly supporting the two-site recognition model.

Tuesday Morning, March 8
7:00 AM to 8:30 AM
Room 103

Regional Chapter Presidents and Officers Meeting

If you will be a President or a Vice President of a Regional Chapter in 2011–2012, please make plans to attend the Regional Chapter Presidents and Officers meeting. The agenda for the meeting will include an overview of the SOT Long-Range Plan, SOT Headquarters support services and 50th Anniversary Celebration Events, SAC, and PDA Representatives recruitment and involvement, Regional Chapter funding, RC Communities on ToxXchange, RC Governance Group, and discussion of face-to-face summer leadership meeting.

Tuesday Morning, March 8
7:00 AM to 8:30 AM
Room 142

Specialty Section Graduate Committee Meeting
the mechanisms of toxicity in the respiratory tract following exposure to bioactivated xenobiotics. Significant advances have been made, with the use of novel animal models, new detection methods, application of site-specific approaches to colocalize toxicity and metabolism, recombinant human enzymes, and modeling, which enhance our understanding of the contributions of xenobiotic metabolism in the respiratory tract to toxicity in humans. Several examples highlighting recent progress in this area will be presented.

Tuesday Morning, March 8
8:00 AM to 9:00 AM
Grand Ballroom

**Keynote Plenary Lecture: Increasing the Prevalence of Regulatory Sciences**

**Lecturer:** Margaret Hamburg, U.S. FDA, Washington, D.C.

Described as “an inspiring public health leader with broad experience in infectious disease, bioterrorism, and health policy” by HHS Secretary Kathleen Sebelius we are delighted to have Dr. Margaret A. Hamburg, the 21st U.S. FDA Commissioner present a keynote plenary lecture at the Society’s 50th Anniversary Annual Meeting. Dr. Hamburg is exceptionally qualified by her training and experience as a medical doctor, scientist, and public health executive.

Dr. Hamburg graduated from Harvard Medical School, and completed her residency in internal medicine at what is now New York Presbyterian Hospital-Weill Cornell Medical Center, one of the top ten hospitals in the nation. She conducted research on neuroscience at Rockefeller University in New York, studied neuropharmacology at the National Institute of Mental Health on the National Institutes of Health campus in Bethesda, Maryland, and later focused on AIDS research as Assistant Director of the National Institute of Allergy and Infectious Diseases.

During her career she has been widely praised for her initiatives, decisive leadership, and significant public health measures. As a public health official she is credited with improving services for women and children, a needle-exchange program to reduce the spread of HIV (the AIDS virus), and the initiation the first public health bio-terrorism program in the nation. Her most celebrated achievement, however, was curbing the spread of tuberculosis in the 1990s.

In 1994, Dr. Hamburg was elected to the membership in the Institute of Medicine, one of the youngest persons to be so honored. Three years later, at the request of President Clinton, she accepted the position of Assistant Secretary for Policy and Evaluation in the U.S. Department of Health and Human Services (HHS).

**Global Air Quality and Human Health**

**Symposium Session: Metabolic Basis of Respiratory Tract Chemical Toxicity**

**Chairperson(s):** Laura Van Winkle, University of California Davis, Davis, CA, and Xinxin Ding, New York State Department of Health, Albany, NY.

**Sponsor:** Inhalation and Respiratory Specialty Section

**Endorsed by:**

- Mechanisms Specialty Section
- Molecular Biology Specialty Section

The respiratory tract, including both the lung and the nasal tissue, has substantial metabolic activity, which can influence the distribution and action of drugs and xenobiotics, either inhaled or ingested. The metabolic enzymes that are active in the respiratory tract include cytochrome P450 monoxygenases, esterases, oxidoreductases, and dehydrogenases. Their distribution and activity can vary greatly with anatomic location, by species, sex and history of prior exposure. Respiratory tract metabolic activity can either enhance, or inhibit, local and systemic chemical toxicity. While this basic principle has been understood and investigated for many years, recent new approaches have allowed more in-Department investigation of
Tuesday Morning, March 8
9:00 AM to 11:45 AM
Room 202A

Symposium Session: Stem Cell Biology and Cell Therapy Approaches to Understanding Cellular Injury and Wound Healing in Dermal, Ocular, and Pulmonary Injury

Chairperson(s): Jeffrey Yourick, Defense Threat Reduction Agency, Fort Belvoir, VA, and John Graham, U.S. Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, MD.

Sponsor:
Dermal Toxicology Specialty Section

Endorsed by:
Ocular Toxicology Specialty Section

Thermal and chemical burns as well as chemical injury to the skin, eye, and lung invoke a vast tissue and cellular response followed by the initiation of wound healing mechanisms. Stem cells may be defined as undifferentiated cells that have the capacity for self-renewal and may differentiate into many different cell types when stimulated by specific cellular signals. Injury to stem cell tissue populations has immense implications for normal repair and restoration of tissue function after chemical injury. Research on stem cells, such as epidermal stem cells, dermal stem cells, mesenchymal stem cells and embryonic stem cells all have potential to repair and restore structure and function to the skin and eye after extensive injury. An overview of recent advances in dermal, ocular, and pulmonary induced injury related to stem cells will be presented along with potential stem cell and other cell-based therapies as they relate to tissue repair and wound healing.

Abstract #

9:00

#890

STEM CELL AND CELL THERAPY APPROACHES FOR UNDERSTANDING CELLULAR INJURY AND WOUND HEALING IN DERMAL, OCULAR, AND LUNG INJURY. J. J. Yourick. Medical Chemical Countermeasure, Defense Threat Reduction Agency, Fort Belvoir, VA.

9:05

#891


9:30

#892


9:45

#893


9:55

#894

EMBRYONIC, MENSECHYMAL, AND PHARMACOLOGICAL MODULATION OF STEM CELLS FOR THE TREATMENT OF CUTANEOUS VESICANT INJURY. M. P. Nambiar. Closed Head Injury, Water Reed Army Institute of Research, Silver Spring, MD.

11:13

#895

CONTROL OF STEM CELL DIFFERENTIATION IN THE LUNG. J. D. Laskin and D. L. Laskin. Environmental & Occupational Medicine, UMDNJ-Robert Wood Johnson Medical School, Piscataway, NJ. Pharmacology and Toxicology, Rutgers University, Piscataway, NJ and Environmental and Occupational Health Sciences Institute, Piscataway, NJ.

Tuesday Morning, March 8
9:00 AM to 11:45 AM
Room 147

Symposium Session: Uncovering the Role of Non-Coding RNAs in Toxicology

Chairperson(s): Mark Hahn, Woods Hole Oceanographic Institute, Woods Hole, MA, and Tamara Tal, Oregon State University, Corvallis, OR.

Sponsor:
Molecular Biology Specialty Section

Endorsed by:
Carcinogenesis Specialty Section

Mechanisms Specialty Section

Over the past ten years non-coding RNAs (ncRNAs) have emerged as pivotal players in fundamental physiological and cellular processes and have been increasingly implicated in cancer, immune disorders, and cardiovascular, neurodegenerative, and metabolic diseases. MicroRNAs (miRNAs) represent a class of ncRNA molecules that are predicted to post-transcriptionally regulate the expression of 30–60% of all human protein-coding genes and as such, miRNAs play key roles in cellular and developmental processes, human health, and disease. Recently, miRNAs have surfaced as targets of developmental, hepatic, neurological, and carcinogenic toxicological agents, and have increasingly been identified as putative regulators of phase I xenobiotic-metabolizing enzymes. We will highlight impactful research demonstrating the growing understanding of the role of miRNAs in toxicological modes of action, study the mechanisms of miRNA-mediated toxicity in a variety of emerging model systems.

Abstract #

9:00

#896

UNCOVERING THE ROLE OF NON-CODING RNAs IN TOXICOLOGY. M. E. Hahn and T. Tal. Biology, Woods Hole Oceanographic Institution, Woods Hole, MA and Environmental and Molecular Toxicology, Oregon State University, Corvallis, OR.

9:05

#897

EXPLORING THE ROLE OF MICRORNAs AS MEDIATORS OF DEVELOPMENTAL NEUROBEHAVIORAL TOXICITY IN ZEBRAFISH. T. L. Tal, J. A. Franzosa, S. Tilson, K. Waters and R. L. Tanguay. Environmental and Molecular Toxicology, Oregon State University, Corvallis, OR and Computational Biology & Bioinformatics Group, Pacific Northwest National Laboratories, Richland, WA.

9:10

#898

DEFINING THE DEVELOPMENTAL ROLE OF MICRORNAs IN ORCHESTRATING TOXICOLOGICAL RESPONSES. J. A. Franzosa, T. L. Tal and R. L. Tanguay. Environmental and Molecular Toxicology, Oregon State University, Corvallis, OR.

9:15

#899

IDENTIFICATION OF NEW NON-CODING SMALL RNA IN BREAST CANCER. C. Rovira. Clinical Sciences, Department of Oncology, Lund University, Lund, Sweden. Sponsor: T. Tal.
There are several new developments and opportunities in chemical respiratory allergy. This is an important occupational health problem associated with significant morbidity, and occasionally mortality. The identification and characterization of chemical respiratory allergens has presented toxicologists with some significant challenges, not least because there remains uncertainty about the immunological mechanisms that may result in allergic sensitization of the respiratory tract. Moreover, there is continuing debate about the relevant routes of exposure for the acquisition of sensitization. Previously attention focused primarily on the development of predictive test methods based upon animal, mainly guinea pig and mouse models, or through exploitation of (quantitative) structure-activity relationships. More recently, however, other strategies have been proposed and developed, included among which are modified peptide reactivity assays, and the identification of altered gene expression signatures specific for chemical respiratory allergens. Recent progress will be reviewed critically and prospects for the development of widely accepted methods for the identification and characterization of chemical respiratory allergens will be discussed.

Tuesday Morning, March 8
9:00 AM to 11:45 AM
Room 207

Workshop Session: Identification of Chemical Respiratory Allergens: Principles and New Developments

Chairperson(s): Ian Kimber, University of Manchester, Manchester, United Kingdom, and Takahiko Yoshida, Asahikawa Medical College, Asahikawa, Japan.

Sponsor: Immunotoxicology Specialty Section
Japanese Society of Immunotoxicology

There is no more greatly studied characteristic of molecules than their ability to exhibit biological activity and major industries, including pharmaceuticals and pesticides, are based on this science. Billions of dollars are spent to evaluate the risk of chemicals in the environment and billions more are spent to discover new chemicals that have beneficial biological effects. One of the goals of green chemistry first introduced by Paul Anastas and John Warner in 1998, is to reduce or eliminate the use and generation of hazardous substances throughout the design, manufacture, and use of chemical products. The principles of green chemistry and engineering are now being widely embraced beyond the traditional chemical and pharmaceutical industries, into formulators and manufacturers of consumer products. Information on the potential hazards of the substances that are incorporated into final products is needed in order to assess and design safer products and processes. Recent advances in understanding the mechanisms of toxicity, the development of in vitro high-throughput screening (HTS) assays as well as other predictive and in silico methods allow for rapid assessment and screening of many more chemicals than had been possible in the past using traditional whole animal models. With the reform of the Toxic Substances Control Act (TSCA) and other state and global regulations requiring toxicity information and assessment of safer alternatives on thousands of chemicals, it is imperative that these predictive toxicology methods be incorporated into the assessment paradigm. As new industrial chemicals are designed with green chemistry and engineering principles, these toxicology screening methods can be used to efficiently evaluate substances, minimizing potential adverse health effects both in the workplace and to the final consumer.

PUTTING WORKERS’ SAFETY AND HEALTH INTO GREEN CHEMISTRY. P.A. Schulte. Centers for Disease Control and Prevention, NIOSH, Cincinnati, OH. Sponsor: H. Zenick.

DIFFERENTIAL TOXICITY CHARACTERIZATION OF GREEN ALTERNATIVE CHEMICALS. R. Judson. National Center for Computational Toxicology, U.S. EPA. Research Triangle Park, NC.

DESIGN FRAMEWORK FOR SAFER CHEMICALS - RECENT RESEARCH AND COMMERCIAL APPLICATIONS. T.G. Osmintz. Science Strategies Institute and SciVera, Inc., Charlottesville, VA.

TUeSDAY

INTEGRATION OF TOXICOLOGICAL AND EPIDEMIOLOGICAL EVIDENCE TO UNDERSTAND HUMAN RISK

Workshop Session: Using Mode of Action Data to Guide Quantitative Cancer Risk Assessment: A Case Study of Hexavalent Chromium in Drinking Water

Chairperson(s): Deborah Proctor, ToxStrategies, Inc., Rancho Santa Margarita, CA, and Bette Meek, University of Ottawa, Ottawa, Ontario, Canada.

Sponsor: Carcinogenesis Specialty Section

Abstract #


Putting Workers’ Safety and Health into Green Chemistry, P. A. Schulte.

Differential Toxicity Characterization of Green Alternative Chemicals, R. Judson.

Design Framework for Safer Chemicals - Recent Research and Commercial Applications, T. G. Osmintz.

Abstract #


Introduction, D. Proctor and B. Meek.

NTP Toxicology and Carcinogenesis Studies of Chromium, M. D. Stout and M. J. Hooth. NTP/NIHES, Research Triangle Park, NC.


Pharmacokinetics of Ingested Cr(VI) in Rodents: Extrapolations to Target Tissue Dose in Humans, S. Hays, L. Alyward and C. Kirman.


Panel Discussion.
Program Description (Continued)

Abstract #
Tuesday Morning, March 8
9:00 AM to 11:45 AM
Room 151

Historical Highlights Session: 1961 to 2011 and Beyond: The Evolution of Toxicology
Chairperson(s): Steven G. Gilbert, Institute of Neurotoxicology & Neurological Disorders, Seattle, WA, and Joel G. Pounds, Battelle, PNNL, Richland, WA.

Sponsor:
Ethical, Legal & Social Issues Specialty Section

Endorsed by:
Metals Specialty Section
Risk Assessment Specialty Section

Toxicology has contributed enormously to environmental and human health. During the past 50 years significant rules and regulations were enacted to protect and enhance human and ecological health, often following a serious toxicological event. Most notably, toxicological sciences have shaped drug development through the U.S. FDA and chemical use through the U.S. EPA. Workplace exposure and health issues are addressed by OSHA and NIOSH. There is increasing concern about low-dose effects on the developing organisms of not only humans but also animals. Our panel of experts will review how advances in toxicological sciences over the past 50 years have driven the regulatory, societal, and medical view of key toxicants. After examination of some key contributions to the field, we will reflect on how advances in the science of toxicology will shape the future environment regarding drug and chemical development and use.

#922 9:00 LOOKING BACK 50 YEARS OF TOXICOLOGY TO LOOK FORWARD. S. G. Gilbert1 and J. G. Pounds2. 1INND, Seattle, WA and 2Cell Biology & Biochemistry, Pacific Northwest National Laboratory, Richland, WA.

#923 9:10 METALS 50 YEARS OF EXPLORATION. B. Weiss. Department of Environmental Medicine, University of Rochester, Rochester, NY.

#924 9:45 HALOGENATED AROMATIC HYDROCARBONS (PCBs, PBBS, DDT, DIOXIN). D. L. Eaton. Department of Environmental and Occupational Health Sciences, University of Washington, Seattle, WA.

#925 10:20 RISK ASSESSMENT AND BEYOND. E. M. Faustman. Department of Environmental and Occupational Health Sciences, University of Washington, Seattle, WA.

#926 10:55 CHEMICAL CARCINOGENESIS 50 YEARS TO WHERE. C. C. Harris. National Cancer Institute, National Institute of Health, Bethesda, MD. Sponsor: S. Gilbert.

11:30 PANEL DISCUSSION/Q&A.

Abstract #
Tuesday Morning, March 8
9:00 AM to 11:45 AM
Room 150

Regional Interest Session: Bombs in Our Backyards? Historical Military Activities and Current Public Health Issues in the U.S. Capital Region
Chairperson(s): Laurie Roszell, U.S. Army-CHPPM, Aberdeen Proving Ground, MD, and Erik Janus, Steptoe & Johnson, LLP, Washington, D.C.

Sponsor:
National Capital Area Regional Chapter

#927 9:00 A BRIEF INTRODUCTION TO UXO IN THE CAPITAL REGION: SESSION OVERVIEW. E. R. Janus1 and L. E. Roszell2. 1Environmental Health Risk Assessment, USA PHC (P), Aberdeen Proving Ground, MD and 2Regulatory & Industry Affairs, Steptoe & Johnson LLP, Washington, D.C.


#931 10:30 A PUBLIC HEALTH APPROACH TO A WWII ERA LEGACY: TRACKING HEALTH AND ENVIRONMENT IN SPRING VALLEY. M. A. Fox1, F. Cerriero2, R. Chari3, E. Janus4, K. Kulbicki5, R. Neff2, J. Zablotsky5, B. Resnick1 and T. Burke1. 1Health Policy and Management, Johns Hopkins University, Baltimore, MD; 2Environmental Health Sciences, Johns Hopkins University, Baltimore, MD; 3Westat, Rockville, MD; 4Steptoe and Johnson, Washington, D.C.; and 5Food Safety and Inspection Service, U.S. Department of Agriculture, Washington, D.C.


Abstract #
#934 9:00  THE FDA'S LIVER TOXICITY KNOWLEDGE BASE (LTKB) PROJECT. W. Tong1, M. Chen1, V. Vikrant1, Q. Shi1, M. Zhang1, L. Guo2, Z. Liu1, J. Zhang1 and E. Bearden1. 1Division of Systems Biology, U.S. FDA NCTR, Jefferson, AR and 2Division of Biochemical Toxicology, U.S. FDA NCTR, Jefferson, AR.

#935 9:21  VALIDATION OF CELLCIPHR™ CELLULAR SYSTEMS BIOLOGY (CSB) TECHNOLOGY. CELLCIPHR™—BUILDING ON EXPERIENCE OF IN VIVO RAT LIVER INJURY PREDICTION TO DEVELOP THE HUMAN DILI PREDICTION. S. Thomas1, J. Mein2, R. Annand1, P. Walker2, M. Jacewicz1, D. Steen1, C. Chesne3, J. Gilbert2 and K. Tsaioun2. 1Apredica, Watertown, MA, 2Cyprotex, Macclesfield, United Kingdom and 3Biopredic, Rennes, France.


#937 10:03  QUANTITATIVE SIMULATION OF INTRACELLULAR SIGNALING CASCADES IN A VIRTUAL LIVER: ESTIMATING DOSE DEPENDENT CHANGES IN HEPATOCELLULAR PROLIFERATION AND APOPTOSIS. J. Jack1, H. Jones2 and Y. Lin3. 1National Center for Computational Toxicology, U.S. EPA, Research Triangle Park, NC and 2Joint Research Centre, European Commission, Ispra, Italy.

#938 10:24  PHYSIOLOGICALLY BASED PHARMACOKINETIC (PBPK) MODELING TO PREDICT PLASMA PHARMACOKINETICS FOR LIVER TRANSPORTER SUBSTRATES. H. A. Barton1, H. Jones2 and Y. Lin3. 1Pharmacokinetics, Pharmacodynamics, and Metabolism, Pfizer, Inc., Groton, CT and 2Pharmacokinetics, Pharmacodynamics, and Metabolism, Pfizer, Inc., Sandwich, United Kingdom.

#939 10:45  A NOVEL PREDICTIVE PLATFORM FOR DILI: A COMBINATION OF IN SILICO AND IN VIVO METHODS TO PREDICT TOXICITY MECHANISMS IN VIVO. S. Das, R. Kumar, S. Raghavan and K. Subramanian. Strand Life Sciences, Bangalore, India.

Abstract #

#941 11:25  DEVELOPMENT OF A PBPK/PD MODEL FOR ACETAMINOPHEN TOXICITY IN RATS. Y. Yang, B. Howell, M. Voon, M. Andersen and H. J. Clewell. The Hamner Institutes for Health Sciences, Research Triangle Park, NC.
Program Description (Continued)

Abstract #  #946  10:15  INTER-STRAIN DIFFERENCES IN SUSCEPTIBILITY TO 1, 3-BUTADIENE-INDUCED DNA DAMAGE, EPIGENETIC AFFECTS, AND HEPATOTOXICITY. 1. Pogrówny1, K. Igor1, A. Scherhagi1, J. Sorrentin2, S. Kennet1, W. Bodnar1, S. A. James2, B. A. Frederick1 and R. Ivan2. 1. National Center for Toxicological Research, Jefferson, AR and 2. University of North Carolina, Chapel Hill, NC.

Abstract #  #947  10:33  ALTERED DNA METHYLATION PATTERNS IN INDIVIDUALS WITH ARSENICOSIS. L. Smeester1, J. Rager1, L. Zhang1, X. Guan1, N. Smith1, G. Garcia-Vargas1, L. Del Razo1, Z. Drobnat1, H. Kelkar1, G. Schroth2, M. Styblo2 and R. Fry1. 1. Environmental Sciences and Engineering, Gillings School of Global Public Health University of North Carolina at Chapel Hill, Chapel Hill, NC, 2. Nutrition, Gillings School of Global Public Health University of North Carolina at Chapel Hill, Chapel Hill, NC, 3. Center for Bioinformatics, University of North Carolina at Chapel Hill, Chapel Hill, NC, 4. Faculty of Medicine, Juarez University of Durango, Juarez, Mexico, 5. Department of Toxicology, Cinvestav-Ipm, Mexico City, Mexico and 6. Illumina, Inc., Hayward, CA.

Abstract #  #948  10:51  HDAC INHIBITORS, ENTINOSTAT, AND VORINOSTAT SYNERGIZE WITH ADAPHOSTIN, A TYRPHOSTIN KINASE INHIBITOR, INCREASING OXIDATIVE STRESS AND APOPTOSIS IN LUMBALCELLS. N. Rivera-Del Valle and J. Chandra. Pediatric Research, University of Texas M.D. Anderson Cancer Center, Houston, TX.

Abstract #  #949  11:09  AHR-MEDIATED IMMUNE REGULATION RESULTS FROM EPIGENETIC EFFECTS. P. Nagarkatti, N. P. Singh, U. Singh and M. Nagarkatti. Pathology, Microbiology, and Immunology, University of South Carolina School of Medicine, Columbia, SC.

Abstract #  #950  11:27  DNA METHYLATION AND HISTONE MODIFICATION CHANGES IN THE LIVERS OF C57BL/6J MICE EXPOSED TO 1, 3-BUTADIENE BY INHALATION. I. Koturbash1, A. Scherhagi1, S. Jessica2, B. Wanda2, S. A. James3, B. A. Frederick1, P. Igor1 and R. Ivan2. 1. Biochemical Toxicology, National Center for Toxicological Research, Jefferson, AR and 2. University of North Carolina, Chapel Hill, NC.

Tuesday Morning, March 8
9:00 AM to 11:45 AM
Room 202B

Platform Session: Gene Regulatory Mechanisms of Carcinogenesis

Chairperson(s): David Castro, Sanford-Barnham Medical Research Institute, La Jolla, CA, and B. Bhaska Gollapudi, The Dow Chemical Company, Midland, MI.

Abstract #  #951  9:00  PROPICONAZOLE ENHANCES CELL PROLIFERATION BY DYSREGULATION OF RAS FARNESYLATION AND THE MAPK PATHWAY. L. Murphy, T. Moore and S. Nesnow. U.S. EPA, Research Triangle Park, NC. Sponsor: S. Hester.

Abstract #  #952  9:21  ANALYSIS OF MOLECULAR, CELLULAR, AND BIOCHEMICAL CHANGES IN THE LIVER OF MALE B6C3F1 MICE TREATED WITH NITRAPYRIN—A NITROGEN STABILIZER. M. J. LeBaron1, M. R. Schisler1, H. L. Kan1, J. Thomas1, D. L. Eisenbrand1 and B. B. Gollapudi1. 1. The Dow Chemical Company, Midland, MI and 2. Dow AgroSciences, Indianapolis, IN.


Abstract #  #954  10:03  REDUCTION OF PTEN DOSE IMPAIRS DNA REPAIR AND PREDISPOSES TO UVR-INDUCED SKIN TUMORIGENESIS. Y. He1, M. Ming1, L. Feng2, C. Shea3, K. Soltani4, B. Zhao2, W. Han5, R. Smart2, C. Trempos2 and J. Pritchard6. 1. Medicine/Dermatology, University of Chicago, Chicago, IL, 2. Laboratory of Pharmacology, National Institute of Environmental Health Sciences, National Institute of Health, Research Triangle Park, NC and 3. Department of Environmental and Molecular Toxicology, Group, North Carolina State University, Raleigh, NC.

Abstract #  #955  10:24  TOLUENEMIC ACID INHIBITS GROWTH AND SURVIVAL OF MULTIPLE TUMORS AND DOWNREGULATES SPECIFICITY PROTEIN (SP) TRANSCRIPTION FACTORS. G. Chadalapaka1, I. Jutoono1, S. Sriwatsan1, S. Pathe1 and H. Wilson2. 1. VTPP, Texas A&M University, College Station, TX and 2. Department of Small Animal Clinical Sciences, Texas A&M University, College Station, TX.

Abstract #  #956  10:45  ROLE OF SPECIFICITY PROTEIN (SP) TRANSCRIPTION FACTORS IN REGULATION OF STAT3 IN PANCREATIC CANCER CELLS. I. D. Jutoono1, G. Chadalapaka1 and S. H. Safe2. 1. Veterinary Physiology and Pharmacology, Texas A&M University, College Station, TX and 2. Institute of Biosciences & Technology, Houston, TX.

Abstract #  #957  11:05  PEROXYISOME PROLIFERATOR-ACTIVATED RECEPTOR (PPAR)- IN MAMMARY SECRETARY EPITHELIAL CELLS STOPS DBMA-MEDIATED BREAST TUMORIGENESIS. A. J. Apostoli1, N. Peterson1, R. Rubino1, S. SentGupta1, M. Schneider1 and C. Nico1. 1. Pathology & Molecular Medicine, Queen’s University, CRI, Kingston, ON, Canada and 2. Division of Cancer Biology & Genetics, Queen’s University, CRI, Kingston, ON, Canada.

Abstract #  #958  11:25  MITOCHONDRIAL UNCOUPLING PROTEIN 3 ANTAGONIZES TUMOR PROMOTION BY ALTERING CANONICAL KERATINOCYTE GROWTH AND DIFFERENTIATION SIGNALING PATHWAYS. S. M. Nowinski1, J. E. Rundhaug2, O. Rho1, J. Digiovanni and E. M. Mills3. 1. Division of Pharmacology and Toxicology, College of Pharmacy, The University of Texas at Austin, Austin, TX and 2. Science Park - Research Division, The University of Texas M.D. Anderson Cancer Center, Smithville, TX.
Program Description (Continued)

Abstract #

Tuesday Morning, March 8
9:00 AM to 12:30 PM
Exhibit Hall

Poster Session: Alternative Approaches to Animal Testing for Toxicological Research

Chairperson(s): Adrian Nanez, Amgen Inc., Thousand Oaks, CA.

Displayed: 9:00 AM – 12:30 PM

Author Attended: 9:00 AM – 11:00 AM

#959
Poster Board Number .....................................118
EFFECTS OF LOW LEVELS OF BISPHENOL A IN HUMAN ENDOTHELIAL CELLS.

#960
Poster Board Number .....................................119
CIGARETTE SMOKE EXPOSED PRECISION-CUT LUNG SLICES (PCLS) AS A NEW IN VITRO MODEL FOR SMOKE-INDUCED TOXICITY.

#961
Poster Board Number .....................................120
LONG-TERM CULTURE OF H9C2 RAT CARDIOMYOCYTES WITH NUCLEOSIDE REVERSE TRANSCRIPTASE INHIBITORS (NRTIS) ALTERS RESPIRATORY CAPACITY AND MITOCHONDRIAL BIOGENESIS.
Y. Liu, P. Nguyen, T. Batts and M. C. Porter. National Cancer Institute, Bethesda, MD.

#962
Poster Board Number .....................................121
INTERROGATING GENETIC PATHWAYS OF TOXICITY USING IN VITRO HIGH-CONTENT SCREENING OF EMBRYONIC FIBROBLASTS FROM THE MOUSE DIVERSITY PANEL.
1University of North Carolina, Chapel Hill, NC and 2The Hamner Institute for Health Sciences, Durham, NC.

#963
Poster Board Number .....................................122
VEHICLE EFFECTS ON RESULTS OF LOCAL LYMPH NODE ASSAYS.
T. Ancol1,2, D. Hayashi1, S. Corney4, K. Sato2 and T. Satoh1.
1Harlan Laboratories, Tokyo, Japan, 2Showa University School of Medicine, Tokyo, Japan and 3HAB Research Institute, Chiba City, Japan.

#964
Poster Board Number .....................................123
EFFECTS OF 5-HT1A OR ENDOCANNABINOID RECEPTOR AGONISTS ON ZEBRAFISH BEHAVIOR IN NOVEL ENVIRONMENTS.
K. A. Conners1, T. W. Vallenti1, K. N. Prosser1, B. W. Brooks1, E. S. Onarvi1 and G. G. Gould.2,3, Environmental Science, Baylor University, Waco, TX, 1Biology, William Paterson University, Wayne, NJ and 3Pharmacology, University of Texas Health Science Center at San Antonio, San Antonio, TX.

#965
Poster Board Number .....................................124
IMPLEMENTATION OF THE NCTC2544 IL-18 ASSAY TO IDENTIFY IN VITRO CONTACT ALLERGENS.
V. Galiberti1, M. Mitjans2, F. Colleoni1, C. L. Galli1, M. Marinovich1 and E. Corsini3.1, Department of Pharmacological Sciences, Università degli Studi di Milano, Milano, Italy and 2Dpt Fisiologia, Facultat de Farmacia, Universitat de Barcelona, Barcelona, Spain.

#966
Poster Board Number .....................................125
DIFFERENT REGULATION OF INTERLEUKIN-8 EXPRESSION IN HUMAN THP-1 CELLS AFTER EXPOSURE TO ISOEUGENOL VERSUS OTHER CONTACT ALLERGENS.
E. Corsini3, A. Carne4, V. Galiberti1, M. Mitjans2, C. L. Galli1 and M. Marinovich1.3, Department of Pharmacological Sciences, Università degli Studi di Milano, Milano, Italy and 2Dpt Fisiologia, Facultat de Farmacia, Universitat de Barcelona, Barcelona, Spain.

#967
Poster Board Number .....................................126
IN VITRO DETECTION OF CONTACT ALLERGENS: DEVELOPMENT OF AN OPTIMIZED PROTOCOL AND PERFORMING OF AN INTERNATIONAL RING STUDY USING HUMAN PERIPHERAL BLOOD MONOCYTE DERIVED DENDRITIC CELLS.

#968
Poster Board Number .....................................127
ASIAN GINSENG (PANAX GINSENG) AGGRAVATES ETHANOL TOXICITY IN HUMAN ENDOTHELIAL CELLS.
A. K. Dasmahapatra1,2,3, H. G. Kwon1, S. Ajuh2 and C. K. Hwang1.1Department of Pharmacological Sciences, 2Faculty of Pharmacy, Universitat de Barcelona, Barcelona, Spain and 3Environmental Toxicology Research Program, University of Mississippi, University, MS.

#969
Poster Board Number .....................................128
CYTOTOXICITY OF TOBACCO SMOKE AEROSOLS IN VITRO: COMPARISON OF ISO AND HCI SMOKING REGIMES.
K. Scott1, J. Kilford2, P. Fowler1, J. Young2, I. Crooks2, D. Dillon1 and C. Meredith1.1Group R&D, British American Tobacco, Southampton, United Kingdom and 2Covance Laboratories Ltd., Harrogate, North Yorkshire, United Kingdom.

#970
Poster Board Number .....................................129
APPLICATION OF SILAC QUANTITATIVE PROTEOMICS FOR PATHWAY DISCOVERY OF IDIOSYNCRATIC DRUG-INDUCED LIVER INJURY COMPOUNDS.
Program Description (Continued)

Abstract #

#971
Poster Board Number .....................................130

#972
Poster Board Number .....................................131
FURAN AND 1,3-PROPANEDIOL PRODUCE DNA CROSS-LINKS IN TURKEY FOETAL LIVER. A. M. Jeffrey1, J. Duan2, K. D. Brunnenmann1, J. \( \ddot{R} \) Schlatter1 and L. M. Williams1.
1Department of Pathology, New York Medical College, Valhalla, NY and 2Swiss Federal Office of Public Health, Staufacherstrasse 101, Zürich, CH-8004, Switzerland.

#973
Poster Board Number .....................................132
RETINOIC ACID DIFFERENTIATED H9C2 RAT CARDIAC CELLS AS A MODEL FOR TOXICITY SCREENING. H. P. Behring1, J. Hanre III, M. J. Furniss1, D. Mesa and R. E. Parchment, SAIC-Frederick/NCI-Frederick, Frederick, MD.

#974
Poster Board Number .....................................133

#975
Poster Board Number .....................................134
A NEW RECONSTITUTED HUMAN CORNEAL EPITHELIUM MODEL FOR THE ALTERNATIVE EYE IRRITATION TEST. K. Jung1, S. Lee2, Y. Ryu2, H. Jung2, W. Jung2, J. Han1, S. Seok1, J. Park1, Y. Sou2, J. Chung2, Y. Park2 and K. Lim1.
1Amorepacific. Co. R&D Center, Gyeonggi-do, Republic of Korea, 2Modern Cell&Tissue Technologies Inc., Seoul, Republic of Korea, 3Seoul National University, Seoul, Republic of Korea and 4Kyung Hee University, Gyeonggi-do, Republic of Korea.

#976
Poster Board Number .....................................135
AN ACUTE 1 HOUR EXPOSURE TO 2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (2,3,7,8-TCDD) INHIBITED VITELLOGENIN (ZFVTG 1-3) INDUCTION BY 17α-ETHYNYLESTRADIOL IN ZEBRAFISH (DANIO RERIO). S. M. Bugel1, L. A. White3 and K. R. Cooper2.
1Department of Environmental Sciences, Rutgers University, New Brunswick, NJ and 2Department of Biochemistry and Microbiology, Rutgers University, New Brunswick, NJ.

Abstract #

#977
Poster Board Number .....................................136
TOXICOLOGICAL INVESTIGATION OF VOLATILE ORGANIC COMPOUNDS ON NON-MAMMALIAN MODEL SPECIES, DROSOPHILA MELANOGASTER AND CAENORHABDITIS ELEGANS FOR INDOOR AIR POLLUTANTS BIOMONITORING. Y. Chung1, H. Eom1, K. Song1, S. Kim1, M. Rhee2, T. Chor1 and J. Choi1.
1University of Seoul, Seoul, Republic of Korea, 2Korea Conformity Laboratories, Seoul, Republic of Korea, 3Seoul National University, Seoul, Republic of Korea, 4Chungnam National University, Seoul, Republic of Korea and 5Pusan National University, Pusan, Republic of Korea. Sponsor: D. Ryu.

#978
Poster Board Number .....................................137
DETERMINING SKIN SENSITIZATION POTENTIAL OF MEDICAL DEVICE MATERIALS USING A NEW IN VITRO METHOD. D. Keller1, B. Wallace1, H. Wagner1, J. Gorschki1 and J. M. McKim1.
1CeeTox, Inc., Kalamazoo, MI and 2North American Scientific Associates, Inc. (NAMSA), Northwood, OH.

#979
Poster Board Number .....................................138
NEUROPATHY TARGET ESTERASE (NTE) CODIFYING GEN AS BIOINDICATOR OF EMBRYOTOXICITY IN IN VITRO TESTS. M. A. Sogorb, A. C. Romero, D. Parnies, C. Esteban and E. Vilanova. Unidad de Toxicología y Seguridad Química, Instituto de Bioingeniería, Universidad Miguel Hernández de Elche, Elche, Alicante, Spain.

#980
Poster Board Number .....................................139

#981
Poster Board Number .....................................140
POPULATION-BASED QUANTITATIVE HIGH-THROUGHPUT SCREENING (QHTS) FOR CHEMICAL TOXICITY. S. O’Shea1, O. Kosyk1, N. Abdoli2, E. Lock2, E. Wright2, R. Huang2, M. Xia2, C. Austin2, R. Rice2 and I. Rusyn1.
1Department of Environmental Sciences and Engineering, University of North Carolina at Chapel Hill, Chapel Hill, NC, 2NIH Chemical Genomics Center, NHGRI/NIH, Bethesda, MD and 3National Toxicology Program, NIEHS/NIH, Research Triangle Park, NC.

#982
Poster Board Number .....................................141
HIGH-THROUGHPUT SCREENING OF TOXCAST™ PHASE I CHEMICALS IN A MOUSE EMBRYONIC STEM CELL ASSAY REVEALS DISRUPTION OF POTENTIAL TOXICITY PATHWAYS. K. J. Chandler1, S. Hunter1, S. Jeffay1, H. Nichols1, M. Hoopes1, M. Barrier1, N. Sipes1, N. Kleinsteuber1, A. Singh1 and T. Knudsen2.
1U.S. EPA, Research Triangle Park, NC and 2Lockheed Martin, Research Triangle Park, NC.
Abstract #

#983
Poster Board Number .....................................142
EVALUATION OF A NOVEL CELL CULTURE EXPOSURE SYSTEM WITH CELL MODELS OF DIFFERENT COMPLEXITY. F. Glahn¹, A. Rogers², S. Kerwien¹, J. Wiese¹, S. Thomas¹ and H. W. Foth¹. ¹Institute of Environmental Toxicology, Martin-Luther-University, Halle/Saale, Saxony-Anhalt, Germany and ²TSE Systems GmbH, Bad Homburg, Germany.

#984
Poster Board Number .....................................143
COMPARATIVE REPRODUCTIVE AND DEVELOPMENTAL TOXICITY OF AFLATOXIN B1 IN THE WILD TYPE AND MUTANTS OF NEMATODE CAENORHABDITIS ELEGANS. L. Tang¹, S. Xue¹, G. Qiao¹ and H. L. Ma¹. ¹Peking University, Beijing, China and ²Institute of Environmental Health, University of Texas at Austin, Austin, TX.

#985
Poster Board Number .....................................144

#986
Poster Board Number .....................................145
MOLECULAR EFFECTS OF INORGANIC AND ORGANIC MERCURY IN CAENORHABDITIS ELEGANS AND HUMAN CELLS. M. K. McElwee and J. H. Freedman. NIEHS, Durham, NC.

#987
Poster Board Number .....................................146
3D CELL CULTURE IMPROVES DETECTION OF OXAZOLIDONE TOXICITY. J. Yang¹, X. Xu¹, K. Howe², J. Dykens² and J. Cui¹. ¹Department of Engineering Science, University of Oxford, Oxford, United Kingdom and ²Drug Safety Research and Development, Pfizer, Sandwich, United Kingdom. Sponsor: M. Sharpe.

#988
Poster Board Number .....................................147
NNK-INDUCED CYTOKINE ALTERATIONS IN LUNG SLICES FROM LEAN AND DIET-INDUCED OBESE C57BL/6J MICE. T. Liberati and M. Randle. Internal Medicine, Southern Illinois University School of Medicine, Springfield, IL.

#989
Poster Board Number .....................................148

#990
Poster Board Number .....................................217

#991
Poster Board Number .....................................218
THE USE OF IN VITRO TOXICITY DATA AND PHYSIologically BASED KINETIC MODELING TO PREDICT DOSE-RESPONSE CURVES FOR IN VIVO DEVELOPMENTAL TOXICITY OF GLYCOL ETHERS IN RAT AND MAN. J. Louise²,² E. de Jong²,², J. J. van de Sand¹,¹ B. J. Blaauboer¹,¹, R. A. Woutersen¹,¹, A. H. Piersma¹,¹, I. M. Rietjens¹,¹ and M. Verwey¹.¹. ¹Division of Toxicology, Wageningen University, Wageningen, Netherlands, ²TNO Quality of Life, Zeist, Netherlands, and ³WUR/TNO Centre for Innovative Toxicology, Wageningen, Netherlands, and ³National Institute of Public Health and the Environment (RIVM), Bilthoven, Netherlands and ³Institute for Risk Assessment Sciences (IRAS), Utrecht University, Utrecht, Netherlands.

#992
Poster Board Number .....................................219
EVALUATION OF MEDAKA AS AN ANIMAL MODEL TO STUDY AUTISM SPECTRUM DISORDER. M. Wu¹,¹, I. A. Khan¹ and A. K. Dasmahapatra².¹. ¹National Center for Natural Product Research, University of Mississippi, University, MS and ²Department of Pharmacology, University of Mississippi, University, MS.

#993
Poster Board Number .....................................220
CHLORPYRIFOS DISRUPTS THE BLOOD-BRAIN BARRIER BY ALTERING TIGHT JUNCTION AND TRANSIENT RECEPTOR POTENTIAL CHANNEL GENE EXPRESSIONS. W. Li and M. Ehrich. Virginia-Maryland Regional College of Veterinary Medicine, Virginia Tech, Blacksburg, VA.

#994
Poster Board Number .....................................221
CAENORHABDITIS ELEGANS AS AN ALTERNATIVE MODEL TO EVALUATE NANOMATERIAL TOXICITY. L. Komatsu¹, N. Olejnik², K. M. Tyner² and R. L. Sprando¹.¹. U.S. FDA, Laurel, MD and ¹U.S. FDA, CDER, Silver Spring, MD. Sponsor: T. Flynn.
Program Description (Continued)

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#995  Poster Board Number .......................222  EFFECTS OF DIETARY PHENOLICS AND BOTANICAL EXTRACTS ON HEPATOTOXICITY-RELATED ENDPOINTS IN HUMAN AND RAT HEPATOMA CELLS AND STATISTICAL MODELS FOR PREDICTION OF HEPATOTOXICITY. Y. Liu1, T. Flynn1, M. Ferguson1, E. Hoagland1 and L. Yu1. 1Division of Toxicology, U.S. FDA, Laurel, MD; 2Nutrition & Food Science, University of Maryland, College Park, MD and 3Division of Public Health & Biostatistics, U.S. FDA, College Park, MD.

#996  Poster Board Number .......................223  EXPANDED PREVALIDATION FOR THE ISOLATED RABBIT EYE (IRE) ASSAY. F. Guerrero1, C. Seama1, A. Whittingham1, A. Else1, E. Adriaens2, R. Guest1 and M. Olson1. 1H & S, GlaxoSmithKline Research Triangle Park, NC; 2H & S, GlaxoSmithKline, Ware, United Kingdom; 3Harlan Laboratories, Shardlow, United Kingdom and 4Adriaens Consulting, Aalter, Belgium.

#997  Poster Board Number .......................224  CYTOTOXICITY AND GENOTOXICITY OF PHENAZINE IN HUMAN CELL LINES. C. F. McGuigan1, S. Gabos1 and X. Li1. Division of Analytical & Environmental Toxicology, University of Alberta, Edmonton, AB, Canada and 2Alberta Health and Wellness, Edmonton, AB, Canada. Sponsor: R. Bull.

#998  Poster Board Number .......................225  IN VITRO EXPOSURE OF ORGANOTYPICAL 3D EPITHELIAL TISSUES TO CIGARETTE SMOKE AS A POTENTIAL ALTERNATIVE TO RODENT INHALATION STUDIES. D. Weisensee1, B. Kurkowsky1, M. Hebestreit1 and S. Wagner1. Philip Morris Research and Development, Philip Morris Research Laboratories GmbH, Cologne, Germany. Sponsor: E. Roemer.

#999  Poster Board Number .......................226  EVALUATION OF MALE RAT ENDOCRINE TOXICITY USING THE IN VITRO RAT TESTICULAR CELL LINE R2C. R. Kuk1, P. S. Giffen1, S. B. Laflin1 and D. J. Stanislaus1. 1Reproductive Toxicology, Safety Assessment, GlaxoSmithKline, King of Prussia, PA and 2SA Pathology, Preclinical Development, GlaxoSmithKline, Ware, Hertfordshire, United Kingdom.

#1000 Poster Board Number .......................227  THE DEVELOPMENT OF AN IN VITRO ASSAY TO PREDICT SKIN SENSITIZATION BASED ON ROS PRODUCTION. K. Saito1, M. Miyazawa1, Y. Nakada1, H. Sakaguchi1 and N. Nishiyama1. Kao Corporation, Tochigi, Japan. Sponsor: J. Avadis.

#1001 Poster Board Number .......................228  A TIERED APPROACH COMBINING FOUR IN VITRO ASSAYS FOR PREDICTING EYE IRRITATION POTENTIAL OF CHEMICALS. K. Hayashi1, T. Abo1, K. Ooshima2, T. Hayashi1, T. Komano1, R. Faust1, T. Simon1 and H. Sakaguchi1. 1Kao Corporation, Tochigi, Japan; 2Kanebo Cosmetics Inc., Kanagawa, Japan; 3Kao Professional Salon Services GmbH, Darmstadt, Germany and 4Kao Brands Company, Cincinnati, OH.

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#1002 Poster Board Number .......................229  TOWARDS ANIMAL-FREE TESTING FOR SKIN SENSITIZATION: IN-HOUSE VALIDATION OF FOUR METHODS: MUSST, H-CLAT, KERATINOSENS, AND DPRA. C. Bauch2,3, T. Elze1, E. Fabian1, S. N. Kolle1, C. Pachl1,2, T. R. Hernandez2, B. Wiechmann1, C. J. Wurck2, R. Landsiedel1 and B. van Ravenzwaay1. 1Experimental Toxicology and Ecology, BASF SE, Ludwigshafen, Germany; 2Department of Anatomy and Cell Biology, RWTH Aachen University, Aachen, Germany; 3Technical University Kaiserslautern, Kaiserslautern, Germany and 4Faculty of Chemistry, Pharmaceutics, and Geosciences, Johannes Gutenberg University Mainz, Mainz, Germany. Sponsor: A. van Cott.

#1003 Poster Board Number .......................230  ASSESSMENT OF AIRWAY GENOTOXICITY POTENTIAL USING THE EPIAIRWAY IN VITRO HUMAN AIRWAY MODEL AND THE COMET ASSAY. A. Armanto1, J. DeLuca1, Y. Kalozyhny1, H. Kandarova1, M. Klausner1 and P. J. Hayden1. MatTek Corp., Ashland, MA.

#1004 Poster Board Number .......................231  APPLICATION OF PRECISION-CUT LIVER SLICES FOR THE INVESTIGATION OF XENOBIOTIC-INDUCED CELL PROLIFERATION. E. Fabian1, F. Schuck2, C. Jaeckh1, S. Groetters1, B. van Ravenzwaay1 and R. Landsiedel1. ‘Experimental Toxicology and Ecology, BASF SE, Ludwigshafen, Germany and 3Johannes Gutenberg-University, Mainz, Germany.

#1005 Poster Board Number .......................232  EVALUATION OF XENOBIOTIC METABOLISM IN HUMAN RECONSTRUCTED SKIN MODELS FOR GENOTOXICITY TESTING. C. Jaeckh1, V. Blatz1, E. Fabian1, K. Reisinger1, B. van Ravenzwaay1, S. Trappe1 and R. Landsiedel1. ‘Experimental Toxicology and Ecology, Ludwigshafen, Germany.


#1007 Poster Board Number .......................234  ASSESSMENT OF COMBINATIONS OF ANTIANDROGENIC COMPOUNDS VINCLOZOLIN AND FLUTAMIDE IN A YEAST BASED REPORTER ASSAY. S. Kolle1, G. Krenrich1, B. van Ravenzwaay1 and R. Landsiedel1. BASF SE, Experimental Toxicology and Ecology, Ludwigshafen, Germany.

#1008 Poster Board Number .......................235  SCREENING FOR ENDOCRINE DISRUPTORS IN PRODUCT DEVELOPMENT: TIERED TESTING USING IN VITRO AND IN VIVO ASSAYS. B. van Ravenzwaay1, S. Kolle1, R. Buesen1, H. Kamp1 and R. Landsiedel1. BASF SE, Experimental Toxicology and Ecology, Ludwigshafen, Germany. Sponsor: A. Dör.
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<td>IN VITRO GENE EXPRESSION PROFILING TO PREDICT SKIN SENSITIZING POTENTIAL. J. van der Veen1,2, J. Ezendam1, T. Pronk1,2, R. Vandebriel1, J. Pennings1 and H. van der Veen1,2. *Laboratory for Health Protection Research, National Institute for Public Health and the Environment, Bilthoven, Netherlands and 2Department of Health Risk Analysis and Toxicology, Maastricht University, Maastricht, Netherlands.</td>
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<td>PRECISION-CUT LIVER SLICES AS AN EX VIVO MODEL TO STUDY IDIOSYNCRATIC HEPATOTOXICITY IN MOUSE AND HUMAN. M. Hadi1, Y. Chen1, M. Stitzinger1, H. Emmen2 and G. Groothuis1. Pharmacokinetics, Toxicology &amp; Targeting, University of Groningen, Groningen, Netherlands and 2Toxicology, NOTOX BV, s’-Hertogenbosch, Netherlands. Sponsor: A. Vickers.</td>
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<td>AFLICTOXIN B, INDUCED DNA DAMAGE IN TURKEY AND CHICKEN EGG FOETAL LIVER CELLS. J. G. Williams2, U. Deschié2 and G. M. Williams2. *Department of Pathology, New York Medical College, Valhalla, NY and 2Boehringer Ingelheim Pharmacology KG, Boehringer Ingelheim Pharmacology KG, Biberach/Riss, Germany.</td>
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<td>TRACE METALS ALTER HISTONE METHYLATION PATHWAYS IN MOUSE EMBRYONIC STEM CELLS. S. R. Gadita and F. A. Barile. Pharmaceutical Sciences, St. John’s University College of Pharmacy, Queens, NY.</td>
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<td>MICRO ELECTRODE CHIP ASSAY (MEA) AS METHOD TO DETECT NEUROTOXICITY IN VITRO. S. Vogel1, A. Novellino1, E. De Franchi1, B. van Ravenzwaay1 and R. Landsiedel1. *BASF SE, Experimental Toxicology and Ecology, Ludwigshafen, Germany and 2ETTs.r.l, Genova, Italy.</td>
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<td>EFFECT OF METALS ON β-ACTIN AND TOTAL PROTEIN SYNTHESIS IN CULTURED HUMAN INTESTINAL EPITHELIAL CELLS. A. R. Calabro and F. A. Barile. Pharmaceutical Sciences, St. John’s University College of Pharmacy, Queens, NY.</td>
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Program Description (Continued)

Abstract #
Tuesday Morning, March 8
9:00 AM to 12:30 PM
Exhibit Hall
Poster Session: Reproductive Toxicology I

Chairperson(s): Kembra Howdeshell, NIEHS, Research Triangle Park, NC.

Displayed: 9:00 AM–12:30 PM
Author Attended: 9:00 AM–11:00 AM

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#1025 Poster Board Number .........................304
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#1026 Poster Board Number .........................305
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#1027 Poster Board Number ..........................306
ASSESSING POTENTIAL NON-SPECIFIC
IMMUNE-MEDIATED EFFECTS IN
REPRODUCTIVE TOXICITY STUDIES
WITH VACCINES. L. Segal1, D. Stannard2, D.
Meyers2, D. Morello2, S. Veenstra1 and B. Baras3,
1GliaoxSmithKline Biologicals, Rixensart/Wavre,
Belgium and 2Huntingdon Life Sciences, Eye,
Suffolk, United Kingdom.

#1028 Poster Board Number ..........................307
COMPARISON OF THE REPRODUCTIVE
PERFORMANCE OF THE HARLAN AND
CHARLES RIVER SPRague-DawLEY RAT.
E. Mylchreest and K. K. Daniels, Southern Research,
Birmingham, AL.

#1029 Poster Board Number ..........................308
DEVELOPMENTAL AND REPRODUCTIVE
TOXICITY OF ISODECYL BENZOATE.
K. L. Pavkov4 and E. D. Sloter5, 1Department of
Toxicology and Environmental Sciences,
ExxonMobil Biomedical Sciences, Inc., Annandale,
NJ and 2Developmental and Reproductive
Toxicology, WIL Research Laboratories, LLC.,
Ashland, OH.

#1030 Poster Board Number ..........................309
EXTENDED ONE GENERATION
REPRODUCTIVE TOXICITY TEST WITH
LEAD ACETATE. R. Kubaszky1, D. J. Esdaile1,
T. Hanley2, P. Maslej1, D. Minnema2, J. Wright2 and
R. Lewis3. 1Lab. Research Ltd., Veszprem, Hungary,
2Syngenta Crop Protection, LLC, Greensboro, NC
and 3Syngenta, Jealotts Hill, Bracknell, United
Kingdom.

#1031 Poster Board Number ..........................310
DISTRIBUTION OF ATRAZINE (ATR)
AND METABOLITES IN THE WISTAR
RAT FOLLOWING GESTATIONAL/
LACTATIONAL EXPOSURES. T. E. Stoker1,
A. Kame1, Y. Quan1, L. Podhomiak1, R. Cooper1
and L. Strader1. 1Endocrinology Branch, U.S.
EPA, Research Triangle Park, NC and 2Analytical

#1032 Poster Board Number ..........................311
LOW-DOSE, GESTATIONAL EXPOSURE TO
ATRAZINE DOES NOT ALTER POSTNATAL
REPRODUCTIVE DEVELOPMENT OF
MALE OFFSPRING. M. J. Froites, D. S. Best,
M. G. Narotzky and R. L. Cooper. Toxicology
Assessment Division, NHEERL, ORD, U.S. EPA,
Research Triangle Park, NC.

#1033 Poster Board Number ..........................312
BISPHENOL A INDUCES ATRESIA IN
MOUSE ANTRAL FOLLICLES. J. Peretz, R.
K. Gupta and J. A. Flaws. Comparative Biosciences,
University of Illinois Urbana-Champaign, Urbana,
IL.
Program Description (Continued)

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Poster Board Number ........................................................................... 313

Poster Board Number ........................................................................... 314
#1035 PREGNENOLONE CO-TREATMENT DOES NOT RESTORE GROWTH OF MOUSE ANTRAL FOLLICLES TREATED IN VITRO WITH THE MONO-HYDROXYLATED METABOLITE OF METHYLCYCLOR. Z. R. Craig, P. R. Hannon and J. A. Flaws. Comparative Biosciences, University of Illinois, Urbana, IL.

Poster Board Number ........................................................................... 315

Poster Board Number ........................................................................... 316
#1037 METHYLCYCLOR ALTERS STEROIDOGENIC ENZYMES IN CULTURED MOUSE ANTRAL FOLLICLES. M. Basavarajappa, Z. Craig, B. Karman, W. Wang and J. A. Flaws. Comparative Biosciences, University of Illinois, Urbana, IL.

Poster Board Number ........................................................................... 317
#1038 ESTROGEN RECEPTOR ALPHA OVEREXPRESSING MOUSE OVARIAN MAY BE SUSCEPTIBLE TO METHYLCYCLOR AND ITS METABOLITES BECAUSE OF REDUCED METABOLISM OF THE CHEMICALS. T. Paulose, I. Hernández-Ochoa, M. S. Basavarajappa, J. Perez, Z. R. Craig and J. A. Flaws. Comparative Biosciences, University of Illinois Urbana-Champaign, Urbana, IL.

Poster Board Number ........................................................................... 318
#1039 MONO- AND DI-ESTER PHTHALATES ALTER TESTOSTERONE PRODUCTION IN MOUSE BLTK1 MURINE LEYDIG TUMOR CELLS. Q. Ding, N. A. Rahman, J. T. Huhtamaki and T. R. Zacharewski. 1Department of Biochemistry & Molecular Biology and Center for Integrative Toxicology, Michigan State University, East Lansing, MI and 2Department of Physiology, University of Turku, Turku, Finland.

Poster Board Number ........................................................................... 319
#1040 A STUDY OF FERTILITY IN SPRAGUE-DAWLEY RATS WITH XOMA 052, A NOVEL MONOCLONAL ANTIBODY TARGETING IL-1 BETA. C. Gasper, B. Thorsrud, J. Ma, L. Cao, K. Der and K. Meyer. 1Product Development, XOMA (U.S.) LLC, Berkeley, CA and 2Developmental & Reproductive Toxicology, MPI Research, Mattawan, MI.

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#1041 IMMUNOHISTOCHEMICAL AND CHIP MICROARRAY ANALYSIS OF PPARα IN FETAL RAT TESTES EXPOSED TO DIUTYLPHTHALATE (DBP). S. M. Plummer, D. Dan, J. Quinney, M. Millar, M. Sheila, N. Hallmark, R. D. Phillips and C. R. E. Elcombe. CXR Biosciences, Dundee, United Kingdom, ExxonMobil Petroleum & Chemical, Hermselaan, Belgium and 3MRC Human Reproductive Sciences Unit, Edinburgh, United Kingdom.

Poster Board Number ........................................................................... 321

Poster Board Number ........................................................................... 322
#1043 THE EFFECTS OF ENDOCRINE DISRUPTION ON THE DEVELOPING HUMAN FETAL PROSTATE. C. Saffarini, S. J. Hall and K. Boekelheide. Brown University, Providence, RI.

Poster Board Number ........................................................................... 323

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#1047 INTERACTIONS OF ENDOCRINE DISRUPTING CHEMICALS WITH THE BCRP TRANSPORTER: POTENTIAL MECHANISM FOR DICTATING FETAL EXPOSURE. L. Aklesunes and X. Wen. Pharmacology & Toxicology, Rutgers University, Piscataway, NJ.
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#1048 | THE EFFECTS OF TRIS (2-ETHYLHEXYL) TRIMELLITATE (TATM) ON GENE EXPRESSION ASSOCIATED WITH TESTICULAR MAL-DEVELOPMENT (TMD) IN RAT FETAL TESTES. C. R. Elcombe\(^1\), D. Dan\(^1\), D. G. Farrar\(^3\) and S. M. Plummer\(^4\). \(^{\text{a}}\)CXR Biosciences, Dundee, United Kingdom and \(^{\text{b}}\)INEOS Chlor Limited, Runcorn, United Kingdom.

Tuesday Morning, March 8
9:00 AM to 12:30 PM
Exhibit Hall

Poster Session: Reproductive Toxicology II

Chairperson(s): Cathy Yang, CertiChem, Inc., Austin, TX.

Displayed: 9:00 AM–12:30 PM

Author Attended: 11:00 AM–12:30 PM

#1049 | EPIVAGINAL TISSUE MODEL FOR PRECLINICAL SCREENING OF SINGLE OR REPEATE EXPOSURE TO VAGINALLY APPLIED CHEMICALS/FORMULATIONS. C. Cannon, M. Klaussner, S. Ayehunie, A. Wang, K. LaRosa and T. Landry. MatTek Corp, Ashland, MA. Sponsor: P. J.

#1050 | IVOS AND HISTOPATHOLOGY PROCEDURES FOR GLP-COMPLIANT TOXICOLOGY STUDIES IN NONHUMAN PRIMATES. R. E. Watson\(^1\), D. Thompson\(^1\), M. Novilla\(^1\), N. Makori\(^1\), R. Eyre\(^1\) and R. Nagata\(^2\). \(^{\text{a}}\)SNBL USA, Seattle, WA and \(^{\text{b}}\)SNBL Laboratories, Kogoshimura, Japan.

#1051 | GOLD NANO PARTICLE EFFECTS ON RAT OVARIAN GENE EXPRESSION. J. Larson\(^1\), M. J. Carvan II\(^3\), R. Klaper\(^2\) and J. R. Hut\(^1,3\). \(^{\text{a}}\)University of Wisconsin Milwaukee, Milwaukee, WI, \(^{\text{b}}\)University of Wisconsin Milwaukee Great Lakes WATER Institute, Milwaukee, WI and \(^{\text{c}}\)NIEMS Children’s Environmental Health Sciences Core Center at University of Wisconsin Milwaukee and Medical College of Wisconsin, Milwaukee, WI.

#1052 | MONO-2-ETHYLHEXYL PHTHALATE INCREASES OXIDANT SPECIES PRODUCTION AND MODIFIES EXPRESSION OF REDOX-SENSITIVE GENES IN HUMAN PLACENTAL CELLS. L. M. Tez and R. Loch-Caruso. Environmental Health Sciences, University of Michigan School of Public Health, Ann Arbor, MI.

#1053 | RELATIONSHIP BETWEEN LOW METABOLIC CAPABILITY OF LIGNANS AND IDIOPATHIC MALE INFERTILITY. Y. Xia, P. Zhu, M. Chen, C. Lu, S. Wang and X. Wang. Institute of Toxicology, Nanjing Medical University, Nanjing, China.

#1054 | INHIBITION OF OVARIAN KIT AUTO PHOSPHORLATION BY THE OVOTOXICANT 4-VINYL CYCLOHEXENE DIEPOXIDE. C. J. Kappeler\(^1\), L. McKee\(^2\), I. Sipes\(^1\), J. Konihias\(^1\) and P. B. Hoyer\(^1\). \(^{\text{a}}\)Physiology, University of Arizona, Tucson, AZ and \(^{\text{b}}\)Pharmacology, University of Arizona, Tucson, AZ.

#1055 | A DOSE-RESPONSE STUDY FOLLOWING LATE GESTATIONAL EXPOSURE TO THE PHTHALATE METABOLITE, MONO-2-ETHYLHEXYL PHTHALATE (MEHP): EFFECTS ON FEMALE MOUSE REPRODUCTIVE DEVELOPMENT. B. J. Mcvey and M. L. Hixon. Brown University, Providence, RI.

#1056 | TETRABROMOBISPHENOL A STIMULATES SECRETION OF INTERLEUKIN 6 FROM HUMAN FIRST TRIMESTER TROPHOBLASTS. P. W. Kimani and R. Loch-Caruso. Environmental Health Sciences, University of Michigan, Ann Arbor, MI.

#1057 | OXIDANT-INDUCED INFLAMMATORY RESPONSE IN HUMAN PLACENTAL CELLS IS DEPENDENT ON MITOGEN ACTIVATED PROTEIN KINASES (MAPKS). C. S. Korte and R. Loch-Caruso. Environmental Health Science, University of Michigan, Ann Arbor, MI.

#1058 | REGULATION OF HUMAN PLACENTAL DRUG TRANSPORTERS IN RESPONSE TO BACTERIAL CELL WALL COMPONENTS. L. Yacovino\(^1\), A. Vetrano\(^2\), N. Hanna\(^1\) and L. M. Aleksunes\(^1\). \(^{\text{a}}\)Pharmacology & Toxicology, Rutgers University, Piscataway, NJ; \(^{\text{b}}\)Pediatrics, University of Medicine and Dentistry of New Jersey, New Brunswick, NJ and \(^{\text{c}}\)Pediatrics, Winthrop University Hospital, Mineola, NY.


#1060 | NONHUMAN PRIMATE POSTNATAL DEVELOPMENT: HISTORICAL CONTROL DATA IN NONCLINICAL TOXICOLOGY STUDIES. N. Lalayeva\(^1\), J. Kenfield\(^1\), J. Cowan\(^2\), S. Oneda\(^1\), N. Makori\(^1\), R. Eyre\(^3\), H. Tsusaki\(^1\) and R. Nagata\(^2\). \(^{\text{a}}\)SNBL USA, Ltd., Everett, WA, \(^{\text{b}}\)Consultant for NHP Infant Behavior, San Francisco, CA and \(^{\text{c}}\)Shin Nippon Biomedical Laboratories, Ltd., Kagoshima, Japan.

#1061 | MENSTRUAL CYCLE AND SERUM HORMONE DATA IN MATURE CYNOMOLGUS MONKEYS. S. Oneda\(^1\), N. Lalayeva\(^1\), R. Watson\(^1\), N. Makori\(^1\), R. Eyre\(^1\), H. Tsusaki\(^1\) and R. Nagata\(^2\). \(^{\text{a}}\)SNBL USA, Ltd., Everett, WA and \(^{\text{b}}\)Shin Nippon Biomedical Laboratories, Ltd., Tokyo, Japan.
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<td>#1062</td>
<td>ESTROGENIC IMPACTS OF A STANDARD RODENT CHOW DIET ON RAT REPRODUCTION AND DEVELOPMENT.</td>
<td>H. Aoyama1, K. L. Takahashi2, N. Endo1, A. Sato1, M. Araki1, M. Hariga1, M. Mitsutani1, C. Urankawa1, N. Sakai1, K. Sakasai1, S. Teramoto1, F. Horio1, A. Mura1, M. Kobayashi1 and H. Hojo1.</td>
<td>'Toxicology Division, Institute of Environmental Toxicology, Joso, Japan and 'Graduate School of Biogreicultural Sciences, Nagoya University, Nagoya, Japan. Sponsor: 'M. Kawagata.</td>
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<td>#1063</td>
<td>EFFECTS OF NEONATAL BIPHENYL-α-EXPOSURE ON PERIPUBERTAL DEVELOPMENT OF FEMALE RAT HYPOTHALAMUS.</td>
<td>S. M. Losa1, K. L. Todd1, K. McCaffrey1, M. Radford1 and H. B. Patsaul1. Biology, North Carolina State University, Raleigh, NC.</td>
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<td>#1064</td>
<td>IMPACT OF NEONATAL BPA EXPOSURE ON SEXUALLY DIMORPHIC GENE EXPRESSION IN THE POSTNATAL RAT HYPOTHALAMUS.</td>
<td>J. Cao1, J. A. Mickens1, K. McCaffrey1, K. L. Todd1 and H. Patsaul1. Biology, North Carolina State University, Raleigh, NC.</td>
<td>Sponsor:</td>
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<td>#1065</td>
<td>BENZ(A)PYRENE-INDUCED OVARIAN DYFUNCTION RESULTS FROM SUPPRESSED E2 SYNTHESIS.</td>
<td>A. E. Archibong1, A. Ramesh1, M. S. Niaz2 and D. J. Alcendor3. Physiology, Meharry Medical College, Nashville, TN.</td>
<td>Sponsor:</td>
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<td>#1066</td>
<td>IN UTERO EXPOSURE TO DIBUTYL PHTHALATE ALTERS GENE EXPRESSION LEVELS IN THE FETAL RAT FORESKIN.</td>
<td>J. Pike1, S. McCahan1 and K. Johnson1. Nemours Biomedical Research, Alfred I. duPont Hospital for Children, Newark, DE.</td>
<td>Sponsor:</td>
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<td>#1067</td>
<td>INHALED CADMIUM OXIDE (CDO) NANOPARTICLES (NP) REACHES THE PLACENTA AND DECREASES PREGNANCY INCIDENCE AND GROWTH RATES IN NEONATAL OFFSPRING IN FEMALE MICE.</td>
<td>L. K. Rosenblum1, J. L. Blum1, J. Q. Xiong1 and J. T. Zelikoff1. College of Medicine, New York University, Tuxedo, NY.</td>
<td>Sponsor:</td>
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<td>#1069</td>
<td>TOXICOCENOMIC RESOLUTION OF EARLY BIOMARKERS FOR LATER LIFE DISEASE ONSET RELATED TO CANCER, PRO-INFLAMMATORY DISORDERS, AND OBESITY IN MICE EXPOSED IN UTERO TO MAINSTREAM CIGARETTE SMOKE.</td>
<td>J. L. Blum1, K. Sexton1, C. Hoffman1, K. BenrBe1 and J. T. Zelikoff2. Environmental Medicine, New York University School of Medicine, Tuxedo, NY.</td>
<td>Sponsor:</td>
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<td>#1071</td>
<td>INVESTIGATING THE IMPACT OF CHRONIC HERBICIDE EXPOSURE ON SEXUAL DEVELOPMENT IN ZEBRAFISH.</td>
<td>M. M. Corvi1, K. A. Stanley1, J. K. LaDu1, T. S. Peterson1, S. W. Feist1, M. L. Kent2 and R. L. Tongay3. Environmental and Molecular Toxicology, Oregon State University, Corvallis, OR.</td>
<td>Sponsor:</td>
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<td>#1072</td>
<td>CIGARETTE SMOKE CONDENSATE INHIBITS FOLLICULAR DEVELOPMENT, OOCYTE MATURATION AND DYSREGULATES STERIOD SYNTHESIS IN VITRO: IMPLICATIONS FOR HUMAN FECUNDITY.</td>
<td>J. Sadeu1 and W. G. Foster1. Department of Obstetrics and Gynecology, McMaster University, Hamilton, ON, Canada.</td>
<td>Sponsor:</td>
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<td>#1073</td>
<td>TREATMENT OF CAENORHABDITIS ELEGANS WITH GLYPHOSATE SUGGESTS DEVELOPMENTAL AND REPRODUCTIVE TOXICITY.</td>
<td>M. B. Johnson1 and V.A. Fisunakis2. Biology, King College, Bristol, TN.</td>
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Program Description (Continued)

Abstract # Poster Board Number ..................................... #1076
CHARACTERIZATION OF A NOVEL SERIES OF ENDOTHELIN-1 RECEPTOR ANTAGONISTS IN THE SETTING OF INFECTION ASSOCIATED PREREMT BIRTH. N. S. Olgun, H. J. Patel, R. A. Stephani and S. E. Reznik. Pharmaceutical Science, St. John’s University, Jamaica, NY.

Tuesday Morning, March 8
9:00 AM to 12:30 PM
Exhibit Hall

Poster Session: Hepatotoxicity

Chairperson(s): Angela Slitt, University of Rhode Island, Kingston, RI.

Displayed: 9:00 AM–12:30 PM

Author Attended: 9:00 AM–11:00 AM

#1077 Poster Board Number ..................................... AFFECTS OF ALCOHOL CIRRHOSIS AND DIABETES ON DRUG TRANSPORTER EXPRESSION IN HUMAN LIVER. V. R. More, Z. Lu, N. Cherrington and A. Slitt. 1Biomedical and Pharmaceutical Sciences, University of Rhode Island, Kingston, RI, 2Statistical Consulting Laboratory, University of Arizona, Tucson, AZ and 3 Department of Pharmacology and Toxicology, University of Arizona, Tucson, AZ.

#1078 Poster Board Number ..................................... PERINATAL BIPHENYLOL A (BPA) EXPOSURE ALTERS LIVER ATP-BINDING CASSETTE (ABC) TRANSPORTER EXPRESSION IN MICE. A. C. Donepudi, M. Meloom, P. T. Siel, C. S. Rosenfeld and A. L. Slitt. 1Department of Biomedical and Pharmaceutical Sciences, University of Rhode Island, Kingston, RI, 2Department of Biomedical Sciences, University of Missouri, Columbia, MO and 3 Bond Life Sciences Center, University of Missouri, Columbia, MO.

#1079 Poster Board Number ..................................... OPPOSING EFFECTS OF DIABETES AND PREGNANCY ON HEPATOBILIARY EFFLUX TRANSPORTER EXPRESSION. A. L. Slitt, J. Xu and L. M. Aleksunes. 1Biomedical and Pharmaceutical Sciences, University of Rhode Island, Kingston, RI and 2Pharmacology and Toxicology, Rutgers University, Piscataway, NJ.

#1080 Poster Board Number ..................................... EFFECT OF TROGLITAZONE (TRO) ON ENDOGENOUS BILE ACID (BA) DISPOSITION IN RAT AND HUMAN SANDWICH-CULTURED HEPATOCYTES (SCH). T. Marion, C. Perry, R. L. St. Claire III and K. Brouwer. 1Curriculum in Toxicology, University of North Carolina at Chapel Hill, Chapel Hill, NC, 2Qualyst, Inc., Research Triangle Park, NC and 3Eshelman School of Pharmacy, University of North Carolina at Chapel Hill, Chapel Hill, NC.

Abstract # Poster Board Number ..................................... #1081 EFFECTS OF SEEDING DENSITY AND DAYS IN CULTURE ON BILE ACID TRANSPORTER AND Mrp4 EXPRESSION IN SANDWICH-CULTURED MOUSE HEPATOCYTES ARE NOT A RESULT OF OXIDATIVE STRESS. B. C. Ferslew, X. Gu, B. Swift, J. E. Munautor and K. L. Brouwer. 1Eshelman School of Pharmacy, University of North Carolina at Chapel Hill, Chapel Hill, NC, 2Department of Pharmaceutical Sciences, University of Connecticut, Storrs, CT and 3PKPD and Drug Metabolism, Allergan, Inc., Irvine, CA.

#1082 Poster Board Number ..................................... THE CELL SURFACE MARKER CD90 IDENTIFIES A SUBSET OF HEPATOCYTES PRIMED FOR INCREASED MATRIX PRODUCTION: IMPLICATIONS FOR ETHANOL-INDUCED LIVER FIBROSIS. B. A. Hocevar, Z. Wang and L. M. Kamendulis. Department of Environmental Health, Indiana University, Bloomington, IN.


#1084 Poster Board Number ..................................... PROFILING IMPAIRED HEPATIC ENDOPLASMIC RETICULUM GLYCOSYLATION AS A CONSEQUENCE OF ETHANOL INGESTION. J. Galligan, K. S. Fritz, H. Tipney, R. L. Smathers, C. T. Shearrs, L. J. Hunter and D. R. Petersen. 1Pharmacology, University of Colorado Denver, Aurora, CO and 2Toxicology, University of Colorado Denver, Aurora, CO.

#1085 Poster Board Number ..................................... CO-INVOLVEMENT OF MITOCHONDRIA AND ENDOPLASMIC RETICULUM IN ACROLEIN-INDUCED HEPATOCYTE APOPTOSIS. D. Avila, J. Zhang, C. McClain, S. Barve and S. Joshi-Barve. 1Department of Medicine/GI, University of Louisville, Louisville, KY and 2Rohley Rex Veterans Administration Medical Center, Louisville, KY.

#1086 Poster Board Number ..................................... FRUCTOSE INDUCES URIC ACID GENERATION AND MITOCHONDRIAL DYSFUNCTION IN LIVER CELLS DURING THE DEVELOPMENT OF METABOLIC SYNDROME. M. A. Llanaspa, L. G. Sanchez-Lozada, C. A. Roncal-Jimenez, N. Li, C. Cicerchi and R. J. Johnson. Renal Medicine, University of Colorado AMC, Denver, CO.

#1087 Poster Board Number ..................................... DIBENZOFURAN EXPOSURE AFFECTS MITOCHONDRIAL PERMEABILITY TRANSITION INDUCTION. C. M. Palmeira, F. V. Duarte, A. P. Gomes, A. M. Simões, A. T. Varela, J. S. Teodoro and A. P. Rolo. Center for Neurosciences and Cell Biology, Department of Life Sciences, University of Coimbra, Coimbra, Portugal.
Poster Board Number .....................................412
# Abstract #
#1088 REGULATION OF LIVER FLAVIN-CONTAINING MONOOXYGENASE 3 (FMO3) GENE EXPRESSION UNDER OXIDATIVE STRESS CONDITIONS. S. Rudraiah1, X. Gu1, L. M. Aleksunes1, S. Campion1, R. N. Hines1 and J. E. Mankaoui1. 1Department of Pharmaceutical Sciences, University of Connecticut, Storrs, CT, 2Department of Pharmacology & Toxicology, Rutgers University, Piscataway, NJ and 3Department of Pediatrics, Medical College of Wisconsin, Milwaukee, WI.

#1089 Poster Board Number .....................................413 PFOA-INDUCED LIVER EFFECTS IN CD-1 AND PPAR-ALPHA KNOCK-OUT C57BL/6 MICE. A. J. Filgo1,2, M. J. Hoenerhoff, G. E. Kissling1, S. S. White2, E. P. Hines1, J. P. Stanko2 and S. E. Fenton1. 1Toxicology, University of North Carolina at Chapel Hill, Chapel Hill, NC, 2CMBP, NTP, National Institute of Environmental Health Sciences, Research Triangle Park, NC and 3NCEA, ORD, U.S. EPA, Research Triangle Park, NC.

#1090 Poster Board Number .....................................414 INVOLVEMENT OF CONSTITUTIVE ANDROSTANESTER RECEPTOR (CAR) IN THE PROCESS OF LIVER HYPERTROPHY AND HEPATOCARCINOGENESIS-INDUCED BY CYP2B-INDUCING NON-GENOTOXIC HEPATOCARCINOGENS IN MICE (1). Y. Sakamoto1, M. Yoshida1, K. Inoue1, M. Takahashi1, Y. Taketa1, S. Hayashi1, S. Ozawa1 and A. Nishikawa1. 1Division Pathology, NIHs, Setagaya, Tokyo, Japan and 2School of Pharmacology, Iwate Medical University, Morioka, Iwate, Japan.

#1091 Poster Board Number .....................................415 EXPOSURE TO TCDD INCREASES HEPATIC STELLATE CELL PROLIFERATION AND ACTIVATION. W. A. Harvey, C. J. Doolittle and K. A. Mitchell. Biology, Boise State University, Meridian, ID.

#1092 Poster Board Number .....................................416 DETERMINATION OF IN VIVO KUPFFER CELL FUNCTIONS BY CONTRAST ENHANCED ULTRASOUND (CEUS) IMAGING. V. Joaquin1, T. Tomo1, E. Skuba1, T. Wang2, V. Richard3, S. Chibout1, F. Fogna2, N. Shangari1 and A. Wolf. 1ITOX, Preclinical Safety (PCS), Novartis Institutes of Biomedical Research (NIBR), East Hanover, NJ, 2ITOX, PCS, NIBR, Basel, Switzerland, 3PCS, NIBR, Emmeryville, CA, 4ITOX, PCS, NIBR, Cambridge, MA and 5PCS, NIBR, East Hanover, NJ.

#1093 Poster Board Number .....................................417 TCDD ENHANCES THE RESPONSE OF INNATE IMMUNE CELLS TO CONCANAVALIN A ADMINISTRATION. A. M. Fullerton, R. A. Roth and P. E. Giner. Department Pharmacology & Toxicology, Center for Integrative Toxicology, Michigan State University, East Lansing, MI.

#1094 Abstract #
#1100 Poster Board Number .....................................424 A MICROPATTERED HUMAN HEPATOCYTE CO-CULTURE MODEL ALLOWS DETERMINATION OF TOXICITY AT MORE RELEVANT CONCENTRATIONS THAN HEPATOCYTE SANDWICH CULTURES. D. Keller1, S. Krzyzewski1 and S. Ketenu1. 1Preclinical Safety, sanofi-aventis U.S., Malvern, PA and 2Hepregen Corp., Medford, MA.

#1095 Abstract #
#1101 Poster Board Number .....................................425 DEVELOPMENT OF AN IN VITRO HEPATOCYTE MODEL TO INVESTIGATE CHEMICAL MODE OF ACTION. S. D. Hester1, J. Harrill1, C. Corton1 and L. Murphy2. 1Systems Biology Branch, U.S. EPA, Durham, NC and 2Carcinogenesis, U.S. EPA, Durham, NC.

#1096 Abstract #

#1097 Abstract #

#1099 Abstract #

#1100 Abstract #
#1101 Poster Board Number .....................................430 THE EFFECT OF VITAMIN E DEFICIENCY ON D.C.A.- AND TCA-INDUCED OXIDATIVE STRESS IN THE LIVERS OF MALE B6C3F1 MICE FOLLOWING SUBCHRONIC EXPOSURE. J. Cearfoss and E. Hassoun. Pharmacology, University of Toledo, Toledo, OH.
Program Description (Continued)

Abstract #

**#1101**  
**Poster Board Number .....................................425**  
**EFFECT OF ACARBOSE ON ALANINE AMINOTRANSFERASE 1 AND 2 PROTEINS AND GLUCONEOGENESIS IN RAT ISSUES.**  

**#1102**  
**Poster Board Number .....................................426**  
**ENZYMES AND OXIDATIVE DAMAGE IN RATS FOLLOWING SUBACUTE OR SUBCHRONIC MANGANESE CHLORIDE EXPOSURE.**  
P. Huang1, G. Li2 and Z. Sun2. ‘Department of Toxicology and Sanitary Chemistry, School of Public Health and Family Medicine, Capital Medical University, Beijing, China and ‘Beijing Research Center for Preventive Medicine, Beijing, China.  
Sponsor: W. Zheng.

**#1103**  
**Poster Board Number .....................................427**  
**THE ROLE OF 3, 3', 4, 4' 5-PENTACHLOROBIPHENYL (PCB 126) IN COPPER DISPOSITION IN RODENT LIVER.**  
M. Li1,2, I. Lai1,2, B. Wels1, D. Simmons3, G. Ludewig2 and L. Robertson2.1. Interdisciplinary Program in Human Toxicology, University of Iowa, Iowa City, IA, ‘Occupation and Environmental Health, University of Iowa, Iowa City, IA and 2State Hygienic Laboratory, University of Iowa, Iowa City, IA.

**#1104**  
**Poster Board Number .....................................428**  
**ENTEROHEPATIC CIRCULATORY RHYTHM IN MICE: CONTRIBUTIONS OF BILE ACIDS.**  
Y. J. Zhang, G. L. Guo and C. D. Klaassen. Pharmacology, Toxicology, and Therapeutics, University of Kansas Medical Center, Kansas City, KS.

**#1105**  
**Poster Board Number .....................................429**  
**MYELOPEROXIDASE-DEPENDENT METABOLISM OF P-CRESOL: A NOVEL PATHWAY FOR XENOBIOTIC AND ENDOBIOTIC BIOTRANSFORMATION DURING INFLAMMATION.**  
J. Houghton1, K. Hayakawa1, D. DeGroot1, B. Zhao2, M. Denison2 and J. P. Esierich1. ‘Department of Internal Medicine, University of California Davis, Davis, CA and 2Department of Environmental Toxicology, University of California Davis, Davis, CA.

**#1106**  
**Poster Board Number .....................................430**  
**TOXICITY, TOXICOGENOMIC, AND METABOLIC STUDY OF PENTAMETHYLCROMANOL.**  
T. Parman1, D. Bunin1, H. H. Ng1, T. Harrison1, J. McDunn1, I. Kapetanovic2 and C. E. Green1. ‘Biosciences, SRI International, Menlo Park, CA, ‘Metabolon, Inc., Durham, NC and ‘National Cancer Institute, Bethesda, MD.

**#1107**  
**Poster Board Number .....................................431**  
**EVIDENCE OF PEPPERMINT OIL SKIN PENETRATION AND CYTOTOXICITY ON RAT HEPATOCYTES IN VITRO.**  
M. Dong1, O. Weber1, E. Di Lenarda1, P. End2, S. Child1, A. Wolf1 and F. Pognae1. ‘Preclinical Safety, Novartis, Basel, Switzerland and 2Drug Metabolism and Pharmacokinetics, Novartis, Basel, Switzerland.

Abstract #

**#1108**  
**Poster Board Number .....................................436**  
**MOLECULAR MECHANISM OF ALTERED EZETIMIBE DISPOSITION IN NON-ALCOHOLIC STEATOHEPATITIS.**  
R. N. Hardwick, C. D. Fisher, S. M. Street, M. J. Canet and N. J. Cherrington. Pharmacology and Toxicology, University of Arizona, Tucson, AZ.

**#1109**  
**Poster Board Number .....................................437**  
**DIETARY N-Acetylcysteine (NAC) REDUCES HEPATOCellular LIPID ACCUMULATION FOLLOWING 3, 3', 4, 4', 5-PENTACHLOROBIPHENYL (PCB 126) EXPOSURE.**  
L. Lai1,2, A. Olivier1, M. Li1,2, K. Dhakal1 and L. Robertson2,3. ‘Occupation and Environmental Health, University of Iowa, Iowa City, IA and 2Department of Pathology, University of Iowa, Iowa City, IA.

**#1110**  
**Poster Board Number .....................................438**  
**SERUM CYTOKERATIN 18 AND CYTOKINE ELEVATIONS SUGGEST A HIGH PREVALENCE OF OCCUPATIONAL LIVER DISEASE IN ELASTOMER / POLYMER WORKERS HIGHLY-EXPOSED TO ACRYLONITRILE, BUTADIENE, AND STYRENE.**  
M. Cave1,2, K. Falkner1, B. Costello1, B. Gregory1, L. Henry1 and C. McClain1,2, 1Department of Medicine/GI, University of Louisville, Louisville, KY and 2Riley Rex Veterans Administration Medical Center, Louisville, KY.

**#1111**  
**Poster Board Number .....................................439**  
**MITOCHONDRIAL TOXICITY OF CHLOROACETALDEHYDE IN HEPG2 CELLS.**  
K. Falkner1, B. Hill1, B. Sansbury1, J. Gaurdiola1, C. McClain2 and M. Cave2, ‘Department of Medicine/GI, University of Louisville, Louisville, KY and ‘Louisville VA Medical Center, Louisville, KY.

**#1112**  
**Poster Board Number .....................................440**  
**HGF ALTERED RESPONSE IN HIGH CHOLESTEROL FEED MICE HEPATOCYTES.**  
Abstract #

**#1113**
**Poster Board Number**..........................441
NRF2 ACTIVATION PROMOTES HYPERCHOLESTEROLEMIA AND GALLSTONE FORMATION. M. A. Paranjpe, Q. Cheng, J. Moscovitz, M. Yamamoto and A. Slitr. Biomedical and Pharmaceutical Sciences, University of Rhode Island, Kingston, RI and Medical Biochemistry, Tohoku University, Sendai, Miyagi, Japan.

**#1114**
**Poster Board Number**..........................442
NRF2 PROTECTS MOUSE LIVER FROM OXIDATIVE INJURY AND STEATOHEPATITIS INDUCED BY PERSISTENT ACTIVATION OF AHR. H. Lu and C. D. Klaassen. University of Kansas Medical Center, Kansas City, KS.

**#1115**
**Poster Board Number**..........................443
TCDD EFFECTS ON HEPATIC LIPID COMPOSITION IN MICE. M. M. Angrish, B. D. Meets, D. Wright and T. R. Zucharewski. Genetics Program, Michigan State University, East Lansing, MI, Center for Integrative Toxicology, Michigan State University, East Lansing, MI, and Biochemistry & Molecular Biology, Michigan State University, East Lansing, MI.

**#1116**
**Poster Board Number**..........................444
PHARMACOLOGIC NRF2 ACTIVATION PROMOTES HYPERCHOLESTEROLEMIA IN MICE. J. Moscovitz, M. Paranjpe and A. Slitr. University of Rhode Island, Kingston, RI.

**#1117**
**Poster Board Number**..........................445
BERBERINE INDUCES HEPATIC STEATOSIS VIA C/EBPα ACTIVATION. B. Lee, Y. Choi, H. Suh, S. Jeoung and K. Lee. Seoul National University, Seoul, Republic of Korea and Sungkyunkwan University, Suwon, Republic of Korea.

**#1118**
**Poster Board Number**..........................446

**#1119**
**Poster Board Number**..........................447
FIBRINOGEN DEFICIENCY INCREASES LIVER INJURY AND EARLY GROWTH RESPONSE-1 EXPRESSION IN A MODEL OF CHRONIC XENOBIOTIC-INDUCED CHOLESTASIS. J. P. Lovendy, K. M. Kassel, K. Allen, G. L. Guo, G. Liu, G. H. Cantor and B. L. Coppie. Pharmacology, Toxicology, and Therapeutics, The University of Kansas Medical Center, Kansas City, KS and Discovery Toxicology, Bristol-Myers Squibb, Princeton, NJ.

**#1120**
**Poster Board Number**..........................448
ENDOGENOUS CYP1B1 METABOLISM IN VIVO CONTROLS ENDOGENOUS LIVER PPAR ACTIVITY WITHOUT EXPRESSION IN HEPATOCYTES. J. R. Bushkofsky, M. L. Larsen, S. Wang and C. R. Jeftovac. Endocrinology and Reproductive Physiology, University of Wisconsin Madison School of Medicine and Public Health, Madison, WI, Molecular and Environmental Toxicology Center, University of Wisconsin Madison, Madison, WI and Department of Pharmacology, University of Wisconsin Madison, Madison, WI.

Tuesday Morning, March 8
9:00 AM to 12:30 PM
Exhibit Hall

Poster Session: Ah Receptor in Immune Regulation and Toxicity

Chairperson(s): Qing Li, Nippon Medical School, Tokyo, Japan.

Displayed: 9:00 AM–12:30 PM

Author Attended: 9:00 AM–11:00 AM

**#1121**
**Poster Board Number**..........................501
EVIDENCE OF AhR-DEPENDENT SUPPRESSION OF IMMUNOGLOBULIN EXPRESSION. J. J. Womersley and C. Salentic. Pharmacology and Toxicology, Boonshoft School of Medicine Wright State University, Dayton, OH.

**#1122**
**Poster Board Number**..........................502
TCDD-INDUCED MODULATION OF THE hs1, 2 ENHANCER WITHIN THE 3'IgHRR IN MOUSE AND HUMAN. J. Liu, T. Fernando, S. Ochs and C. E. Salentic. Pharmacology and Toxicology, Boonshoft School of Medicine, Wright State University, Dayton, OH.

**#1123**
**Poster Board Number**..........................503
PAX5 MAY MEDIATE TCDD-INDUCED DIFFERENCES IN TRANSCRIPTIONAL REGULATION OF THE MOUSE AND HUMAN hs1, 2 ENHANCER. S. Ochs, J. Liu and C. Salentic. Pharmacology and Toxicology, Wright State University, Dayton, OH.

**#1124**
**Poster Board Number**..........................504
ROLE OF THE 3'IgHRR IN TCDD-INDUCED SUPPRESSION OF THE IMMUNOGLOBULIN HEAVY CHAIN. J. L. Panchal, E. Romner, T. Fernando and C. Salentic. Pharmacology and Toxicology, Boonshoft School of Medicine, Wright State University, Dayton, OH.

**#1125**
**Poster Board Number**..........................505
NF-B/REL AND THE AhR IN MODULATING THE 3'IgHRR. R. Salisbury and C. Salentic. Pharmacology and Toxicology, Boonshoft School of Medicine, Wright State University, Dayton, OH.

**#1126**
**Poster Board Number**..........................506
PERSISTENT DEVELOPMENTAL ARYLHYDROCARBON RECEPTOR ACTIVATION MODULATES NOTCH-DEPENDENT T-CELL BUT NOT B-CELL DIFFERENTIATION POTENTIAL. L. Ahrenhoerster, P. Lakatos and M. Laiosa. School of Public Health, University of Wisconsin Milwaukee, Milwaukee, WI.
Abstract #

#1127 Poster Board Number ...............................507


#1128 Poster Board Number ...............................508

TCDD TREATMENT ENHANCES THE M1 PHENOTYPE IN J774 MURINE MACROPHAGES. A. E. McCartney, R. A. Aguayo, P. V. Hamilton and K. A. Mitchell. Biological Sciences, Boise State University, Boise, ID.

#1129 Poster Board Number ...............................509

THE ARYL HYDROCARBON RECEPTOR MODULATES PHENOTYPE AND FUNCTION OF DENDRITIC CELLS. G. Jin and B. Lawrence. Environmental Medicine, University of Rochester, Rochester, NY.

#1130 Poster Board Number ...............................510

MODULATION OF NF-KB MEDIATED DENDRITIC CELL DIFFERENTIATION AND FUNCTION BY ARYL HYDROCARBON RECEPTOR ACTIVATION. C. Vogel1, S. Goth2, D. Wu1, V. Kou1, A. Lollies1, I. Pesah2 and F. Matsumura1,3,4. Environmental Toxicology, University of California, Davis, CA. 1Molecular Biosciences, University of California, Davis, CA and 2Center for Health and the Environment, University of California, Davis, CA.

#1131 Poster Board Number ...............................511

AH RECEPTOR ACTIVATION GENERATES REGULATORY DENDRITIC CELLS CAPABLE OF INDUCING CD4+ CD25+ FOXP3+ REGULATORY T CELLS. T. Simones, J. Banks and D. M. Shepherd. Center for Environmental Health Sciences, University of Montana, Missoula, MT.

#1132 Poster Board Number ...............................512

ALL AHR LIGANDS ARE NOT CREATED EQUAL: THE DURATION OF AHR ACTIVATION IS A KEY PARAMETER IN MODULATING THE IMMUNE RESPONSE TO INFLUENZA VIRUS INFECTION. J. Head1 and B. Lawrence2,3,4. Environmental Medicine, University of Rochester, Rochester, NY and 1Microbiology and Immunology, University of Rochester, Rochester, NY.

#1133 Poster Board Number ...............................513

TCDD AMELIORATES COLITIS IN MICE BY INDUCTION OF REGULATORY T CELLS (TREGS) VIA AHR ACTIVATION. N. P. Singh1, U. Singh1, B. Singh1, L. Hofseth1, M. Nagarikat1 and P. Nagarikat1. Pathology, Microbiology, and Immunology, University of South Carolina School of Medicine, Columbia, SC. 1Prime State Research Center, Emory University, Atlanta, GA and 2South Carolina College of Pharmacy, University of South Carolina, Columbia, SC.

#1134 Poster Board Number ...............................514

ARYL HYDROCARBON RECEPTOR ACTIVATION SUPPRESSES INTESTINAL INFLAMMATION. J. M. Benson and D. M. Shepherd. Biomedical and Pharmaceutical Sciences, University of Montana, Missoula, MT.

Abstract #

#1135 Poster Board Number ...............................515

BACH2 BINDING TO Prdm1 AS A MECHANISM OF 2, 3, 7, 8-TCDD/2,3,7,8-TCDD/LIBENZO-P-DIOXIN(TCDD)-MEDIATED IMMUNE SUPPRESSION. A. S. Phadnis1, K. DeAbreu4, R. S. Thomas5 and N. E. Kaminski6,7,8. Genetics Program, Michigan State University, East Lansing, MI, 2Pharmacology & Toxicology, Michigan State University, East Lansing, MI, 3Center for Integrative Toxicology, Michigan State University, East Lansing, MI and 4Hammer Institutes for Health Sciences, Research Triangle Park, NC.

#1136 Poster Board Number ...............................516

DIDOX (DIHYDROXYBENZOHYDROAMIC ACID) AMELIORATES MACROPHAGE AHR ACTIVATION, CYPIA1/AHR INDUCTION, AND OXIDATIVE STRESS PROFILES INDUCED BY PCB-126. C. D. Rice, V. S. Gallichio and T. M. Matsubati. Biological Sciences, Clemson University, Clemson, SC.

#1137 Poster Board Number ...............................517

MECHANISTIC INVESTIGATION OF TCDD EFFECTS ON CD40 LIGAND-INDUCED ACTIVATION OF PRIMARY HUMAN B CELLS: PERTURBATION OF IMMUNE AND PERSISTENT SIGNALING. H. La1,2, R. Crawford3 and N. E. Kaminski4,5,6,7. Center for Integrative Toxicology, Michigan State University, East Lansing, MI and 2Pharmacology & Toxicology, Michigan State University, East Lansing, MI.

#1138 Poster Board Number ...............................518

AH RECEPTOR MEDIATED RESTORATION OF SPLEEN AND BONE MARROW FOLLOWING THE CYPIA1-DEPENDENT ADVERSE EFFECTS OF POLYCYCLIC AROMATIC HYDROCARBONS (PAHS). A. U. N’jai1, M. Larsen2, C. R. Jefcoate3 and C. J. Czuprynski1,4,5. 1Pathobiological Sciences, University of Wisconsin Madison, Madison, WI, 2Pharmacology, University of Wisconsin Madison, Madison, WI, 3Center for Integrative Toxicology, Michigan State University, East Lansing, MI and 4Food Research Institute, University of Wisconsin Madison, Madison, WI.

#1139 Poster Board Number ...............................519

ACTIVATION OF THE ARYL HYDROCARBON RECEPTOR BY TCDD SUPPRESSES SENSITIZATION IN A MOUSE PEANUT ALLERGY MODEL. V. J. Schulz1, J. Smit1, L. Boon1, M. van den Berg1, M. van Duusen1 and R. Pieters1. 1Immunotoxicology, Institute of Risk Assessment Sciences, Utrecht University, Utrecht, Netherlands, 2Utrecht Center for Food Allergy, Utrecht, Netherlands and 3Bioceures B.V., Utrecht, Netherlands.
Program Description (Continued)

Tuesday Morning, March 8
9:00 AM to 12:30 PM
Exhibit Hall

Poster Session: ImmunoSafety Methods in Non-Rodents
Chairperson(s): Melissa Rhodes, GlaxoSmithKline, Research Triangle Park, NC.
Displayed: 9:00 AM–12:30 PM
Author Attended: 11:00 AM–12:30 PM

#1140 Poster Board Number .....................................522
VALIDATION OF AN IN VITRO SCREENING METHOD FOR THE INDUCTION OF DRUG CYTOKINE RELEASE IN CYNOMOLGUS MONKEY. M. S. Piché, S. Lavallée, S. Legris, R. Falvo, K. Eliacon and L. LeSauter. Immunology, Charles River Preclinical Services, Montréal, QC, Canada.

#1141 Poster Board Number .....................................523

#1142 Poster Board Number .....................................524
DEVELOPMENT OF AN ASSAY TO MEASURE NATURAL KILLER CELL FUNCTION IN CYNOMOLGUS MACAQUES. S. Haskett, C. Donovan, C. Thiffeault, T. Kawabata and C. Kamperschroer. Pfizer, Groton, CT.

#1143 Poster Board Number .....................................525
DEVELOPMENT OF AN ASSAY TO DETECT CMV AND LCV SPECIFIC T-CELLS TO EVALUATE IMMUNE STATUS IN CYNOMOLGUS MONKEYS. P. A. Schneider, L. O’Donnell, T. T. Kawabata and C. Kamperschroer. Pfizer, Groton, CT.

#1144 Poster Board Number .....................................526
QUALIFICATION OF FLOW CYTOMETRY IMMUNOPHENOTYPING FOR Preclinical APPLICATIONS IN NON-HUMAN PRIMATES. T. Salewsky, A. R. McIntyre, T. Warren, A. Charzynska, N. Clark, R. Eyre and H. Tsusaki. SNBL USA, Ltd., Everett, WA.

#1145 Poster Board Number .....................................527
DELAYED-TYPE HYPERSENSITIVITY (DTH) REACTION WITH TETANUS TOXOID (TTX) IN CYNOMOLGUS MONKEYS. Y. Takahashi, Y. Otsubo, T. Tsusaki, N. Makori, K. R. Tartaro1, S. W. Kumpf2, T. T. Kawabata1 and C. Kamperschroer2. 1Immunotoxicology, Pfizer, Groton, CT and 2DART, Pfizer, Groton, CT.

#1146 Poster Board Number .....................................528
IMMUNOTOXICITY ASSESSMENT IN INFANT CYNOMOLGUS MONKEYS BY MEASUREMENT OF HUMORAL IMMUNITY (TDAR) TO KLH AND INNATE IMMUNITY (NATURAL KILLER [NK] CELL ACTIVITY). F. G. Burleson1, N. Makori2, N. Lalayeva2, G. R. Burleson1 and H. Tsusaki2. 1BRT-Burleson Research Technologies, Inc., Morrisville, NC and 2SNBL, Everett, WA.

#1147 Poster Board Number .....................................529

#1148 Poster Board Number .....................................530
DEVELOPMENT OF AN ASSAY TO DETECT CMV AND LCV SPECIFIC T-CELLS TO EVALUATE IMMUNE STATUS IN CYNOMOLGUS MONKEYS. P. A. Schneider, L. O’Donnell, T. T. Kawabata and C. Kamperschroer. Pfizer, Groton, CT.

#1149 Poster Board Number .....................................531
IMMUNOTOXICITY TESTING OF INFLEXIMAB (REMICADE®) AND ADAKLUMAB (HUMIRA®) IN GOTTINGEN MINIPIGS®, G. J. van Mierlo1, A. H. Penninks1, J. Wolthoorn1, N. H. N. Chuubben1, L. Aarden1 and D. Wouters2. 1Toxicology and Applied Pharmacology, TNO-Quality of Life, Zeist, Netherlands and 2Analytical Research, TNO Quality of Life, Zeist, Netherlands. Sponsor: R. Woutersen.

#1150 Poster Board Number .....................................532

#1151 Poster Board Number .....................................533
ASSESSMENT OF IMMUNE FUNCTION IN CELLS ISOLATED FROM BRONCHOALVEOLAR LAVAGE (BAL) FLUID, OBTAINED IN-LIFE IN THE DOG. V. Leighton, A. Head, G. Hale and S. A. Kirk. Covance Laboratories Ltd., Harrogate, United Kingdom.

#1152 Poster Board Number .....................................534

#1153 Poster Board Number .....................................601
TRANSIENT KNOCK DOWN OF CHK1 IN BONE MARROW HEMATOPOIETIC PROGENITORS IS LINKED TO BONE MARROW TOXICITY. B. Jessen and W. Hu. DSRD, Pfizer, San Diego, CA.
Program Description (Continued)

#1154 Poster Board Number .........................602 RADIATION AND SENESCEENCE: DECELERATION OF CELL-CYCLE IN PRIMITIVE HEMOPOIETIC PROGENITORS (CFU-S13) WAS ONLY SIGNIFICANT PARAMETER DURING AGING, WHICH WAS REACTIVELY ACCELERATED AFTER 2Gy WHOLE-BODY IRRADIATION. Y. Hirabayashi1, T. Togashi1, K. Sektu1, J. Kanno1, Y. Kusunoki2 and T. Inoue3,2,3. NCBCR, NIH, Tokyo, Japan, 1School of Medicine, Nihon University, Tokyo, Japan and 3ERF, Hiroshima, Japan.

#1155 Poster Board Number .........................603 CADMIUM-INDUCED TRANSFORMATION OF HUMAN STEM CELLS. E. Tokar and M. Waitley. National Toxicology Program, NIEMS, Research Triangle Park, NC.

#1156 Poster Board Number .........................604 GROWTH HORMONE VS. PEGYLATED GH LIPOATROPHY IN HUMAN STEM CELL DERIVED ADIPOCYTES. P. M. Bartholomew1, C. Donahue1, M. Thede1, S. Martin2 and J. Vajdos3. 1Drug Safety R&D, Pfizer Inc., Groton, CT, 2Genetically Modified Models, Pfizer Inc., Groton, CT and 3Pharm R&D, Pfizer Inc., Groton, CT.

#1157 Poster Board Number .........................605 DIOXIN, A POTENT LIGAND OF THE ARYL HYDROCARBON RECEPTOR, ALTERS MIGRATION OF MURINE HEMATOPOIETIC STEM CELLS. F. L. Casado-Pena, K. P. Singh and T. A. Gasiewicz. Environmental Medicine, University of Rochester, Rochester, NY.

#1158 Poster Board Number .........................606 ARYL HYDROCARBON RECEPTOR AGONIST DIOXIN PRODUCES ALTERATIONS IN EARLY HEMATOPOIESIS IN MOUSE FETAL LIVER. K. P. Singh, F. L. Casado and T. A. Gasiewicz. Environmental Medicine, University of Rochester Medical Center, Rochester, NY.


#1160 Poster Board Number .........................608 HYPOTHERMOSOL—DERISKING A VEHICLE. C. Potter1, R. Hedley1, M. Sharpe1, P. Cleall1, A. Raber1, W. Van Hof1, R. Deans1 and A. Mathew1. 1Pfizer, Sandwich, Kent, United Kingdom, 2AtherSys, Cleveland, OH and 3Biolife Solutions, Bothell, WA.

#1161 Poster Board Number .........................609 CARDIAC TROPONIN I AS A MARKER OF CARDIOTOXICITY IN HUMAN-INDUCED PLURIPOTENT STEM CELL CARDIOMYOCYTES. R. Abrams1, M. Dunn1, D. Coluccio1, G. Hirkaler1, J. Babiarcz1, R. Nicklaus1, W. Geng1, I. Mikaelian1, T. Singer1 and K. Kolaja1. 1Nonclinical Safety, Roche, Nutley, NJ and 2Nonclinical Safety, Roche, Basel, Switzerland.

#1162 Poster Board Number .........................610 IN VITRO TOXICITY OF (THO)ARSENATES FOR HUMAN UROTHELIAL CELLS (UROTS) AND HEPATOCYTES (HEPG2). S. Rabieh1, R. Lohmayer1, S. Hinrichsen2, E. Dopp1 and B. Planer-Friedrich1. 1Environmental Geochemistry, University of Bayreuth, Bayreuth, Germany and 2Institute of Hygiene and Occupational Medicine, University Hospital Essen, Essen, Germany.

#1163 Poster Board Number .........................611 THE MRNA AND MRNA PROFILE OF HUMAN IPS-CELLS DIFFERENTIATING TO CARDIOMYOCYTES. J. Babiarcz, M. Ravone1, B. Anson1, C. Kendrick-Parker1, E. Nuywave1, T. Weiser2, T. Singer2, E. Chiao1 and K. Kolaja1. 1Nonclinical Safety, F. Hoffman-La Roche, Nutley, NJ, 2Nonclinical Safety, F. Hoffman-La Roche, Basel, Switzerland and 3Cellular Dynamics International, Madison, WI.

#1164 Poster Board Number .........................612 USE OF INDUCED PLURIPOTENT CELL-DERIVED CARDIOMYOCYTES TO PREDICT AND INVESTIGATE DRUG-INDUCED CARDIAC INJURY. S. Kameoka1, J. Babiarcz2, B. Anson1, C. Kendrick-Parker2, E. Nuywave1, T. Weiser2, T. Singer2, E. Chiao1 and K. Kolaja1. 1Nonclinical Safety, F. Hoffman-La Roche, Nutley, NJ, 2Nonclinical Safety, F. Hoffman-La Roche, Basel, Switzerland and 3Cellular Dynamics International, Madison, WI.


#1166 Poster Board Number .........................614 VARDENAFIL INCREASES THE BEAT RATE OF HUMAN CARDIOMYOCYTES VIA POTENTIATION OF HCN4 CHANNEL CURRENTS. A. Bruening-Wright, Y. A. Kurychev, J.W. Kramer, A. MacCormack, T. Yang, W. Pei and A. M. Brown. CharTest Corp., Cleveland, OH.

#1167 Poster Board Number .........................615 GENERATION AND VALIDATION OF CELL BASED SYSTEM TO MONITOR EPIGENETIC CHANGES IN HUMAN EMBRYONIC AND INDUCED PLURIPOTENT STEM CELLS. V. Gurevich, W. Krueger and T. P. Rasmussen. Pharmaceutical Sciences, University of Connecticut, Storrs, CT.

#1168 Poster Board Number .........................616 DIFFERENTIAL PAH EFFECTS MEDIATED BY CYP1A1 AND CYP1B1 IN THE BONE MARROW SPECIFICALLY TARGET HEMATOPOIETIC PROGENITORS. M. L. Larsen1, A. U. N’Jai1, C. J. Czuprynski2 and C. R. Jefcoat2. 1Pharmacology, University of Wisconsin, Madison, WI, 2Molecular and Environmental Toxicology Center, University of Wisconsin, Madison, WI and 3School of Veterinary Medicine, University of Wisconsin, Madison, WI.
Program Description (Continued)

Abstract #

#1169  Poster Board Number ..............................617

IMMUNOMODULATORY RESPONSE OF MOUSE BONE MARROW-DERIVED
MESENCHYMAL STROMAL CELLS (MBMSCs) TO STIMULATION WITH
Kiang. Radiation Combined Injury Program, Armed Forces Radiobiology Research Institute, Bethesda, MD.

#1170  Poster Board Number ..............................618

FINE PARTICULATE MATTER (PM_{10}) EXPOSURE AFFECTS CIRCULATING
AND BONE MARROW ENDOTHELIAL PROGENITOR CELLS. P. Haberzeitl, J. Lee, D.
Duggineni, J. McCracken, A. Bhatnagar and D. J. Conklin. Diabetes and Obesity Center, University of
Louisville, Louisville, KY.

#1171  Poster Board Number ..............................619

ALDH1B1 IS A MARKER FOR HUMAN COLON CANCER. Y. Chen1, A. Matsumoto2, D.
Orlicky1, S. Singh1 and V. Basilion1. 1Pharmaceutical Sciences, University of Colorado Denver, Aurora,
CO and 2Pathology, University of Colorado Boulder, Boulder, CO.

#1172  Poster Board Number ..............................620

DIFFERENTIAL TOXICITIES OF KINASE INHIBITORS (KI) ON BONE MARROW
PROGENITORS FROM DIFFERENT SPECIES. E. Clarke and G. dos Santos. ReachBio,
Seattle, WA. Sponsor: R. Steigerwald.

#1173  Poster Board Number ..............................621

DEVELOPMENT AND CHARACTERIZATION OF HUMAN HEPATOCYTES DERIVED FROM INDUCED
PLURIPOTENT STEM CELLS (IPSC): A NOVEL IN VITRO MODEL SYSTEM
FOR ASSESSING DRUG-INDUCED HEPATOTOXICITY. V. L. Ott, P. Fuhrken, J.

Tuesday Morning, March 8
9:00 AM to 12:30 PM
Exhibit Hall

Poster Session: Nanotoxicology: Carbon Nanotubes, Carbon Nanoparticulates, and Quantum Dots

Chairperson(s): Anita Patella, Jackson State University, Jackson, MS.

Displayed: 9:00 AM – 12:30 PM

Author Attended: 11:00 AM – 12:30 PM

#1174  Poster Board Number ..............................625

BIOLICAL SURFACE ADSORPTION INDEX (BSAI) FOR CHARACTERIZING
CARBON NANOMATERIALS WITH DIFFERENT SURFACE CHEMISTRIES
IN BIOLOGICAL SYSTEMS. Y. Xia, N.A. Monteiro-Riviere and E. V. Riviere.
Center for Chemical Toxicology Research and Pharmacokinetics, North Carolina State University,
Raleigh, NC.

#1175  Poster Board Number ..............................626

CELLULAR UPTAKE MECHANISMS AND CYTOTOXICITY OF QUANTUM DOT
NANOPARTICLES IN PORCINE DENDRITIC CELLS. L. W. Zhang and N. A. Monteiro-Riviere.
Center for Chemical Toxicology Research and Pharmacokinetics, North Carolina State University,
Raleigh, NC.

#1176  Poster Board Number ..............................627

EVALUATION OF TOXICITY AND INFLAMMATION IN THREE DIFFERENT
HYDROXYLATED FULLERENES (C_{60}(OH)_{X}) IN HUMAN CELLS. J. G.
Saathoff1, X. Xia2, J. E. Riviere1, A. O. Inman3, A. R. Badreddy1, M. W. Wiersten4 and N. A.
Monteiro-Riviere5. 1Center for Chemical Toxicology Research and Pharmacokinetics, North Carolina
State University, Raleigh, NC and 2Civil and Environmental Engineering, Duke University,
Durham, NC.

#1177  Poster Board Number ..............................628

THE TRANSCRIPTIONAL PROFILING IN RESPONSE TO C(60) FULLERENES OF RAT
LUNGS FOR IDENTIFICATION POTENTIAL BIOMARKERS. K. Fujita1, Y. Morimoto2, S.
Endoh1, K. Uchida1, H. Fukui1, A. Ogami1, J. Tanaka2, M. Horie1, Y. Yoshida1, H. Iwahashi1 and
J. Nakamishi1. 1National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan
and 2University of Occupational and Environmental Health, Kitakyushu, Japan. Sponsor: M. Takahashi.

#1178  Poster Board Number ..............................629

EFFECT OF SURFACE MODIFICATION ON THE BIOAVAILABILITY AND
INFLAMMATORY POTENTIAL OF MULTI-WALLED CARBON NANOTUBES.
T. M. Sager2, M. Wolfarth1, D. Porter1, V. Castranova1, N. Wu1 and A. Holian1.
1Pathology/Physiology Research Branch, Health Effects Laboratory Division, NIOSH, Morgantown,
WV and 2Department of Mechanical and Aerospace Engineering, West Virginia University,
Morgantown, WV.

#1179  Poster Board Number ..............................630

OXIDATIVE LIPIDOMICS REVEALS SELECTIVE, BUT NOT RANDOM,
PULMONARY PHOSPHILIPID PEROXIDATION AFTER INHALATION
OF CARBON NANOTUBES. Y. Tuurina1, V. Tyurin1, L. Sparvero1, A. Amoscato1, V. Kapralova1,
E. Kisini1, A. Murray2,3 and S. V. Kagan1. 1Pathology and Physiology Research Branch, Health Effects
Laboratory Division, NIOSH, Morgantown, WV and 2Division of Biochemical Toxicology, Institute of
Environmental Medicine, Karolinska Institutet, Stockholm, Sweden.
Program Description (Continued)

Abstract #

Poster Board Number .....................................631

#1180

COMPARATIVE GENOTOXICITY OF FIBROUS PARTICLES: CARBON NANOFIBERS, SINGLE-WALLED CARBON NANOTUBES, AND ASBESTOS. E. Kisin1, A. R. Murray1, L. Sargent2, D. Lowry2, K. Siegrist2, M. Chirila, D. Schwegler-Berry1, S. Leonardi1, V. Castranova1, B. Fadeel1, V. E. Kagan3 and A. A. Shvedova1. 1PRPR, NIOSH, Morgantown, WV, 2TMBB, NIOSH, Morgantown, WV, 3AEB, NIOSH, Morgantown, WV, 4Institute of Environmental Medicine, Karolinska Institutet, Stockholm, Sweden and 5University of Pittsburgh, Pittsburgh, OR.

#1181

ELUCIDATION OF FACTORS DETERMINING CARBON NANOTUBES’ ABILITY TO PENETRATE ALVEOLAR EPITHELIAL BARRIER AND INTERACT WITH LUNG FIBROBLASTS IN VITRO. R. Derk1, A. Mishra1, T. Stuckle1, Y. Rojanasakul2, V. Castranova1 and L. Wang1. 1HELD/PRPR, CDC/NIOSH, Morgantown, WV and 2School of Pharmacy, West Virginia University, Morgantown, WV.

#1182

IN VITRO ASSESSMENT OF POTENTIAL TUMORGENICITY OF CHRONIC SWCNT AND MWNT EXPOSURE TO LUNG EPITHELIUM. T. A. Stuckle1, A. Mishra1, R. Derk1, Y. Rojanasakul2, V. Castranova1 and L. Wang1. 1HELD/PRPR, CDC/NIOSH, Morgantown, WV and 2School of Pharmacy, West Virginia University, Morgantown, WV.

#1183

ASSESSMENT OF FIBROGENIC BIOMARKERS INDUCED BY MULTI WALL CARBON NANOTUBES. A. Mishra1,2, Y. Rojanasakul2, V. Castranova1,2, R. Mercier1 and L. Wang1. 1HELD/PRPR, CDC/NIOSH, Morgantown, WV and 2Pharmaceuticals & Pharmacological Sciences, West Virginia University, Morgantown, WV.

#1184

DIFFERENTIAL EFFECTS OF SINGLE-WALLED CARBON NANOTUBES ON HUMAN HEPATIC, RENAL, AND COLORECTAL CARCINOMA CELL LINES. K. Hitoshi1, M. Kato1, T. Suzuki2, Y. Ando1 and M. Nada1. 1Faculty of Pharmacy, Meijo University, Nagoya, Japan and 2Faculty of Science and Technology, Meijo University, Nagoya, Japan.

#1185

MULTI-WALL CARBON NANOTUBE (MWCNT)-INDUCED GENE EXPRESSION IN THE MOUSE LUNG: IMPLICATION OF CARCINOGENESIS RISK. M. Pacurar1,2, Y. Qian1, A. Hubbs1, D. Porter1, M. Wolfarth1, D. Luo2, Y. Wan1, V. Castranova2 and N. Gao1. 1Pathology and Physiology Research Branch, NIOSH, Morgantown, WV, 2MBC Cancer Center, West Virginia University, Morgantown, WV and 3Department of Community Medicine, West Virginia University, Morgantown, WV.

#1186

MULTI-WALLED CARBON NANOTUBE INSTILLATION IN C57BL/6 MICE INDUCES CHANGES IN PULMONARY FUNCTION. P. Kariwa1, A. Aldossari1, S. C. Hilderbrand1, C. J. Wingard1, D. M. Walters2 and J. M. Brown1. 1Pharmacology & Toxicology, East Carolina University, Greenville, NC and 2Physiology, East Carolina University, Greenville, NC.

#1187

CARBON NANOTUBES INDUCE APOPTOSIS RESISTANCE THROUGH FLICE-INHIBITORY PROTEIN. V. Pongrakhananon1, Y. Lu1, L. Wang2, T. Stuckle1, S. Luannpittpong3 and Y. Rojanasakul4. 1West Virginia University, Morgantown, WV and 2National Institute for Occupational Safety and Health, Morgantown, WV.

#1188

POTENTIAL CARCINOGENICITY OF CARBON NANOTUBES. Y. Rojanasakul1, Y. Lu1, S. Luannpittpong1, V. Pongrakhananon1 and L. Wang1. 1National Institute for Occupational Safety and Health, Morgantown, WV and 2West Virginia University, Morgantown, WV.

#1189

PULMONARY EXPOSURE TO CARBONACEOUS NANOPARTICLES AFFECTS LOCAL AND SYSTEMIC IMMUNITY. A. Tkach1, E. Kisin1, A. R. Murray1, G. V. Shurin2, M. R. Shurin2, S. H. Young1, A. Star2, B. Fadeel3, V. E. Kagan1 and A. A. Shvedova1. 1PRPR, NIOSH, Morgantown, WV, 2University of Pittsburgh, Pittsburgh, PA and 3Institute of Environmental Medicine, Karolinska Institutet, Stockholm, Sweden.

#1190

PULMONARY RESPONSE OF CIGARETTE SMOKE-EXPOSED MICE TO CARBON NANOPARTICLES, C. Gairola1, S. Hani2 and D. Bhullar. 1Graduate Center for Toxicology, University of Kentucky, Lexington, KY and 2Wayne State University, Detroit, MI.

#1191


#1192


#1193

#1194 Poster Board Number .....................................645
BIO-DISTRIBUTION OF FULLERENE INTRAVENOUS ADMINISTERED IN RAT. T. Nishimura1, R. Kubota1, M. Tahara2, K. Shimizu2, T. Obama3, N. Sugimoto3 and A. Hirose4. 1Division of Environmental Chemistry, National Institute of Health Sciences, Tokyo, Japan and 2Division of Risk Assessment, Biological Safety Research Center, National Institute of Health Sciences, Tokyo, Japan.

#1195 Poster Board Number .....................................646
AIRWAY INFLAMMATION IN MICE EXPOSED TO OVABLUMIN ALLERGEN AND MULTI-WALLED CARBON NANOTUBES (MWCNT) IS REGULATED BY CYCLOOXYGENASE-2 (COX-2). B. C. Sayers1, E. E. Glista2, A. J. Taylor3, R. Langenbach4 and J. C. Bonner5. 1Environmental and Molecular Toxicology, North Carolina State University, Raleigh, NC and 2Laboratory of Molecular Carcinogenesis, NIEHS, Research Triangle Park, NC.

#1196 Poster Board Number .....................................647
IN VIVO TOXICITY STUDY OF QUANTUM DOT NANOPARTICLES FOLLOWING INTRAVENOUS ADMINISTRATION IN MICE. J. Treadway1, J. Bartel1, J. Schatz1 and S. Kim1. 1Design-for-Environment, Life Technologies, Foster City, CA.

#1197 Poster Board Number .....................................648

#1198 Poster Board Number .....................................701

#1199 Poster Board Number .....................................702
PULMONARY FUNCTION TESTING IN BOAT MANUFACTURER WORKERS. G. T. Johnson1, G. Harbison, J. D. McCluskey, D. Xu, L. Thomas, S. Goldman and R. D. Harbison. Environmental and Occupational Health, University of South Florida, Tampa, FL.

#1200 Poster Board Number .....................................703
CIRCULATING LEVELS OF PERSISTENT ORGANIC POLLUTANTS ASSOCIATE IN DIVERGENT WAYS TO FAT MASS IN HUMANS. M. Rönnt1, L. Lind1, B. van Bavel2, S. Salihovic3, K. Michaelsson4 and M. P. Lind5. 1Department of Medical Sciences, Uppsala University, Uppsala, Sweden, 2MTM Research Center, Örebro University, Örebro, Sweden and 3Department of Surgical Sciences, Uppsala University, Uppsala, Sweden.

#1201 Poster Board Number .....................................704
CIRCULATING LEVELS OF PHTHALATES, BISPHENOL A, AND ABDOMINAL OBESITY. M. P. Lind1, M. Rönnt2, K. M. Roos3, D. A. Birkholz4, L. Johansson5 and L. Lind6. 1Department of Medical Sciences, Occupational and Environmental Medicine, Uppsala University, Uppsala, Sweden, 2Department of Surgical Sciences, Uppsala University, Uppsala, Sweden, 3Environmental Division, ALS, Edmonton, AB, Canada, 4Department of Radiology, University Hospital, Uppsala, Sweden and 5Department of Medical Sciences, Acute and Internal Medicine, Uppsala University, Uppsala, Sweden.

#1202 Poster Board Number .....................................705
ATHEROSCLEROSIS IS RELATED TO CIRCULATING LEVELS OF PERSISTENT ORGANIC POLLUTANTS (POPS) IN THE ELDERLY. L. Lind1, B. van Bavel2, S. Salihovic2 and M. P. Lind1. 1Acute and Internal Medicine, Department of Medical Sciences, Uppsala University Hospital, Uppsala, Sweden, 2MTM Research Centre, School of Science and Technology, Örebro University, Örebro, Sweden and 3Occupational and Environmental Medicine, Department of Medical Sciences, Uppsala University, Uppsala, Sweden.

#1203 Poster Board Number .....................................706
SERUM LEVELS OF POLYCHLORINATED BIPHENYLS IN MEXICAN WOMEN AND BREAST CANCER RISK. R. Recio-Vega1, V. Vecino-Rodriguez2, C. Ocampo-Gomez2 and S. Hernandez-Gonzalez1. 1Environmental Health, University of Coahuila, Torreon, Coahuila, Mexico and 2Clinical Epidemiology, IMSS, Torreon, Mexico.

#1204 Poster Board Number .....................................707
THE MODIFIER EFFECT OF ALAD 2 ON THE ASSOCIATION BETWEEN BLOOD LEAD AND HEMATOLOGIC OUTCOMES. F. Scinicariello1, B. A. Fowler2, A. Yesupriya2, M. Chang3 and N. F. Dowling3. 1Division Toxicology and Environmental Medicine, ATSDR/CDC, Atlanta, GA and 2Office of Public Health Genomics, Centers for Disease Control and Prevention, Atlanta, GA.

#1205 Poster Board Number .....................................708
LEAD AND CHILDHOOD COGNITIVE DEFICITS: EXPLORING THE ROLE OF GENDER AND SOCIAL STRESS. D. A. Cory-Slechta1, K. Merchant-Borna1 and E. Van Wingenarden2. 1Department of Environmental Medicine, University of Rochester Medical Center, Rochester, NY and 2Community and Preventive Medicine, University of Rochester Medical Center, Rochester, NY.
Program Description (Continued)

Abstract # Poster Board Number ..................................... #1206

OCCUPATIONAL EXPOSURE TO POLYCYCLIC AROMATIC HYDROCARBONS DECREASES SPERM QUALITY AND INDUCE DNA DAMAGE. G. Ocampo-Gomez1, E. Olivas-Calderon1, R. Recio-Vega1, G. Garcia-Arenas2, R. Martinez-Salinas2, J. Espinosa-Fernatti2 and M. Gallegos-Arreola3.
1University of Coahuila, Coahuila, Mexico, 2University of Durango, Gomez Palacio, Durango, Mexico, 3University of San Luis Potosi, SLP, Mexico and 4University of Guadalajara, Guadalajara, Mexico. Sponsor: M. Cebrian-Garcia.

#1207

THREE DECADES OF LOW-LEVEL EXPOSURE TO SPRAYED ORGANOPHOSPHATES: NEUROBEHAVIORAL OUTCOMES IN AGRICULTURAL WORKERS AND RESIDENTS OF RURAL COMMUNITIES. Y. Finkelstein1, A. Ophir2-3, M. Aschner1, E. Doitsch1, U. Wormser1 and E. D. Richter1. 1Neurology and Toxicology Service and Unit, Shaare Zedek Medical Center, Jerusalem, Israel, 2Institute of Drug Research, School of Pharmacy, Hebrew University, Jerusalem, Israel, and 3The Department of Occupational and Environmental Medicine, Faculty of Medicine, Hebrew University, Jerusalem, Israel. (Abstract Continued)

#1208

PREGNATAL EXPOSURE TO DDT AND ITS EFFECT ON REPRODUCTIVE OUTCOME MEASURES. I. Al-Salehi1, I. Al-Doushi1, A. Alishahbaeen and A. Rabbahi2. 1Environmental Health Section, BMR Research, King Faisal Specialist Hospital & RC, Riyadh, Saudi Arabia and 2King Khalid Hospital, Al-Kharj, Saudi Arabia.

#1209

TRENDS IN PARAOXONASE 1 ACTIVITY AND LIFESTYLE FACTORS IN A RURAL POPULATION OVER TIME. L. Baible1, K. M. Kelly1, K. Wang1, J. A. Merchant2 and G. Ludwig2. 1Graduate Program in Human Toxicology, The University of Iowa, Iowa City, IA, 2Occupational and Environmental Health, The University of Iowa, Iowa City, IA and 3Biosciences, The University of Iowa, Iowa City, IA.

#1210

A CASE CONTROL STUDY OF CHRONIC MYELOMONOCYTIC LEUKAEMIA IN SHANGHAI, CHINA. S. A. Gross1,2, R. D. Irons1-4,6, D. Galbraith1 and D. Paustenbach1. 1Fudan-Ciopathogen Clinical and Molecular Research Center, Institutes of Biomedical Sciences, Fudan University, Shanghai, China, 2ChemRisk, Boulder, Co., 3School of Pharmacy, School of Medicine, University of Colorado, Denver, Denver, Co., 4Ciopathogen, Boulder, CO and 5ChemRisk, San Francisco, CA.

Abstract # Poster Board Number ..................................... #1211

NEW FOOD-BORNE HAZARD PARASITE TOXIN, D. J. Ikura1, M. Sato1, Y. Yahata1, Y. Sugita-Konishi2 and Y. Kamata2. 1Kumagaya Meat Inspection Center Saitama Prefecture, Kumagaya, Saitama, Japan, 2Division of Microbiology, National Institute of Health Sciences, Setagaya-Ku, Tokyo, Japan and 3Infectious Disease Surveillance Center, National Institute of Infectious Diseases, Shinjuku-Ku, Tokyo, Japan.

#1212


#1213

IN VITRO TOXICITY CHARACTERIZATION OF WOOD COMBUSTION PARTICLES. D. R. Dietrich1, B. Peterse2, B. van der Burg2 and S. Gaugel2. 1Human & Environmental Toxicology, University of Konstanz, Konstanz, Germany and 2BioDetection Systems BV, Amsterdam, Netherlands.

#1214

SULFUR EMISSIONS FROM CHINESE DRYWALL IN CHAMBERS AND HOMES. J. Matheson1, M. Babich1, T. Thomas1, K. Hultell1, J. Recht1, R. Maddalena3, M. Apte4, J. McCarthy2, B. Baker1, J. Allen1, D. Machotish1 and L. Salzman1. 1U.S. Consumer Product Safety Commission, Bethesda, MD, 2LNRL, Berkeley, CA and 3EH&E, Needham, MA.

#1215

EXPOSURE MODEL FOR INDIVIDUALS (EMI) IN HUMAN HEALTH STUDIES: PREDICTING RESIDENTIAL INDOOR EXPOSURES TO FINE AIRBORNE PARTICLES. M. Brez1, M. Breen1, B. Schultz1, T. Long1, R. Williams1, A. Vette1 and R. Devlin1. 1U.S. EPA, Research Triangle Park, NC and 2North Carolina State University, Raleigh, NC.

#1216

EXPOSURE TO PHTHALATES AMONG PREMENSTRUAL GIRLS FROM RURAL AND URBAN, GHARBIAH, EGYPT. J. Colacino1,2, A. Soliman2, M. Nahar1, A. Hablas4, I. Seifeldin5, A. Van Zomeren-Dohm6, L. S. Rozek1, D. C. Dolinsky7, 1Environmental Health Sciences, University of Michigan School of Public Health, Ann Arbor, MI, 2Center for Global Health, University of Michigan, Ann Arbor, MI, 3Epidemiology, University of Michigan, Ann Arbor, MI and 4Tanta Cancer Center, Gharbiah, Egypt.

#1217

BLOOD ANALYSIS OF SWEDISH FIRE VICTIMS 1992–2009 SUGGEST HYDROGEN CYANIDE AS AN IMPORTANT CAUSE OF DEATH. K. Stamy1, G. Thelander1, L. Ernstgärd1 and G. Johanson1. 1Work Environment Toxicology, Institute of Environmental Medicine, Karolinska Institutet, Stockholm, Sweden and 2Department of Forensic Genetics and Forensic Toxicology, National Board of Forensic Medicine, Linköping, Sweden.
Program Description (Continued)

Abstract #

#1218  Poster Board Number ..................................... 721

DERMAL AND INHALATION EXPOSURE OF EGYPTIAN COTTON WORKERS DURING CHLORPYRIFOS APPLICATIONS. R. Fenske1, F. M. Farahat2, K. Galvin1, J. R. Olson1, D. S. Rohman1 and W. K. Angert1. 1University of Washington, Seattle, WA, 2Menoufia University, Shebin Elkom, Egypt, 3University at Buffalo, Buffalo, NY and 4Oregon Health & Science University, Portland, OR.

#1219  Poster Board Number ..................................... 722

CIGARETTE SMOKING AND GENETIC POLYMORPHISMS IN THE ARYL HYDROCARBON RECEPTOR MAY BE ASSOCIATED WITH MENOPAUSAL HOT FLASHES. A. Ziv-Gal1, L. Gallicchio2,3, S. R. Miller1, H. Zacur1 and J. A. Flavas1. 1Comparative Biosciences, University of Illinois, Urbana, IL, 2The Prevention and Research Center, Mercy Medical Center, Baltimore, MD and 3School of Medicine, Johns Hopkins University, Baltimore, MD.

#1220  Poster Board Number ..................................... 723


#1221  Poster Board Number ..................................... 724

OCURRENCE OF PERFLUORINATED COMPOUNDS IN WATER SUPPLY NETWORKS OF CATALONIA, SPAIN. M. Nadal1, J. L. Domingo1, I. Ericson Jogsten1, G. Perelló1, E. Bigas1, B. van Bavel1 and X. Lleberia1. 1Toxicology, Rovira i Virgili University, Reus, Spain, 2Orebro University, Orebro, Sweden and 3Catalan Public Health Agency, Department of Health, Barcelona, Spain.

#1222  Poster Board Number ..................................... 725

AGRICULTURAL USE OF MANEB INCREASES SOIL Mn MN LEVELS IN AN EXPERIMENTAL STUDY: IMPLICATIONS FOR ENVIRONMENTAL Mn EXPOSURE. T. Cobban1, J. van den Berg1, A. Bradman1, B. Eskenazi2 and D. R. Smith1. 1University of California, Santa Cruz, CA and 2University of California, Berkeley, CA.

#1223  Poster Board Number ..................................... 726

ENVIRONMENTAL AND HEALTH EFFECTS RESULTING FROM HEAVY METALS EXPOSURE IN LUANDA SOIL FROM ANGOLA, ÁFRICA. M. E. Gomes, C. G. Yedjou and P. B. Tchounwou. Biology, Jackson State University, Jackson, MS.

#1224  Poster Board Number ..................................... 727

Program Description (Continued)

Abstract #  
Tuesday Morning, March 8  
9:00 AM to 12:30 PM  
Exhibit Hall

Poster Session: Exposure Assessments and Biomonitoring Applications

Chairperson(s): David Dodge, Gradient Corporation, Bend, OR, and Tim Fennell, RTI International, Research Triangle Park, NC.

Displayed: 9:00 AM–12:30 PM

Author Attended: 11:00 AM–12:30 PM

#1230 Poster Board Number .........................#801 DIRECT COMPARISON OF DRIED BLOOD SPOT (DBS) ANALYSIS TO PLASMA AND WHOLE BLOOD ANALYSIS IN TOXICOKINETIC STUDIES OF RATS. L. Patrone1, G. Liu2, H. M. Snap13, A. Batog1, J. Valentine1, R. S. Mangipudy1, A. Tymiak1, Q. C. Ji1 and M. E. Arnold2. 1Drug Safety Evaluation, Bristol-Myers Squibb, New Brunswick, NJ and 2Bioanalytical Sciences, Bristol-Myers Squibb, Lawrenceville, NJ.

#1231 Poster Board Number .........................#802 DRIED BLOOD SPOT (DBS): A POTENTIAL APPROACH TO MONITORING DRUG EXPOSURE IN RAT FOETUSES. S. Cinelli1, F. Pastori2, R. Cicallese2, S. Villa3 and G. Oberto1. 1Scientific Direction, Research Toxicology Centre RTC, Pomezia, Rome, Italy, 2Analytical Chemistry, Research Toxicology Centre, Pomezia - Rome, Italy, 3Toxicology, Research Toxicology Centre, Pomezia, Rome, Italy and 4Operative Direction, Research Toxicology Centre, Pomezia, Rome, Italy, Sponsor: J. Brightwell.

#1232 Poster Board Number .........................#803 COMPARATIVE KINETICS USING DRIED BLOOD SPOT TECHNIQUE (DBS) IN THE CYMONOLUS MONKEY. S. Grote-Wessels1, M. Niehoff1, W. Wilbois1, T. Pfaff2, H. Fischer1, A. Welbers1 and W. Mueller1. 1Covance Laboratories GmbH, Muenster, Germany, 2Bioanalytical Sciences, Bristol-Myers Squibb, Lawrenceville, NJ.

#1233 Poster Board Number .........................#804 CHARACTERISATION OF BIOLOGICALLY AVAILABLE WOOD COMBUSTION PARTICULATES IN CELL CULTURE MEDIUM. S. Gaugel1, C. Dereeza-Greven1, J. Wimmer1, M. Wingfield1 and D. R. Dietrich1. 1Human & Environmental Toxicology, University of Konstanz, Konstanz, Germany and 2Malvern Instruments GmbH, Herrenberg, Germany.

#1234 Poster Board Number .........................#805 DIESEL EXHAUST PARTICLE TOXICITY TO HUMAN LUNG EPITHELIAL CELL LINE: SINGLE CELL EXPOSURE ASSESSMENT WITH MORPHOLOGICAL AND BIOPHYSICAL ANALYSIS. G. D. McEwen1, Y. Wu2, R. A. Coulombe1 and A. Zhou1. 1Biological Engineering, Utah State University, Logan, UT and 2Animal, Dairy, and Veterinary Sciences, Utah State University, Logan, UT.


Poster Board Number .........................#807 ASSESSMENT OF PUBLIC HEALTH RISKS ASSOCIATED WITH NAPHTALENE ENTERING RESIDENCES AND COMMERCIAL SPACE FROM VAPOR INTRUSION AT MGP SITES. R. B. DeHate1, B. Skelly1, G. T. Johnson1 and R. D. Harbison2. ‘GEI Consultants, Tampa, FL and 2Environmental and Occupational Health, University of South Florida, Tampa, FL.

Poster Board Number .........................#808 EARLY LIFE MANGANESE EXPOSURE ESTIMATED USING DECIDUOUS TOOTH DENTINE AS A BIOMARKER. M. Arora1, A. Bradman1, K. Harley1, M. Vedar1, J. Chevrier1, N. Holland1, B. Eskenazi1 and D. R. Smith1. 1University of California, Santa Cruz, CA, 2University of Sydney, Sydney, NSW, Australia and 3University of California, Berkeley, CA.

Poster Board Number .........................#809 VALIDATION OF HAIR MANGANESE AS A EXPOSURE BIOMARKER: ANALYTICAL CONSIDERATIONS AND ASSOCIATIONS WITH OTHER EXPOSURE MARKERS. D. R. Smith1, T. Jursa1, F. Donna1, N. Zimmerman1, E. Hoffman1, R. Wright1 and R. Lucchini1. 1University of California, Santa Cruz, CA, 2Purdue University, West Lafayette, IN, 3Harvard University, Boston, MA and 4University of Brescia, Brescia, Italy.


Poster Board Number .........................#811 A TOXICOKINETIC MODEL TO ASSESS EXPOSURE TO FOLFET FUNGICIDE FROM URINARY BIOMARKERS. P. Hertel Ortiz1, A. Berthet1 and M. Bonnardard2. Department of Environmental and Occupational Health, University of Montréal, Montréal, QC, Canada and 2Institute for Work and Health, Lausanne University, Lausanne, Switzerland.

Abstract # | Poster Board Number .....................................813 #1242 AN ANALYSIS OF PERFLUOROCHEMICAL CONCENTRATIONS IN AMERICAN RED CROSS ADULT BLOOD DONORS, 2000 TO 2010.  G. W. Olsen, D. C. Mair, C. C. Lange, M. E. Ellerson and W. K. Reagen, 1Medical, 3M Company, St. Paul, MN, 2North Central Region, American Red Cross, St. Paul, MN and 3Environmental Laboratory, 3M, St. Paul, MN.

Abstract # | Poster Board Number .....................................814 #1243 PLASTICIZER MIGRATION FROM TOYS AND CHILD CARE ARTICLES.  M. A. Dreyfus and M. A. Babich, U.S. Consumer Product Safety Commission, Bethesda, MD.

Abstract # | Poster Board Number .....................................815 #1244 RESIDENTIAL EXPOSURE MODELING FOR OZONE-GENERATING AIR CLEANERS.  M. A. Babich, K. R. Carlson and T. A. Thomas, U.S. Consumer Product Safety Commission, Bethesda, MD.

Abstract # | Poster Board Number .....................................816 #1245 SEASONAL CHARACTERIZATION OF HEALTH RISKS DERIVED FROM EXPOSURE TO VOLATILE ORGANIC COMPOUNDS AND BIOAEROSOLS FOR RESIDENTS NEAR A WASTE MANAGEMENT FACILITY.  L. Vilavert, J. L. Domingo, M. Schuhmacher and M. Nadal, Toxicology, Rovira i Virgili University, Reus, Spain.

Abstract # | Poster Board Number .....................................817 #1246 ENVIRONMENTAL IMPACT OF THE USE OF ALTERNATIVE FUELS IN CEMENT PLANTS: BASELINE STUDY IN TWO FACILITIES.  J. L. Domingo, J. Rovira, M. Mari, M. Schuhmacher and M. Nadal, Toxicology, Rovira i Virgili University, Reus, Spain.

Abstract # | Poster Board Number .....................................818 #1247 ASBESTOS EXPOSURE ASSOCIATED WITH FIRE SLEEVE MATERIALS.  C. L. Blake, S. C. Harbison, G. T. Johnson2 and R. D. Harbison, 1Bureau Veritas, Atlanta, GA and 2Environmental and Occupational Health, University of South Florida, Tampa, FL.

Abstract # | Poster Board Number .....................................819 #1248 CHARACTERIZATION OF AN ARS ANIMAL MODEL OF WHOLE-BODY IRRADIATION IN THE MINIPIG.  S. Harbo2, L. Staska2, M. Murphy1, J. Lovaglio1 and K. D. Thrall1, Battelle, Pacific Northwest Division, Richland, WA and 2Biological Monitoring & Modeling, Battelle Toxicology Northwest, Richland, WA.

Abstract # | Poster Board Number .....................................820 #1249 THE ARCTIC DILEMMA: COMMUNITY-BASED OUTREACH RELATED TO PISCIVORY AND MERCURY.  C. Lieske and T. O’Hara, University of Alaska Fairbanks, Fairbanks, AK.

Abstract # | Poster Board Number .....................................821 #1250 IMPACT OF TOXICITY OF SELECTED PESTICIDES ON SURVIVALITY AND EFFICACY OF AN ENTOMOPATHOGENIC NEMATODE HETERORHABDITIS MINUTUS.  R. Paul and C. Girish, Department of Post-Graduate Studies in Zoology, Gulbarga University, Gulbarga, Karnataka, India. Sponsor: C. Chetty.

Abstract # | Poster Board Number .....................................822 #1251 THE ROLE OF BOUND, SKIN RESIDUES IN DERMAL ABSORPTION OF PESTICIDES.  R. C. Cochran1 and J. H. Ross2, 1Risk Assessment, GemQualityRisk, Inc., Sacramento, CA and 2GemQualityRisk, Inc., Carmichael, CA.

Abstract # | Poster Board Number .....................................823 #1252 BISPHENOLA (BPA) AND HEXABROMOCYCLODODECANE (HBCD) STEREOISOMERS IN U.S. FOOD.  A. Schecter3, N. Malik1, O. Paepe6 and L. Birnbaum6, 1Environmental and Occupational Health Sciences, University of Texas School of Public Health, Dallas, TX, 2Eurofins Gfa GmbH Laboratory, Hamburg, Germany and 3National Institute for Environmental Sciences, Research Triangle Park, NC.

Abstract # | Poster Board Number .....................................824 #1253 SECOND-HAND, SMOKE-INDUCED PRO-INFLAMMATORY CYTOKINE PRODUCTION AND OXIDATIVE STRESS IN MICE.  T. Muthumalage1, K. Hunter2, D. Redelman3, K. Prattsos3 and C. Prattsos3, 1NUTRITION, University of Nevada, Reno, NV, 2Environmental Sciences Graduate Program, University of Nevada, Reno, NV, 3Microbiology and Immunology, University of Nevada, Reno, NV and 4Physiology and Cell Biology, University of Nevada, Reno, NV.

Abstract # | Poster Board Number .....................................825 #1254 COMMONLY USED AIR FILTERS DO NOT SUBSTANTIALLY REDUCE EXPOSURE TO SECONDHAND SMOKE CONSTITUENTS.  C. Pritsos3 and T. Muthumalage1, 3NUTRITION, University of Nevada, Reno, NV and 2Environmental Sciences Graduate Program, University of Nevada, Reno, NV.

Abstract # | Poster Board Number .....................................826 #1255 URINARY T, T’ MUCONIC ACID LEVELS ARE MODULATED BY SERPINE1139 AND NQO1*2 POLYMORPHISMS IN CHILDREN.  E. Jiménez-Mendoza2, M. Sánchez-Guerra1, N. A. Pelallo-Martínez1, F. Díaz-Barriga1, L. Carrizales-Yáñez3 and B. Quintanilla-Vega2, 2Toxicology Department, Cinvestav-Ipn, Mexico City, D.F., Mexico, 1Department, Cinvestav-Ipn, Mexico City, Mexico and 3Faculty of Medicine, UASLP, San Luis Potosí, Mexico.

Abstract # | Poster Board Number .....................................827 #1256 BLOOD MERCURY CONCENTRATION AND RELATED FACTORS IN AN URBAN COASTAL AREA IN KOREA.  Y. S. Hong1, D. S. Kim1, E. M. Jo1, B. G. Kim1, Y. M. Kim1, C. H. You1, S. D. Yu1 and J. D. Park1, 1Preventive Medicine, Dong-A University, Busan, Republic of Korea, 2Environmental Epidemiology, National Institute of Environmental Research, Seoul, Republic of Korea and 3Preventive Medicine, Chung-Ang University, Seoul, Republic of Korea.

Abstract # | Poster Board Number .....................................828 #1257 HIGH PERFORMANCE METABOLIC PROFILING (HPMP) FOR ENVIRONMENTAL TOXICOLOGY.  Y. H. Park, Medicine, Emory University, Atlanta, GA. Sponsor: D. Jones.
Program Description (Continued)

Abstract #
#1258  Poster Board Number .....................................829  EVALUATING CHEMICAL EXPOSURES USING HEMOGLOBIN ADDUCTS FOR ACRYLAMIDE AND 1,3-BUTADIENE. J. M. Shimek1, B. McCarthy2, S. Erdal3 and F. Davis2.

#1259  Poster Board Number .....................................830  A FISHING LINE GENERATOR TO DELIVER WTC DUST PARTICLES FOR INHALATION EXPOSURE. J. M. Vaughan, B. J. Garrett, M. D. Cohen and L. Chen. Environmental Health Science, New York University, Tuxedo, NY.


#1262  Poster Board Number .....................................833  PROFILING THE INTERNAL DOSES OF REACTIVE AGENTS AND THEIR METABOLITES USING N-TERMINAL VALINE ADDUCTS. S. Goel, N. I. Georgieva, M. Thompson and G. Boysen. Environmental and Occupational Health, University of Arkansas for Medical Sciences, Little Rock, AR.

#1263  Poster Board Number .....................................834  EVALUATION OF AIRBORNE TOXICANT CONCENTRATIONS FROM THE DEEPWATER HORIZON OIL SPILL. J. Keenan1, H. Aven2, K. Unice2 and D. Pauttenbach1.

#1264  Poster Board Number .....................................835  IDENTIFYING AND COMMUNICATING EXPOSURES AND HEALTH RISKS FROM MICROCONSTITUENTS AT BIOSOLIDS LAND APPLICATION SITES. V. R. Mylaravuru and P. V. Cline1, E. E. & S. CH2M Hill, Orlando, FL. and EE&S, CH2M Hill, Gainesville, FL.

#1265  Poster Board Number .....................................836  SITE EVALUATION OF BIOACCESSIBILITY OF DIOXINS/FURANS FROM SOIL. Y. W. Lowney1, G. Brophy2 and R. Kalmes2.

Abstract #
#1266  Poster Board Number .....................................837  ASSESSMENT OF BENZENE SHOWER EXPOSURES - IMPLICATIONS FOR SOIL AND WATER QUALITY GUIDELINE DEVELOPMENT. A. L. Knafel1, S. Hays2, J. Campbell3 and M. Morden1. Equilibrium Environmental Inc., Calgary, AB, Canada.

#1267  Poster Board Number .....................................838  RISK CHARACTERIZATION OF THE DECABROMODIPHENYL ETHANE IN DEBRINATION DUST. D. G. Dodge1, M. C. Pollock2, S. N. Sax2, C. Petito Boyce3 and J. E. Goodman3.

Tuesday Morning, March 8
9:00 AM to 12:30 PM
Exhibit Hall
Poster Session: Oxidative Stress and Redox Biology
Chairperson(s): Alexandria Lau, University of Arizona, Tucson, AZ, and Monica Valentovic, Marshall University School of Medicine, Huntington, WV.
Displayed: 9:00 AM–12:30 PM

Author Attended: 9:00 AM–11:00 AM

#1268  Poster Board Number .....................................839  ERIONITE MINERAL FIBERS IN ROAD GRAVEL: A POTENTIAL OCCUPATIONAL HAZARD IN THE WESTERN UNITED STATES. C. R. Partridge1, P. H. Ryan1, S. Adjei2, J. E. Lockey2 and S. Griffen2. U.S. EPA Region 8, Denver, Co.

#1269  Poster Board Number .....................................901  LIPOSOMAL-NAC PROTECTS AGAINST ACETAMINOPHEN-INDUCED HEPATOTOXICITY. K. Puca1, C. Buonocoro1, M. Alipour1, A. Omri2, M. Zsabo2 and Z. Sutres2.

#1270  Poster Board Number .....................................902  PARAOXONASE 2 (PON 2) IN THE CENTRAL NERVOUS SYSTEM: A NEUROPROTECTIVE ROLE? L. G. Costa1, G. Giordano2, T. B. Cole3 and C. E. Furlong3. Department of Environmental and Occupational Health Sciences, University of Washington, Seattle, WA. Division of Medical Genetics and Department of Genome Sciences, University of Washington, Seattle, WA and Department of Human Anatomy, Pharmacology and Forensic Science, University of Parma Medical School, Parma, Italy.
Abstract # Poster Board Number ..................................... #1271 COMPARATIVE EVALUATION OF TAURINE AND THIOUROINE FOR THEIR EFFECTS ON ETHANOL-INDUCED OXIDATIVE STRESS IN THE RAT. M. C. Parikh and C. A. Lau-Carn. Pharmaceutical Sciences, St. John’s University, Jamaica, NY. #1272 THE EFFECT OF ESTROGEN ON MACROPHAGES RESPONSE TO OXIDATIVE STRESS. T. Entesar-Zaher1, M. Javdan1 and Z. Zakeri1. LaGuardia Community College, Long Island City, NY, 2The Feinstein Institute for Medical Research, Manhasset, NY and 3Queens College and Graduate Center of City University of New York, Flushing, NY. #1273 DOSE-RESPONSE ANALYSIS OF POTASSIUM BROMATE-INDUCED DNA DAMAGE IS CONSISTENT WITH LOW-DOSE LINEAR, NON-THRESHOLD PROCESSES. M. A. Spassova1, D. J. Miller1, J. Caldwell1, S. V. Valimiri1, D. A. Eastmond2, C. Chen3 and P. D. White1. NCEA, U.S. EPA, Washington, D.C. and 1Cell Biology & Neuroscience, University of California Riverside, Riverside, CA. #1274 ALL-TRANS-RETINOIC ACID PROTECTS AGAINST ROS INDUCED KIDNEY INJURY. S. S. Lau, J. L. Lord-Garcia, L. W. Lai, K. Y. Yong, Y. H. Lien and T. J. Monks. Pharmacology and Toxicology, University of Arizona, Tucson, AZ. #1275 TEMPO AND TEMPO-H PROTECT CARDIOMYOCYTES FROM NUCLEOSIDE REVERSE TRANSCRIPTASE INHIBITOR (NRTI)-INDUCED MITOCHONDRIAL TOXICITY. P. Nguyen1, Y. Liu1, J. B. Mitchell1 and M. C. Poirier1. 1Carcinogen-DNA Interactions Section, LCBG, National Cancer Institute, National Institutes of Health, Bethesda, MD and 2Tumor Biology Section, NBB, National Cancer Institute, National Institutes of Health, Bethesda, MD. #1276 NOVEL FUNCTIONS OF ALDH7A1 AGAINST HYPEROSMOTIC STRESS. C. Brocker1, M. Cantore1, P. Failli1 and V. Vasiliev1. 1Department of Pharmaceutical Sciences, University of Colorado Denver, Aurora, CO and 2Department of Pharmacology, University of Florence, Florence, Italy. #1277 PROTECTIVE ROLE OF ATP BINDING CASSETTE TRANSPORTER ABCB6 IN ARSENIC TOXICITY. H. Chavan, M. Oruganti and P. Krishnamurthy. Pharmacology, Toxicology & Therapeutics, University of Kansas Medical Center, Kansas City, KS. #1278 ARSENIC ACTIVATES THE NRF2 ANTIOXIDANT RESPONSE PATHWAY VIA AUTOPHAGY. A. Lau and D. D. Zhang. Pharmacology and Toxicology, University of Arizona, College of Pharmacy, Tucson, AZ. #1279 HISTONE DEACETYLASE 6 ASSOCIATES WITH THE POLYSOME DURING ARSENITE-INDUCED STRESS. K. Kappeler, J. Zhang and Q. Chen. University of Arizona, Tucson, AZ. #1280 POST-TRANSLATIONAL MODIFICATION AND REGULATION OF GLUTAMATE CYSTEINE LIGASE BY THE α, β-UNSATURATED ALDEHYDES ACROLEIN AND 4-HYDROXYNITROSAL. D. S. Backos1, K. S. Fritz1, J. R. Roeder2, D. R. Petersen1 and C. C. Franklin1. 1Department of Pharmaceutical Sciences, University of Colorado Denver, Denver, CO and 2Department of Medicine, Pulmonary Division, Emory University, Atlanta, GA. #1281 IDENTIFICATION OF HYDROIMIDAZOLOLE AND ARGYPYRIMIDINE ADDUCTS AS GLYOXIDATIVE BIOMARKERS IN TYPE 2 DIABETIC SUBJECTS. O. Kinsky1, M. J. Kinney3, H. N. Yassin1, C. S. Stump1, G. Tsaprialis1, T. J. Monks1 and S. S. Lau1. 1Southwest Environmental Health Sciences Center, Department of Pharmacology and Toxicology, College of Pharmacy, University of Arizona, Tucson, AZ and 2College of Medicine, University of Arizona, Tucson, AZ. #1282 IDENTIFICATION AND CHARACTERIZATION OF 4-HNE-MODIFIED LIVER FATTY ACID BINDING PROTEIN IN A RODENT MODEL OF EARLY ALCOHOLIC LIVER DISEASE. R. L. Smathers, K. S. Fritz, J. J. Galligan, C. T. Shearn and D. R. Petersen. Pharmaceutical Sciences, University of Colorado Denver, Aurora, CO. #1283 EXTENSIVE OXIDATIVE PROTEIN MODIFICATIONS OBSERVED IN HUMAN PLASMA AND CANDIDATE BIOMARKERS OF SYSTEMIC CHRONIC INFLAMMATORY AND OXIDATIVE STRESS. X. Zhang, M. A. Gritsenko, B. Webb-Robertson, K. M. Waters, D. J. Bigelow, W. Qian, J. G. Pounds and J. M. Jacobs. Biological Sciences Division, Pacific Northwest National Laboratory, Richland, WA. #1284 EXTENSIVE OXIDATIVE PROTEIN MODIFICATIONS OBSERVED IN HUMAN PLASMA AND CANDIDATE BIOMARKERS OF SYSTEMIC CHRONIC INFLAMMATORY AND OXIDATIVE STRESS. B. Webb-Robertson, X. Zhang, K. M. Waters, W. Qian, J. M. Jacobs, D. J. Bigelow, R. Corley and J. G. Pounds. Biological Sciences Division, Pacific Northwest National Laboratory, Richland, WA.
Abstract #  
#1285  Poster Board Number ..........................................................#1297  Poster Board Number ..........................................................#1299  Poster Board Number ..........................................................
DEVELOPMENT OF MALDI-TOF METHODOLOGY FOR SELECTIVE MS-ANALYSIS AND IMAGING OF CARDIOLIPINS IN LIPID EXTRACTS AND TISSUES. L. J. Sparvero1,3, A. Amoscati1,3, B. R. Pitt1,2, H. Bayir1,2 and V. E. Kagan1,3, Center for Free Radical and Antioxidant Health, Environmental and Occupational Health, Pittsburgh, PA, Critical Care Medicine, Safar Center for Resuscitation Research, Pittsburgh, PA and University of Pittsburgh, Pittsburgh, PA.

#1286  Poster Board Number ..........................................................#1288  Poster Board Number ..........................................................#1290  Poster Board Number ..........................................................
PROTEOMIC IDENTIFICATION OF NITRATED PROTEINS IN THE SPLEEN OF ANILINE EXPOSED RATS. X. Fan1, J. Wang1, K. Soman2, G. Ansari2,3 and M. Khan1,1, Pathology, University of Texas Medical Branch, Galveston, TX and BMB, University of Texas Medical Branch, Galveston, TX.

#1287  Poster Board Number ..........................................................#1289  Poster Board Number ..........................................................#1291  Poster Board Number ..........................................................
CIRCULATING LEVELS OF NITRATED PROTEINS ARE SUPpressed BY CIGARETTE SMOKING. R. Zanger1, H. Jin1, B. Webb-Robertson1, D. Bigelow2, M. Scholand3, J. Hoidal1 and J. Pounds1, Pacific Northwest National Laboratory, Richland, WA and Health Sciences Center, University of Utah, Salt Lake City, UT.

#1285  Poster Board Number ..........................................................#1286  Poster Board Number ..........................................................#1287  Poster Board Number ..........................................................

Poster Sessions
Symposium Sessions
Regional Interest Session
Thematic Sessions
Roundtable Sessions
Workshop Sessions
Program Description (Continued)

Abstract #

#1299
Poster Board Number .....................................931
MERCURY-INDUCED PHOSPHATIDIC ACID LIPID SIGNALING IN VASCULAR ENDOTHELIAL CELLS IS REDOX-REGULATED. J. D. Secor1,2, R. B. Patel1,2, S. R. Kotha1,2, R. M. Uppu1 and N. L. Parimandri2,3.
1The Ohio State University College of Medicine, Columbus, OH; 2Pulmonary, Dorothy M. Davis Heart and Lung Research Institute, Columbus, OH and 3Environmental Toxicology, Southern University and A&M College, Baton Rouge, LA.

#1300
Poster Board Number .....................................932
Pharmaceutical and Biomedical Sciences, Medical University of South Carolina, Charleston, SC.

#1301
Poster Board Number .....................................933
Health Sciences, Universidad Autónoma Metropolitana Iztapalapa, Mexico, Mexico.

#1302
Poster Board Number .....................................934
1University of Arkansas for Medical Sciences, Little Rock, AR and 2Arkansas Children’s Nutrition Center, Little Rock, AR.

#1303
Poster Board Number .....................................935
INDUCTION OF OXIDATIVE DNA DAMAGE BY MESALAMINE IN THE PRESENCE OF COPPER: A POTENTIAL MECHANISM FOR MESALAMINE ANTICANCER ACTIVITY. Z. Jia1,2, R. P. Zimmerman1, H. Zhu1, N. Vandjelovic1, H. P. Misra2, J. Wang2 and Y. Li1,2.
1Edvard Via Virginia College of Osteopathic Medicine, Virginia Tech Corporate Research Center, Blacksburg, VA and 2Department of Biomedical Sciences & Pathobiology, Virginia Polytechnic Institute and State University, Blacksburg, VA.

#1304
Poster Board Number .....................................936
EFFECT OF ZIDOVUDINE ON MITOCHONDRIAL OXIDATIVE PHOSPHORYLATION PROTEIN LEVELS AND ENZYME COMPLEX ACTIVITIES. J. Fang and F. A. Beland.
Division of Biochemical Toxicology, National Center for Toxicological Research, U.S. FDA, Jefferson, AR.

#1305
Poster Board Number .....................................937
MECHANISMS BY WHICH GLYCERALDEHYDE-3-PHOSPHATE DEHYDROGENASE PROTECTS ITSELF AGAINST A CHEMICAL MODIFICATION. T. Miura1, Y. Egara2, R. Hirose1, N. Iwamoto1, Y. Shinaki1, A. K. Cho1 and Y. Kumagai1,2.
1Doctoral Programs in Medical Sciences, Graduate School of Comprehensive Human Sciences, University of Tsukuba, Tsukuba, Ibaraki, Japan, and 2Master’s Program in Environmental Sciences, Graduate School of Life and Environmental Sciences, University of Tsukuba, Tsukuba, Ibaraki, Japan and 3Southern California Particle Center, University of California Los Angeles, Los Angeles, CA. Sponsor: A. Naganuma.

#1306
Poster Board Number .....................................938
Pharmacology/Toxicology, University of Arizona - College of Pharmacy, Tucson, AZ.

#1307
Poster Board Number .....................................939
PRO-OXIDANT ACTIONS OF APOCYNIN AND ITS OXIDATIVE METABOLITES DIAPOCYNIN AND 5-NITROAPOCYNIN. L. A. Laynes1, A. C. Bieghmann1 and R. M. Uppu1,2.
1Environmental Toxicology, Southern University and A&M College, Baton Rouge, LA and 2Chemistry, Southern University and A&M College, Baton Rouge, LA.

#1308
Poster Board Number .....................................940
GLUTATHIONE AND AMINO ACID FLUX MEASUREMENT UNDER NORMAL AND OXIDATIVE STRESS CONDITIONS USING HPLC AND ACCELERATOR MASS SPECTROMETRY. B. Stewart1, A. Navid2, R. Le2, K. Turteltaub2 and G. Bench1.
1Center for Accelerator Mass Spectrometry, Lawrence Livermore National Laboratory, Livermore, CA and 2Bioscience and Biotechnology Division, Lawrence Livermore National Laboratory, Livermore, CA.

Tuesday Morning, March 8
9:00 AM to 4:30 PM
Room 203

Research Funding Resource Room

Chairperson(s): Joel G. Pounds, Pacific Northwest National Laboratory, Richland, WA, and Nancy Kerkvliet, Oregon State University, Corvallis, OR.

Sponsor: Research Funding Committee

Representatives from federal agencies that fund research will be available in the Research Funding Room. Individual conversations can occur in a quiet, informal space where you want to discuss research plans, a current grant application, or previous reviews. Representatives from NIH, including program officers and Center for Scientific Review staff, NIEHS, NHLBI, and other institutes, as well as U.S. EPA ORD, DOE, and other agencies will be available at various times.

Make an appointment with your program officer in advance or at their exhibit booth, or check the posted schedule to meet with the staff member of your choice. New investigators are especially encouraged to meet with program staff. Handouts will be available.
Tuesday Morning, March 8  
9:15 AM to 10:15 AM  
Room 140B  

Exhibitor Hosted Session: LiverPool: Pooled Human Cryopreserved Hepatocytes and Their Advantages Across Diverse ADME-Tox Applications

Presented by: Celsis In Vitro Technologies

The patented LiverPool™ pooled hepatocyte product, provides an average response that is optimal for ADME-Tox studies. Advances in pre-pooling have further increased the usefulness of pooled human hepatocytes including their ability to meet targeted activity profiles. Applications like transporter and inhibition will be discussed.

Tuesday Morning, March 8  
9:15 AM to 10:15 AM  
Room 140A  

Exhibitor Hosted Session: Preclinical Cellular Therapeutic Safety Testing

Presented by: Charles River

Cell-based therapies present unique challenges for the evaluation of safety, cell survival, differentiation and distribution, and the potential for tumor formation in the appropriate animal model. These specifically designed preclinical studies with different approaches provide valuable information for assessment of potential clinical and regulatory risks of these promising therapies.

Tuesday Morning, March 8  
9:15 AM to 10:15 AM  
Room 156  

Exhibitor Hosted Session: Predicting the Human Clinical Dose

Presented by: MPI Research

Allometric scaling has been the primary technique for human dose prediction. The development of humanized ADME reagents has led to techniques where the metabolic characteristics of a drug are taken into account to improve the accuracy of predicting human clinical doses and potential drug/drug interaction issues.

Tuesday Morning, March 8  
10:30 AM to 11:30 AM  
Room 156  

Exhibitor Hosted Session: Developing a Novel Vaccine/Adjuvant Combination for the Prophylaxis and Treatment of Infectious Disease

Presented by: Huntingdon Life Sciences

Novel vaccine/adjuvant combinations introduce new risks that need to be assessed during safety assessment. Standard paradigms do not exist and approaches must be designed on a case by case basis with a good understanding of the predicted clinical immunogenicity of the vaccine candidate. Case studies will be discussed which highlight varying approaches for both prophylactic and therapeutic vaccines.

Tuesday Morning, March 8  
10:30 AM to 11:30 AM  
Room 140B  

Exhibitor Hosted Session: Diets for GLP Studies, Including Those for REACH

Presented by: Harlan Laboratories, Inc.

In vivo testing as part of REACH programs further challenges the toxicologist to make scientifically-sound decisions on what is appropriate diet in terms of nutrient levels and ingredients for GLP work, in light of the well-established evidence that diet can adversely impact on endocrine disruptor studies.

Tuesday Morning, March 8  
11:45 AM to 12:45 PM  
Room 140A  

Exhibitor Hosted Session: A Battery of Toxicity Screening Assays for Selection of Dermal Drug Candidates

Presented by: LAB Research

This session will describe a battery of in silico, in vitro, and in vivo toxicity screening assays that—prior to selecting the final drug candidate for clinical development—are useful to screen out candidate molecules for their potential to cause local irritancy, contact sensitization or phototoxicity reactions.
Program Description (Continued)

Tuesday Morning, March 8
11:45 AM to 12:45 PM
Room 156

Exhibitor Hosted Session: A Systems Toxicology Approach to Understanding Drug Toxicity and Compound Prioritization
Presented by: Ingenuity Systems, Inc.
This session will demonstrate using an industry relevant case study, how IPA’s rich molecular toxicity content and functionality, such as toxicity pathways, pathology endpoints, clinical chemistry, and hematology assay data associations can add to the understanding and evaluation of drug mechanisms and compound prioritization. Presented by: Kevin T. Morgan, Ph.D., Independent Consultant.

Tuesday Morning, March 8
11:45 AM to 12:45 PM
Room 140B

Exhibitor Hosted Session: New Applications of Latest Telemetry Technology in Toxicology and Safety Pharmacology
Presented by: Data Sciences International
Advances in wireless technology have enabled new non-invasive and plantable telemetric physiological monitoring to provide additional new parameters. Leading researchers will present their latest validation data from recent work with new innovative combined applications in toxicology and safety pharmacology. Data from rodent, canine, and NHP model studies will be presented.

Tuesday Afternoon, March 8
12:00 NOON to 1:15 PM
Salon I
New Investigator Lunch
Sponsor:
Research Funding Committee
Chairperson(s): Joel G. Pounds, Pacific Northwest National Laboratory, Richland, WA, and Nancy Kerkvliet, Oregon State University, Corvallis, OR.
This event is focused on new investigators such as new assistant professors on tenure track. Participants will be able to speak informally with federal funding agency program officers and more senior investigators, including members of the Research Funding Committee. After a brief grantsmanship talk by Sally J. Rockey, Ph.D., NIH Deputy Director for Extramural Research, discussion will continue with the program officers at each table. Ask your questions and benefit from conversation resulting from the questions of others. You can also arrange at this time to meet these representatives later in the Research Funding Resource Room for an individual discussions. A limited number of box lunches and seats will be available.

Tuesday Afternoon, March 8
12:00 NOON to 1:30 PM
Room 141
Special Interest Group Luncheon: ASIO Lunch and Learn Program

Tuesday Afternoon, March 8
12:00 NOON to 1:30 PM
Room 149
Specialty Section Meeting/Luncheon: Comparative and Veterinary

Tuesday Afternoon, March 8
12:00 NOON to 1:30 PM
Room 143
Toxicity Testing: State of Science and Strategies to Improve Public Health
Roundtable Session: Integrating Alternative Test Methods into the Federal Regulatory Framework
Sponsor:
In Vitro and Alternative Methods Specialty Section
Endorsed by:
Regulatory and Safety Evaluation Specialty Section
Current regulatory testing paradigms require certain sets of data needed for regulatory evaluation and risk assessment. Many of the methodologies used...
Abstract #

The big four
As the toxicology community is well aware, chemicals are both a global benefit and concern. They routinely cross national borders in the marketplace and in planned or accidental pollution streams. With increasing production comes increasing opportunity for exposure. Novel chemical entities, such as those derived from nanotechnology, simply up the ante today in the traditional approach to toxicity testing originated over a half century ago and are both time and animal intensive. In 2007, the National Academy of Sciences reported described a new vision and strategy for toxicity testing in the 21st century that would be based on human biology rather than animal biology and would be less expensive and less time consuming. This strategy would also involve a strong commitment to the 3Rs—replacement, reduction, and refinement of animal use in research, testing, and education. Being responsive to this progressive scientific perspective would necessitate moving forward in developing, validating, and incorporating alternative toxicological test methods into the federal regulatory framework. This transformational toxicological approach would also entail an active dialogue and collaboration between stakeholders, NGOs, academics, and federal scientists. Our panel of experts will offer the opportunity for such a discourse between U.S. FDA and U.S. EPA and their stakeholders about the type of data needed from alternative methods to demonstrate that they are scientifically valid and address the fundamental questions of human safety and efficacy.

#1309 12:00 INTEGRATING ALTERNATIVE TEST METHODS INTO THE FEDERAL REGULATORY FRAMEWORK. S. C. Fitzpatrick1 and L. Schectman2. 1Office of the Commissioner, U.S. FDA, Silver Spring, MD and 2Innovative Consulting, LLC, Lake Worth, FL.

12:00 THE 3 R’S: MORE IMPORTANT NOW THAN EVER. Andrew N. Rowan

12:05 INTEGRATED TESTING AND EMPLOYING ADVANCED METHODS FOR BIOLOGICAL PROFILING IN THE MODERNIZED TSCA. Richard A. Becker

12:20 REGULATORY ACCEPTANCE OF ALTERNATIVE METHODS—PHARMACEUTICALS IN THE U.S. Abigail Jacobs

12:35 CURRENT APPROACHES TO ANIMAL TESTING IN REGULATION OF BIOLOGICS AND VACCINES BY U.S. FDA/CBER. Richard D. McFarland

12:50 CONSIDERATIONS FOR ACCEPTANCE OF ALTERNATIVES FOR PESTICIDES AND CHEMICALS. John R. Fowle

1:05 PANEL DISCUSSION/Q&A.

Tuesday Afternoon, March 8
12:00 NOON to 1:20 PM
Room 144

Global Air Quality and Human Health

Informational Session: Coordinating Global Chemical Safety: The Big Four

Chairperson(s): Philip Wexler, National Library of Medicine, Bethesda, MD, and Harithara Mehandale, University of Louisiana Monroe, Monroe, LA.

Sponsor: Global Strategy Task Force

Endorsed by:

Ethical, Legal & Social Issues Specialty Section
Risk Assessment Specialty Section

As the toxicology community is well aware, chemicals are both a global benefit and concern. They routinely cross national borders in the marketplace and in planned or accidental pollution streams. With increasing production comes increasing opportunity for exposure. Novel chemical entities, such as those derived from nanotechnology, simply up the ante today in the traditional approach to toxicity testing originated over a half century ago and are both time and animal intensive. In 2007, the National Academy of Sciences reported described a new vision and strategy for toxicity testing in the 21st century that would be based on human biology rather than animal biology and would be less expensive and less time consuming. This strategy would also involve a strong commitment to the 3Rs—replacement, reduction, and refinement of animal use in research, testing, and education. Being responsive to this progressive scientific perspective would necessitate moving forward in developing, validating, and incorporating alternative toxicological test methods into the federal regulatory framework. This transformational toxicological approach would also entail an active dialogue and collaboration between stakeholders, NGOs, academics, and federal scientists. Our panel of experts will offer the opportunity for such a discourse between U.S. FDA and U.S. EPA and their stakeholders about the type of data needed from alternative methods to demonstrate that they are scientifically valid and address the fundamental questions of human safety and efficacy.

#1310 12:00 COORDINATING GLOBAL CHEMICAL SAFETY: THE BIG FOUR. P. Wexler1, P. Whiting2, D. Downie3, H. Selin4 and L. Onyon5. 1National Library of Medicine, Bethesda, MD, 2U.S. EPA, Washington, D.C., 3Fairfield University, Fairfield, CT, 4Boston University, Boston, MA and 5UNEP, Geneva, Switzerland.

12:00 Introduction. Philip Wexler

12:05 BASEL CONVENTION. Patricia Whiting

12:22 ROTTERDAM CONVENTION. David Downie

12:39 STOCKHOLM CONVENTION. Henrik Selin

12:56 STRATEGIC APPROACH TO INTERNATIONAL CHEMICALS MANAGEMENT. Lesley Onyon

1:13 PANEL DISCUSSION/Q&A.

Tuesday Afternoon, March 8
12:00 NOON to 1:20 PM
Room 147

Novel Approaches to Preclinical Safety Assessment: Bridging the Gap between Discovery and the Clinic through Translational Toxicology

Informational Session: Livers on a Plate: Next Generation Hepatocyte Models for High-Throughput Screening and Mode-of-Action Prediction


Sponsor: Molecular Biology Specialty Section

Endorsed by:

In Vitro and Alternative Methods Specialty Section
Mechanisms Specialty Section

The liver is a common target for chemicals and drugs, due in part to the role of the liver in xenobiotic metabolism. Because the liver is frequently the most sensitive target in two-year bioassays, chemical regulation is often based on adverse liver effects. Drugs withdrawn from the market are more often due to unforeseen hepatotoxicity. Given the number of chemicals that need to be assessed for hepatotoxicity by the pharmaceutical and chemical
Program Description (Continued)

Abstract #

industries, many investigators currently use primary hepatocytes or transformed hepatocyte-derived cell lines in lieu of animal studies. These models have serious limitations including major differences in the expression of xenobiotic metabolizing enzymes compared to the intact liver. There is a clear need for the identification and characterization of biologically-relevant in vitro models that can recapitulate the functions, cell interactions, and responses to chemicals found in vivo. A number of exciting in vitro models of the liver have been recently developed which make them potentially better models for predicting responses in vivo than conventional cultures. We will characterize the use of a number of in vitro models of the liver including 2D and 3D co-cultures containing hepatocytes and other cell types. Our panel of experts have an extensive experience in the characterization and use of these models and will discuss applications of the models including toxicity screening, metabolic activation, mode-of-action determination using toxicogenomics and species extrapolation. This particular topic will be useful to those interested in high-throughput screening, hepatotoxicity, and mode-of-action research.

#1311 12:00 LIVERS ON A PLATE: NEXT GENERATION HEPATOCYTE MODELS FOR HIGH-THROUGHPUT SCREENING AND MODE-OF-ACTION PREDICTION. Chris Corton1, Salman Khetani1, Linda Griffith1, Dawn Applegate1, Susan Hester1. Integrated Systems Toxicology Division, U.S. EPA, Durham, NC; 2RegeneMed, Inc., San Diego, CA; 3MIT, Cambridge, MA and 4HepreGen Corporation, Medford, MA.

12:05 INTRODUCTION. Chris Corton

12:25 PERFUSED MULTIWELL PLATE FOR 3D LIVER TISSUE ENGINEERING. Linda Griffith

12:45 APPLICATIONS OF MICROSCALE ANIMAL AND HUMAN IN VITRO LIVER MODELS IN TOXICOLOGY. Salman Khetani

1:05 HEPATOCYTE MODELS FOR PRIORITIZATION AND MODE-OF-ACTION PREDICTION OF ENVIRONMENTALLY-RELEVANT CHEMICALS. Susan Hester

Tuesday Afternoon, March 8 12:15 PM to 1:05 PM Room 201

Distinguished Toxicology Scholar Award Lecture: Cloning and Functional Analysis of the Aryl Hydrocarbon Nuclear Translocator (ARNT)

Lecturer: Oliver Hankinson, University of California, Los Angeles, CA.

In 1991 we cloned ARNT, which we knew to be required for activity of the Aryl Hydrocarbon Receptor (AHR). We subsequently showed that ARNT is the obligate dimerization partner for AHR. ARNT represented a new class of transcription factor, the basic helix-loop-helix-Per-Arnt-Sim (bHLH-PAS) family. AHR, which was cloned the following year, also proved to be a bHLH-PAS protein. These observations were very surprising, since most investigators expected that AHR and its dimerization partner would be members of the nuclear receptor superfamily. Further studies by our group and others identified functional domains of these proteins, and lead to a broad understanding of their roles in transcriptional activation and chemical carcinogenesis. In 1995, Hypoxia Inducible Factor (HIF) was cloned, and shown to be a dimer of ARNT and another bHLH-PAS protein. Studies by us and others have shown that ARNT is directly involved in tumor growth, angiogenesis, wound healing, diabetes and stroke through its role as a component of HIF. Our recent studies have focused on defining the roles of coactivator and other facilitator proteins in the AHR/ARNT- and HIF-dependent induction of gene transcription. Such proteins may represent nodal points for cross-talk between these pathways and other pathways of gene regulation.

Tuesday Afternoon, March 8 12:30 NOON to 2:00 PM Renaissance Congressional A

Regional Chapter Student Luncheon: Northeast Regional Chapter

Tuesday Afternoon, March 8 1:00 PM to 4:30 PM Exhibit Hall

Poster Session: Medical Devices

Chairperson(s): Lori Moilanen, 3M, St. Paul, MN.

Displayed: 1:00 PM–4:30 PM

Author Attended: 1:00 PM–2:45 PM

#1312 Poster Board Number: 101 EVALUATION OF THE SENSITIVITY OF ENDPOINTS IN THE ISO 10993-11 SYSTEMIC TOXICITY STANDARD USING POSITIVE CONTROL COMPOUNDS. A. Freeman1, A. Komiyama1, J. Fazio1, S. Hamilla1, H. Dinesdurage1 and R. P. Brown1. 1U.S. FDA, Silver Spring, MD; 2University of Maryland, College Park, MD; 3Western New England College, Springfield, MA and 4University of Connecticut, Storrs, CT.

Program Description (Continued)

Abstract #

#1314 Poster Board Number .....................................103 USE OF AN IN VITRO SCREEN FOR ASSESSING THE VAGINAL IRRITATION POTENTIAL OF INTIMATE CARE PRODUCTS. P. Clay1 and N. Belot2. 1SSL International, Manchester, United Kingdom and 2Strattec, Gmbh, Belgium. Sponsor: D. Kent.

#1315 Poster Board Number .....................................104 DETERMINATION OF BIPHENOL-A COMPOUNDS LEACHABLE FROM POLYCARBONATE- AND POLYSULFONE-BASED HEMODIALYZERS. J. Guo, S. Cho and H. D. Lee. Division of Chemistry and Materials Sciences, U.S. FDA, Center for Devices and Radiological Health, Office of Science and Engineering Laboratories, Silver Spring, MD.

#1316 Poster Board Number .....................................105 HUMAN BIOMEMETRIC MODEL OF NICKEL RELEASE FROM MEDICAL DEVICES. J. S. Tsai1 and K. T. Bogen1. 1Exponent, Bellevue, WA and 2Exponent, Oakland, CA.

#1317 Poster Board Number .....................................106 PRECLINICAL SAFETY ASSESSMENT OF DESMA (CASRN 1101874-33-2) FOR USE IN POLYMER SURFACE CONTACT DENTAL PRODUCTS. B. D. Bagley1, L. H. Moilanen1, K. Stefan2. 1Medical Department, 3M, St. Paul, MN and 23M ESPE, Seefeld, Germany.

#1318 Poster Board Number .....................................107 REPRODUCTIVE TOXICITY EVALUATION OF THE RESIN MONOMER TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA) IN MICE. L. H. Moilanen1, J. K. Dahroug2 and A. Hoberman2. 1Medical Department, 3M, St. Paul, MN, 2Charles River Laboratories, Horsham, PA and 33M ESPE, Seefeld, Germany.

#1319 Poster Board Number .....................................108 PRECLINICAL BIOCOMPATIBILITY ASSESSMENT OF A NEW NANO-FILLED FLOWABLE DENTAL COMPOSITE. E. F. Hope1, L. H. Moilanen1 and A. Bogdan1. 1Medical Department, 3M, St. Paul, MN and 23M ESPE, St. Paul, MN.

#1320 Poster Board Number .....................................109 POLYPHENOL-ELUTING STENT COATING, A NOVEL APPROACH FOR THE PREVENTION OF RESTENOSIS WITH REDUCED SIDE EFFECTS. J. J. Kleinedler1, A. W. Orr2, V. Hebert1, A. Yurdagul1 and J. T. Bogen2. 1Pharmacology, Toxicology, and Neuroscience, Louisiana State University Health Sciences Center, Shreveport, LA, 2Pathology, Louisiana State University Health Sciences Center, Shreveport, LA and 3Biomaterials Research, Nanocopoeia Inc., St. Paul, MN.

#1321 Poster Board Number .....................................110 CYTOXOTOXICITY TESTING STRATEGY OF CONTACT LENS DISINFECTING SOLUTIONS. S. Kostrubsky, K. Bullard and J. Wegrzyn. Vistakon, Division of J&J Vision Care, Jacksonville, FL.

Abstract #

#1322 Poster Board Number .....................................111 TRANSLATIONAL IMAGING OF AN INJECTABLE POLY-L-LACTIC ACID DERMAL FILLER. N. J. Barlow1, D. Wilson1, R. Rimsisky1, L. Wachsmuth1, T. Coulthard2 and X. Ying3. 1Disposition, Safety, and Animal Research, sanofi-aventis U.S., Inc., Bridgewater, NJ and 2VisualDynamics, Inc., Toronto, ON, Canada.

#1323 Poster Board Number .....................................112 EVALUATION OF EXTRACTABLES/ LEACHABLES FROM IMPLANTED MEDICAL DEVICES. L. A. Haighnon1, H. Fikree2, L. Sarkissian2 and J. W. Card2. 1Cantox Health Sciences International, Mississauga, ON, Canada and 2Ashuren Health Sciences, Mississauga, ON, Canada.

Tuesday Afternoon, March 8
1:00 PM to 4:30 PM
Exhibit Hall

Poster Session: Neurotoxicity of Pesticides

Chairperson(s): Russell Carr, Mississippi State University, Mississippi State, MS, and Kimberly Jarema, U.S. EPA, Research Triangle Park, NC.

Displayed: 1:00 PM–4:30 PM

Author Attended: 2:45 PM–4:30 PM

#1324 Poster Board Number .....................................114 AGE-RELATED DIFFERENCES IN CHOLINESTERASE (CHE) INHIBITION IN IMMATURE AND ADULT RATS AFTER ACUTE OR REPEATED EXPOSURES TO CHLORPYRIFOS (CPF) OR CPF-OXON (CPF). M. S. Marty1, A. K. Andrus1, M. P. Bell1, J. K. Passage1, A. W. Peralta1, K. A. Brzak1, S. N. Fishman1, M. J. Barrelo2 and D. R. Jubege3. The Dow Chemical Company, Midland, MI and 2Dow AgroSciences, Indianapolis, IN.

#1325 Poster Board Number .....................................115 REPEATED DEVELOPMENTAL CHLORPYRIFOS EXPOSURE INCREASES ENDOCANNABINOID LEVELS IN THE BRAIN OF JUVENILE RATS. R. L. Carr, A. B. Ward and M. K. Ross. Center for Environmental Health Sciences, Mississippi State University, Mississippi State, MS.

#1326 Poster Board Number .....................................116 PON1 STATUS MODULATES CEREBELLAR GENE EXPRESSION CHANGES ASSOCIATED WITH DEVELOPMENTAL EXPOSURE TO CHLORPYRIFOS OXON. T. B. Cole1,2, R. P. Beyer3, T. K. Bammler2, S. S. Park1, F. M. Farin1, L. G. Costa1 and C. E. Furlong1. 1Genome Sciences and Medicine, Division of Medical Genetics, University of Washington, Seattle, WA and 2Environmental and Occupational Health Sciences, University of Washington, Seattle, WA.

#1327 Poster Board Number .....................................117 CHLORPYRIFOS AND CHLORPYRIFOS OXON ALTER RYANODINE RECEPTOR FUNCTION. Y. Niknam1, A. Ghogha1, P. Lein1, I. Pessah1. Molecular Biosciences, School of Veterinary Medicine, University of California Davis, Davis, CA.
**Program Description (Continued)**

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<th>Poster Board Number</th>
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<td>Poster Board Number</td>
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<tr>
<td>OCCUPATIONAL PESTICIDE EXPOSURE AND NEUROBEHAVIORAL DEFICITS IN AN ADOLESCENT POPULATION. D. Rohlman1, A. Ismail2, J. R. Olson3, O. Hendy4 and G. Abdel Raso1. 1CROET, Oregon Health &amp; Science University, Portland, OR, 2Menoufia University, Shebin Elkom, Egypt and 3State University of New York at Buffalo, Buffalo, NY.</td>
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<td>BEHAVIORAL DEFICITS IN EGYPTIAN APPLICATION TEAMS WITH CHRONIC ORGANOPHOSPHORUS PESTICIDE EXPOSURES. W. K. Anger1, F. M. Farahat2, P. J. Lein3, J. R. Olson4 and D. S. Rohlman1. 1CROET, Oregon Health &amp; Science University, Portland, OR, 2Menoufia University, Shebin Elkom, Menoufia, Egypt, 3University of California, Davis, CA and 4State University of New York at Buffalo, Buffalo, NY.</td>
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<td>BIOMARKERS OF NEUROTOXICITY IN A RAT MODEL OF OCCUPATIONAL CHLORPYRIFOS (CPF) EXPOSURE. N. Hussainzada1,2, D. Jackson2, D. Brun2, D. Milatovic3, J. Lewis3, C. Banks3, M. Aschner4, R. Browne1, J. R. Olson5 and P. Lein1. 1Orise Postdoctoral Fellow, Fort Detrick, MD, 2U.S. Army Corps of Engineers HR, U.S. Army, Fort Detrick, MD, 3University of California, Davis, CA, 4Vanderbilt University, Nashville, TN and State University of New York, New York, NY.</td>
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<td>ORAL EXPOSURE TO THE PESTICIDE CHLORPYRIFOS IN TG2576 MICE, AN ANIMAL MODEL OF ALZHEIMER’S DISEASE. T. Colomina1,2, J. G. Salazar3, J. Reverte1, M. Cabrè1, F. Sánchez-Santed4 and J. L. Domingo1. 1Toxicology, Rivara and Virgili University, Reus, Spain, 2Psychobiology CRAM, Rovira i Virgili University, Tarragona, Catalonia, Spain and 3Neuroscience, University of Almeria, Almeria, Spain.</td>
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<td>EFFECTS OF DIAZINON AND DIAZOXON ON NEURONAL DIFFERENTIATION. D. Pizzurro1, G. Giordano1, K. Dao2 and L. G. Costa1,2. 1Department of Environmental and Occupational Health Sciences, University of Washington, Seattle, WA and 2Department of Human Anatomy, Pharmacology, and Forensic Science, University of Parma Medical School, Parma, Italy.</td>
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<td>ORGANOPHOSPHATE (OP) PESTICIDES INDUCE OXIDATIVE STRESS AND OXIDATIVE DNA DAMAGE IN HUMAN SH-SY5Y NEUROBLASTOMA CELLS. J. Muniz1, L. A. McCauley2 and G. E. Kishy3. 1School of Nursing, University of Pennsylvania, Philadelphia, PA, 2School of Nursing, Emory University, Atlanta, GA and 3Center for Research on Occupational and Environmental Toxicology, Oregon Health &amp; Science University, Portland, OR.</td>
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<td>GLOBAL GENE EXPRESSION ANALYSIS OF THE CENTRAL NERVOUS SYSTEM OF SARIN EXPOSED RATS (SIX MONTHS POST TREATMENT) SUGGESTS EVOLVING MOLECULAR PATHWAYS. M. B. Abou-Donia1 and T. V. Damodaran2. 1Biology, North Carolina Central University, Durham, NC and 2Pharmacology and Cancer Biology, Duke University Medical Center, Durham, NC.</td>
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<td>IN VITRO EVALUATION OF INHIBITION OF BUTYRYLCHOLINESTERASE AND NEUROPATHY TARGET ESTERASE CAUSED BY THE ENANTIOMERS OF METHAMIDOPHOS IN BLOOD OF HENS, G. L. Emerick1,2, R. V. Oliveira3, K. A. Belaz4, M. Gonçalves5 and G. H. DeOliveira5. 1Department of Natural Active Principles and Toxicology, University Estadual Paulista, Araquara, Sao Paulo, Brazil and 2Department of Chemistry, Universidade Federal de São Carlos, Sao Carlos, Sao Paulo, Brazil.</td>
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<td>CLUSTERING OF SERINE HYDROLASES BY SIMILARITIES OF INHIBITION PATTERNS TOWARD THE 4 STEREOISOMERS OF ISOMALATHION AGREES WITH PHYLGENETIC PROXIMITIES INFERRED FROM SEQUENCE ALIGNMENTS. S. J. Wijeyesakere1, S. Jianmongkol1,2, V. A. Palyulin2, G. F. Makhvand3 and R. J. Richardson1. 1Toxicology Program, Department of Environmental Health Sciences, University of Michigan, Ann Arbor, MI, 2Department of Pharmaceutical Sciences, University of Montana, Missoula, MT, 3Department of Chemistry, M.V. Lomonosov Moscow State University, Moscow, Russian Federation and 4Institute of Physiologically Active Compounds, Russian Academy of Sciences, Chernogolovka, Russian Federation.</td>
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<td>Poster Board Number</td>
<td>#1339</td>
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</table>
Program Description (Continued)

Abstract # 130

Poster Board Number #1340

EFFECTS OF GESTATIONAL & LACTATIONAL EXPOSURE TO THE PYRETHROID PESTICIDE DELTAMETHRIN ON NEURAL DEVELOPMENT, M. Pine, B. Reimers, R. Mariano, D. Devillier, T. Wagner and G. Ko. Texas A&M University, College Station, TX.

Abstract # 131

Poster Board Number #1341

AGE-DEPENDENT MODULATION OF SODIUM CHANNEL LEVELS AND CALPAIN ACTIVATION FOLLOWING ACUTE DELTAMETHRIN EXPOSURE, J. P. Magby1,2 and J. R. Richardson3,1. Joint Graduate Program in Toxicology, Rutgers University/UMDNJ-Piscataway, NJ and Graduate School of Biomedical Sciences, RWIMS, Piscataway, NJ.

Abstract # 132

Poster Board Number #1342

DELTAMETHRIN INHIBITS HUMAN VOLTAGE-SENSITIVE CALCIUM CHANNEL ISOFORMS EXPRESSED IN XENOPUS OOCYTES, D. Galluzzo, E. M. Mutanganga, Z. Valentine and S. B. Symington. Biology and Biomedical Science, Salve Regina University, Newport, RI.

Abstract # 133

Poster Board Number #1343

DIFFERENTIAL SENSITIVITY OF RAT VOLTAGE-GATED SODIUM CHANNEL ISOFORMS TO THE PYRETHROID INSECTICIDE TEFUTHIRIN, D. M. Soderlund1, J. Choi2 and J. Tan3. Entomology, Cornell University, Geneva, NY; Neurology, Yale University School of Medicine, New Haven, CT and S. B. Symington Company, St. Louis, MO.

Abstract # 134

Poster Board Number #1344

CHARACTERIZATION OF DIFFERENTIAL EFFECTS OF ALLETHRIN ON N- AND L-TYPE NEURONAL VOLTAGE-GATED CALCIUM CHANNELS IN DIFFERENTIATED PC12 CELLS, A. P. Neal1, S. M. Fox1, D. W. Atchison1,2. Pharmacology and Toxicology, Michigan State University, East Lansing, MI and Dermot S. S. O'Dowd, Monash University, Melbourne, Victoria.

Abstract # 135

Poster Board Number #1345

PYRETHROID EFFECTS ON MUSCARINIC ACETYLCOLINE RECEPTOR EXPRESSION IN NIE-115 AND PC12 CELLS, J. M. Diaz Otero1, A. P. Neal2 and W. D. Atchison1. University of Puerto Rico at Cayey, Cayey, Puerto Rico and Pharmacology and Toxicology, Michigan State University, East Lansing, MI.

Abstract # 136

Poster Board Number #1346

TIME, DOSE, AND STRUCTURE DEPENDENT ACTIONS OF PYRETHROID INSECTICIDES ON RAT THERMOREGULATION, A. M. Pato1, C. Sosa-Holt2 and M. J. Wolansky3,2,3. Biological Chemistry (Toxicology), University of Buenos Aires School of Science, Buenos Aires, Argentina; Argentine National Agency for Scientific Technological Promotion, Buenos Aires, Argentina.

Abstract # 137

Poster Board Number #1347


Abstract # 138

Poster Board Number #1348


Abstract # 139

Poster Board Number #1349

PARAQUAT AND MANEB ALTER CELLULAR REDOX STATUS BY NON-REDUNDANT MECHANISMS IN SH-SY5Y NEUROBLASTOMA CELLS, J. Roede and D. P. Jones. Medicine, Emory University, Atlanta, GA.

Abstract # 140

Poster Board Number #1350

MANEB (MANGANOUS ETHYLENEDI[DIETHIOCARBAMATE]) EXPOSURE IN RAT HIPPOCAMPAL ASTROCYTES LEADS TO ACTIVATION OF INTRINSIC APOPTOTIC PATHWAY, M. Akhtar and L. D. Trombetta. Pharmaceutical Sciences, St. John’s University, Queens, NY.

Abstract # 141

Poster Board Number #1351

THE NEUROTOXIC EFFECTS OF MANEB ON THE HIPPOCAMPUS OF NFR2 (-/-) MICE, D. M. Kurkatowski and L. D. Trombeta. Pharmaceutical Sciences, St. John’s University, Queens, NY.

Abstract # 142

Poster Board Number #1352

DEVELOPMENTAL EXPOSURE TO AMITRAZ ALTERS THE SEROTONIN SYSTEM. M. R. Martinez-Larragon, J. Del Pino, M. A. Martinez, E. Ramos and A. Anadon. Department of Toxicology and Pharmacology, Faculty of Veterinary Medicine, Universidad Complutense, Madrid, Spain.

Abstract # 143

Poster Board Number #1353


Abstract # 144

Poster Board Number #1354

Program Description (Continued)

Abstract #  

#1355  
Poster Board Number ......................................145  

#1356  
Poster Board Number ......................................146  
TREATMENT OF CAENORHABDIS ELEGANS WITH GLYPHOSATE OR MANCOZEB SUGGESTS SELECTIVE NEURONAL DEGENERATION. R. Negga, M. Machen, J. Salva and V.A. Fitsanakis. Biology, King College, Bristol, TN.

#1357  
Poster Board Number ......................................147  
EFFECTS OF ATRAZINE AND ITS METABOLITE DIAMINOCHLOROTRIAZINE ON UNDIFFERENTIATED AND DIFFERENTIATING N27 DOPAMINERGIC CELLS. Z. Lin, C. A. Dodd, I. I. Georgieva and N. M. Filipov. Physiology and Pharmacology, University of Georgia, Athens, GA.

#1358  
Poster Board Number ......................................148  
EFFECT OF HEXACHLOROBENZENE(HCB) ON THE NEUROAL DIFFERENTIATION OF MOUSE EMBRYONIC STEM CELLS. C. Addae and E. Martinez-Ceballos. Environmental Toxicology, Southern University and A&M College, Baton Rouge, LA. Sponsor: R. Uppa.

Tuesday Afternoon, March 8
1:00 PM to 4:30 PM
Exhibit Hall

Poster Session: Genetic Polymorphisms
Chairperson(s): Melanie Young, U.S. EPA, Washington, D.C.
Displayed: 1:00 PM–4:30 PM

Author Attended: 1:00 PM–2:45 PM

#1359  
Poster Board Number ......................................201  
INCREASED FREQUENCIES OF MICRONUCLEATED RETICULOCYTES RELATED TO ALDH2 POLYMORPHISMS IN NON-SMOKING AND NON-DRINKING WORKERS EXPOSED TO STYRENE. Z. Weng, D. Guan, X. Zhang, P. Zhao, Y. Zheng and R. Wang. 1Japan National Institute of Occupational Safety and Health, Kawasaki, Japan, 2Beijing Fengtai Health Inspection Institute, Beijing, China, 3Beijing Guoji Zhongyi Hospital, Beijing, China and 4National Institute of Occupational Health and Poison Control, China, Beijing, China. Sponsor: N. Mei.

#1360  
Poster Board Number ......................................202  
MODULATION OF DNA REPAIR CAPACITY BY APO HAPLOTYPES. C. M. Rondelli2, J. K. Wickliffe2 and S. Z. Abdel-Rahman1. 1NCB & ObGyn, University of Texas Medical Branch, Galveston, TX and 2Environmental Health Sciences, Tulane University, New Orleans, LA.

#1361  
Poster Board Number ......................................203  
DRUG METABOLIZING ENZYME POLYMORPHISMS, RESPONSE TO CHEMOTHERAPY, AND SURVIVAL IN LUNG CANCER PATIENTS. A. O. Ada1, S. C. Kunak2, F. Hancer1, S. Bilgen1, T. G. Ada1, V. Karacaoglan1, S. Suzen1, S. Alpar1, M. Gulhan1, B. Kurt1 and M. Iscan1. Toxicology, Ankara University, Faculty of Pharmacy, Ankara, Turkey, 2Pharmacology, Giresun University, Medical Faculty, Giresun, Turkey and 3Pulmonary Diseases Clinic, Ataturk Pulmonary Diseases and Thoracic Surgery Hospital, Ankara, Turkey.

#1362  
Poster Board Number ......................................204  
CYP AND GST GENE POLYMORPHISMS IN A TURKMEN POPULATION. M. Iscan1, V. Karacaoglan1, S. H. Kunak2, E. Soydas1, T. G. Ada1 and A. O. Ada1. 1Department of Toxicology, Ankara University, Faculty of Pharmacy, Ankara, Turkey and 2Department of Pharmacology, Giresun University, Faculty of Medicine, Giresun, Turkey.

#1363  
Poster Board Number ......................................205  
INFLUENCE OF GENETIC VARIATION IN THE SEROTONIN TRANSPORTER ON SMOKING CESSION SUCCESS USING ANTIDEPRESSANT THERAPY. M. Quak1,2, C. P. van Schayck2, D. S. Postma3, E. J. Wagen4 and F. J. van Schooten1. Health Risk Analysis and Toxicology, Maastricht University, Maastricht, Netherlands, 2General Practice, Maastricht University, Maastricht, Netherlands, 3Pulmonology, University Medical Center Groningen, Groningen, Netherlands and 4Kadios Pharmacisudom Amsterdam, Netherlands. Sponsor: H. van Loveren.

#1364  
Poster Board Number ......................................206  
TOXICOGENOMICS OF NEVIRAPINE-ASSOCIATED CUTANEOUS AND HEPATIC ADVERSE EVENTS AMONG POPULATIONS OF AFRICAN, ASIAN, AND EUROPEAN DESCENT. J. Yuan1, S. Guo1, D. Hall2, A. Cammert3, S. Jayadev4, M. Distel5, S. Starler1, Z. Huang1, P. Mootsikapun6, K. Rozanatham6, D. Podzamcer6 and D. Haas6. 1Boehringer Ingelheim Pharmaceuticals, Inc., Ridgefield, CT, 2Boehringer Ingelheim GmbH, Ingelheim, Germany, 3Khon Kaen University, Khon Kaen, Thailand, 4Chulalongkorn University, Bangkok, Thailand, 5Hospital Universitari de Bellvitge, Barcelona, Spain and 6Vanderbilt University School of Medicine, Nashville, TN.

#1365  
Poster Board Number ......................................207  
AN EVALUATION OF SINGLE NUCLEOTIDE POLYMORPHISMS IN THE HUMAN ARYL HYDROCARBON RECEPTOR NUCLEAR TRANLOCATOR GENE. R. Budinsky1, J. D. Urbani1 and J. Rowlands1. The Dow Chemical Company, Midland, MI and 2ToxStrategies, Inc., Austin, TX.

#1366  
Poster Board Number ......................................208  
SINGLE NUCLEOTIDE POLYMORPHISMS IN THE HUMAN ARYL HYDROCARBON RECEPTOR INTERACTING PROTEIN (AIP) GENE FROM SIX ETHNIC POPULATIONS. D. Staskal-Wikoff1, R. Budinsky2 and J. Rowlands2. 1ToxStrategies, Inc., Austin, TX and 2The Dow Chemical Company, Midland, MI.
### Abstract # 1367

**Poster Board Number:** 209

**Title:** ASSOCIATION OF GENETIC VARIATIONS IN ANTIOXIDANT ENZYME GENES WITH DIISOCYANATE-INDUCED ASTHMA IN EXPOSED WORKERS.


**Institution:** NIOSH/DC, Morgantown, WV, University of Cincinnati, Cincinnati, OH, and NIEHS, Research Triangle Park, NC.

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### Abstract # 1368

**Poster Board Number:** 210

**Title:** SULT1A1 GENE COPY NUMBER VARIATION (CNV) REAL-TIME QUANTITATIVE PCR (qPCR) ASSAY: AN OPPORTUNITY FOR POPULATION GENETIC COPY NUMBER VARIATION MEASUREMENT FOR ENHANCEMENT OF HUMAN HEALTH RISK ASSESSMENT OF GENETICALLY SENSITIVE SUB-POPULATIONS.

**Authors:** M. Young, U.S. EPA, Office of Science and Technology, Human Health Risk Assessment Branch, Washington, D.C.

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### Abstract # 1369

**Poster Board Number:** 211

**Title:** CHARACTERIZATION OF WHOLE GENOME AMPLIFIED (WGA) DNA FOR USE IN GENOTYPING ASSAY DEVELOPMENT.

**Authors:** T. Han, C. Chang, J. Kwekei, Y. Chen, F. Martinez-Murillo, D. Roscoe, Z. Tzak, R. Philip, K. Bijwaard, and J. C. Fascoe.


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### Abstract # 1370

**Poster Board Number:** 212

**Title:** MUTAGENICITY OF RARE METAL AND METAL OXIDE NANOPARTICLES: COMPONENTS AND PARTICLE SIZES.

**Authors:** G. Hasegawa, M. Shimonaka, and Y. Ishihara.

**Institution:** 1Department of Public Health, School of Medicine, Kurume University, Kurume, Fukuoka, Japan and 2Department of Chemistry, Tokyo University of Science, Tokyo, Japan.

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### Abstract # 1371

**Poster Board Number:** 213

**Title:** PONI Q192R POLYMORPHISM ANALYSIS IN SOUTHERN CARDIAC PATIENTS.

**Authors:** M. Dail, A. Crow, H. Coomes, E. Meek, H. Chambers and J. Chambers.

**Institution:** Center for Environmental Health Sciences, Mississippi State University, MS State, MS.

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### Abstract # 1372

**Poster Board Number:** 214

**Title:** ANALYSIS OF POLYMORPHISMS OF ASTHMATIC CHILDREN FROM COAHUILA, MEXICO EXPOSED TO ENVIRONMENTAL TOBACCO SMOKE (ETS).

**Authors:** B. Múñoz-Soto, B. S. Barron-Vivanco, A. López-Moya, I. Romero-Toledo, C. López-Campos, J. J. Magaña-Aguirre, and A. Albores.

**Institution:** 1Toxicology, Cinvestav-Ipn, Mexico City, Mexico, 2Pediatrics, UMAE-IMSS 71, Torreon, Coahuila, Mexico and 3Human Genetics, INR, Mexico City, Mexico.

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### Tuesday Afternoon, March 8

**Poster Session:** Metal Neurotoxicity: Methylmercury and General

**Chairperson(s):** William Atchison, Michigan State University, East Lansing, MI, and Edward Levin, Duke University Medical Center, Durham, NC.

**Displayed:** 1:00 PM–4:30 PM

**Author Attended:** 2:45 PM–4:30 PM

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### Abstract # 1373

**Poster Board Number:** 215

**Title:** CYP1A1*2C, EPHX1T133H, EPHX1H139R AND NQO1*2 POLYMORPHISMS ARE INVOLVED IN THE GENETIC DAMAGE CAUSED IN CHILDREN EXPOSED TO PAHS AND BENZENE.


**Institution:** Toxicology Department, Cinvestav-Ipn, Mexico City, Mexico, Faculty of Medicine, UASLP, San Luis Potosí, Mexico, National Institute of Public Health, Cuernavaca, Morelos, Mexico and UNAM, Mexico City, Mexico.

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### Abstract # 1374

**Poster Board Number:** 216

**Title:** USING OF PCR-RFLP OF CYTOCHROME B GENE FOR HAIR IDENTIFICATION IN HUMAN AND SOME NON-DOMESTIC ANIMALS.

**Authors:** M. H. Ghoneim, A. A. Abou-Hadeed, A. M. Alkelch and M. R. Awadallah, Toxicology & Forensic Medicine, Zagazig University, Zagazig, Egypt.

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**Display:** 1:00 PM–4:30 PM

**Author Attended:** 2:45 PM–4:30 PM
Abstract # | Program Description (Continued)
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#1378 | Poster Board Number .....................................224
#1378 | Persisting neurochemical effects of developmental copper exposure in wildtype and metallothionein 1 and 2 knockout mice. A. Petro1, H. Sexton1, C. Miranda1, A. Rastogi1, J. H. Freedman3 and E. D. Levin2. 1Psychiatry, Duke University Medical Center, Durham, NC; 2Integrated Toxicology and Environmental Health Program, Duke University, Durham, NC and 3NIH, Research Triangle Park, NC.

#1379 | Poster Board Number .....................................225
#1379 | Persistent olfactory deficits following intranasal cadmium exposure can be rehabilitated by training on an olfactory detection task. D. J. Turkel, A. H. Moberly, L. Czarnecki and J. P. McGann. Psychology Department, Rutgers University, Piscataway, NJ.

#1380 | Poster Board Number .....................................226
#1380 | In vivo optical visualization of dose-dependent pathophysiology induced by intranasal cadmium exposure in the mouse olfactory system. L. Czarnecki, A. H. Moberly, J. Pottackal, D. J. Turkel, T. Rubinstein and J. P. McGann. Psychology Department, Rutgers University, Piscataway, NJ.

#1381 | Poster Board Number .....................................227
#1381 | Peripheral cadmium exposure induces secondary pathology in downstream brain regions in the mouse olfactory system. J. Pottackal, D. J. Turkel, T. Rubinstein, M. D. Kass, L. Czarnecki and J. P. McGann. Psychology Department, Rutgers University, Piscataway, NJ.

#1382 | Poster Board Number .....................................228
#1382 | Failure to regenerate olfactory nerve function after acute intranasal cadmium exposure in the mouse. T. Rubinstein, L. Czarnecki, D. J. Turkel, J. Pottackal and J. P. McGann. Psychology Department, Rutgers University, Piscataway, NJ.

#1383 | Poster Board Number .....................................229
#1383 | The effect of tungsten alloy surrogates on PC12 cell gene expression. V. H. Adams1, D. I. Bannon2, M. G. Stockelma1 and V. P. Mokashi1. 1Army Institute of Public Health, U.S. Army Public Health Command (Prov), Aberdeen Proving Ground-EA, MD and 2Naval Medical Research Unit, Dayton (NAMRU-Dayton), Wright-Patterson AFB, OH.

#1384 | Poster Board Number .....................................230
#1384 | Different susceptibilities to methylmercury-induced cell death between non-neuronal and neuronal cells. V. Vidal1, S. M. Fox2 and W. D. Atchison3. 1University of Puerto Rico at Cayey, Cayey, Puerto Rico and 2Pharmacology and Toxicology, Michigan State University, East Lansing, MI.
Program Description (Continued)

Abstract #  Poster Board Number ..................................... 237  Abstract #  Poster Board Number ..................................... 239

#1391 Poster Board Number ..................................... 237  #1397 Poster Board Number ..................................... 243

PRENATAL EXPOSURE TO METHYLMERCURY NEGATIVELY AFFECTS BDNF CONCENTRATION IN CORD BLOOD. S. Spulber1, T. Rantamäki2, O. Nikkilä3, E. Castrén2, P. Weihe1, P. Grandjean1 and S. Cecchetelli1. Neuroscience, Karolinska Institutet, Stockholm, Sweden, 1Neuroscience Center, University of Helsinki, Helsinki, Finland, 2Faroe Hospital System, Tórshavn, Faroe islands, 3Institute of Public Health, University of Southern Denmark, Odense, Denmark and 1Environmental Health, Harvard School of Public Health, Boston, MA.

#1392 Poster Board Number ..................................... 238

A ROLE FOR CYTOCHROME P450 (CYP) ENZYMES IN METHYLMERCURY (MEHG) TOLERANCE. M. D. Rand and C. Mahapatra. Anatomy and Neurobiology, University of Vermont, Burlington, VT.

#1393 Poster Board Number ..................................... 239

OXIDATIVE STRESS-MEDIATED ERK1/2, PS1 AND MITOCHONDRIAL-DEPENDENT SIGNALING PATHWAYS INVOLVE IN METHYLMERCURY INDUCES THE NEURONAL CELL APOPTOSIS. C. Chen1,2, T. Lu1, C. Yen1, D. Hung1,2, T. Ho3, C. Su4, Y. Chen5, C. Huang6 and W. Chen6. Emergency Department, China Medical University Hospital, Taichung, Taiwan, 1Graduate Institute of Drug Safety, China Medical University, Taichung, Taiwan, 2Department of Occupational Safety and Health, Chung Shan Medical University, Taichung, Taiwan, 3Toxicology Center, China Medical University Hospital, Taichung, Taiwan, 4School of Chinese Medicine, China Medical University, Taichung, Taiwan, 5Department of Otorhinolaryngology, Head and Neck Surgery, Changhua Christian Hospital, Changhua, Taiwan and 6Department of Physiology, China Medical University, Taichung, Taiwan.

#1394 Poster Board Number ..................................... 240

COMPARATIVE EFFECTS OF METHYLMERCURY AND 1-METHYL-4-PHENYLPIRIDINIUM ON THE DOPAMINERGIC SYSTEM IN MN9D CELLS. Y. Shao and H. Chan. Community Health Science Program, University of Northern British Columbia, Prince George, BC, Canada.

#1395 Poster Board Number ..................................... 241

CA2+ CHANNEL SUBUNITS DIFFERENTIALLY MODULATE METHYLMERCURY (MEHG)-INDUCED CA2+ DYSREGULATION IN HEK-293 CELLS. H. Hannon, E. M. Sparkenbaugh, K. Krcmarik and W. D. Atchison. Pharmacology/Toxicology, Michigan State University, East Lansing, MI.

#1396 Poster Board Number ..................................... 242

IDENTIFICATION AND CHARACTERIZATION OF MOLECULAR MODULATORS OF METHYLMERCURY-INDUCED DOPAMINE NEURON PATHOLOGY IN C. ELEGANS. N. VanDuyne, R. Settiwari, G. Sinclair and R. Nass. Pharmacology and Toxicology, Indiana University School of Medicine, Indianapolis, IN.

#1397 Poster Board Number ..................................... 243

ION CHANNEL GENE TRANSCRIPTION IS AFFECTED DIFFERENTIALLY IN RAT CEREBELLUM AFTER POSTNATAL METHYLMERCURY EXPOSURE. A. Colón-Rodriguez, R. K. Hajela, F. Yuan and W. D. Atchison. Pharmacology/Toxicology, Michigan State University, East Lansing, MI.

#1398 Poster Board Number ..................................... 244

MOLECULAR MECHANISMS OF IRREVERSIBLE INHIBITION OF SELENOENZYMES BY HIGH METHYLMERCURY EXPOSURES. N. V. Ralston and L. J. Raymond. Energy & Environmental Research Center, University of North Dakota, Grand Forks, ND.

#1399 Poster Board Number ..................................... 245

SEPIAPTERIN REDUCTASE AS A TARGET FOR METHYL MERCURY TOXICITY. S. Yang1, J. R. Richardson1, K. Reuhl2, V. Mishin3 and J. D. Laskin1. 1Environmental & Occupational Medicine, UMDNJ-Robert Wood Johnson Medical School, Piscataway, NJ and 2Pharmacology & Toxicology, Rutgers University, Piscataway, NJ.

#1400 Poster Board Number ..................................... 246

LACK OF EFFECT OF ACUTE METHYLMERCURY EXPOSURE ON TYROSINE HYDROXYLASE ACTIVITY IN NIGROSTRIATAL DOPAMINE NEURONS IN MICE. C. Tiernan1, M. A. Bernard-Flores2, J. L. Goudreau1,2, K. J. Lookingland1 and W. D. Atchison1,2. 1Neuroscience Program, Michigan State University, East Lansing, MI, 2Pharmacology & Toxicology, Michigan State University, East Lansing, MI and 3RISE Program, University of Puerto Rico-Cayey, Cayey.

#1401 Poster Board Number ..................................... 247

CHRONIC METHYLMERCURY EXPOSURE OF ADULT MICE DISRUPTS HIPPOCAMPAL GLUTAMATERGIC FUNCTIONS. F. O. Johnson, S. M. Fox and W. D. Atchison. Pharmacology and Toxicology, Michigan State University, East Lansing, MI.

#1402 Poster Board Number ..................................... 248

CHRONIC METHYLMERCURY EXPOSURE DISRUPTS HIGH-RATE RESPONDING ON TWO OPERANT TASKS. J. Johnson1 and M. C. Newland1. 1Auburn University, Auburn University, AL and 2Duke University Medical Center, Durham, NC.
Program Description (Continued)

Abstract #       Abstract #

Tuesday Afternoon, March 8
1:00 PM to 4:30 PM
Exhibit Hall

Poster Session: Mutagenecity

Chairperson(s): Leslie Recio, ILS Integrated Laboratory Systems Inc., Research Triangle Park, NC.

Displayed: 1:00 PM–4:30 PM
Research Triangle Park, NC.

Chairperson(s):
Poster Session: Mutagenecity
1:00 PM to 4:30 PM
Tuesday Afternoon, March 8

Abstract #   Abstract #

#1405
Poster Board Number .....................................303
CHEMOPREVENTIVE EFFECTS OF SILYMARIN ON 1, 2-DIMETHYLYDRAZINE-INDUCED MUTAGENESIS AND CARCINOGENESIS IN THE COLON OF GPT DELTA TRANSGENIC RATS. K. Masumura1, N. Toyoda-Hokaiwado1, T. Inoue1, K. Masumura1, H. Hayashi1, Y. Kawamura1, Y. Kurata1, M. Takamune1, M. Yamada1, H. Sanada1, T. Umemura2 and A. Nishikawa1. Division of Genetics and Mutagenesis, National Institute of Health Sciences, Setagaya, Tokyo, Japan, 1Division of Pathology, National Institute of Health Sciences, Setagaya, Tokyo, Japan, 2Meiji Seika Kaisha, Ltd., Yokohama, Kanagawa, Japan and 3Safety Research Department, Central Research Laboratories, Kaken Pharmaceutical Co., Ltd., Fujieda, Shizuoka, Japan.

#1406
Poster Board Number .....................................304

#1407
Poster Board Number .....................................305
NITROXIDES TEMPO AND TEMPO INDUCE TK MUTATIONS IN MOUSE LYMPHOMA CELLS. X. Guo1, L. Guo2, M. M. Moore1 and N. Mel1. Division of Genetic and Molecular Toxicology, NCTR /U.S. FDA, Jefferson, AR and 2Division of Biochemical Toxicology, NCTR /U.S. FDA, Jefferson, AR.

#1408
Poster Board Number .....................................306

#1409
Poster Board Number .....................................307
COMPARISON OF THE BACTERIAL MUTAGENICITY OF MAINSTREAM WHOLE SMOKE FROM CIGARETTES WITH DIFFERENT LEVELS OF MENTHOL. R. Leverette. Lorillard, Greensboro, NC.

#1410
Poster Board Number .....................................308

#1411
Poster Board Number .....................................309

#1412
Poster Board Number .....................................310
INTERNATIONAL, INTERLABORATORY PIG-A MUTATION ASSAY TRIAL: EVALUATION OF TRANSFERABILITY. S. Dertinger1, S. Phonthepwath1, P. Weller1, L. Stankowsk1, D. Roberts1, J. Shi1, L. Krsmanovic1, H. Vohr1, L. Caster1, C. Gleason1, A. Henwood1, K. Sweder3, A. Giddings3, A. Lynch3, W. Gunther1, C. Thiffeault1, T. Shutsky1, R. Fiedler1, J. Bhilli1, R. Heflich3, J. Nicolette4, P. Sonders4, J. Murray4, T. Kimoto1 and J. MacGregor5. 1Liton Laboratories, Rochester, NY, 2Covance Laboratories, Rockville, MD, 3Bayer Schering Pharma, Leverkusen, Germany, 4Bristol-Myers Squibb, Princeton, NJ, 5Novartis, East Hanover, NJ.

#1413
Poster Board Number .....................................311

#1414
Poster Board Number .....................................312
IN VITRO PREDICTIONS OF IN VIVO GENOTOXICITY ARE BETTER THAN PREDICTIONS OF CARCINOGENICITY. R. Walmsey1,2,1 Life Sciences, University of Manchester, Manchester, United Kingdom and 2Gentronix Ltd., Manchester, United Kingdom.
Program Description (Continued)

Abstract #
#1415
Poster Board Number........................................313
CYTOTOXICITY AND GENE EXPRESSION ALTERATIONS FOLLOWING TREATMENT OF TK6 CELLS WITH ETOPOSIDE AND SODIUM CHLORIDE. Y. Chen1, M. M. Moore1 and J. C. Fuscoe2, 1Division of Genetic and Molecular Toxicology, U.S. FDA NCTR, Jefferson, AR and 2Division of Systems Biology, U.S. FDA NCTR, Jefferson, AR.

#1416
Poster Board Number........................................314
PIG-A MUTATION AND MICRONUCLEATED RETICULOCYTE ASSAYS DISCRIMINATE THE MUTAGENIC/ NON-MUTAGENIC PAIR: BENZO[a]PYRENE/PYRENES. D. Torous1, J. MacGregor2, S. Phoebus3, P. Weller2, J. Bemis1 and S. Derington1, 1Litron Laboratories, Rochester, NY and 2Toxicology Consulting Services, Arnold, MD.

#1417
Poster Board Number........................................315
THE MUTAGENIC POTENTIAL OF CIS-2-BUTENE-1,4-DIOL. A. Terrell1, M. Huynh1 and L. A. Peterson12, 1Environmental Health Sciences, University of Minnesota, Minneapolis, MN, 2Biochemistry, Molecular Biology, and Biophysics, University of Minnesota, Minneapolis, MN and 3Masonic Cancer Center, University of Minnesota, Minneapolis, MN.

#1418
Poster Board Number........................................316
THE METABOLITES OF THE AZO DYE DISPERSE RED 1 CAN REPRESENT HUMAN RISKS CONSIDERING THE INGESTION OF CONTAMINATED WATER AND FOOD. F. D. Chequer1, T. M. Lizer2, M. B. Zanio2, R. Marcos2 and D. P. Oliveira1, 1Faculdade de Ciências Farmacêuticas de Ribeirão Preto - Universidade de São Paulo, Ribeirão Preto, São Paulo, Brazil, and 2Universidade Paulista Júlio de Mesquita Filho, Araraquara, São Paulo, Brazil and 3Universitat Autònoma de Barcelona, Barcelona, Spain.

#1419
Poster Board Number........................................317
MUTATION SPECTRUM IN HPRT/GPT+ V79 CELLS TREATED WITH TEAK WOOD EXTRACT AND 2-METHYLANTHAQUINONE, AN ABUNDANT BIQUINONE IN TEAK WOOD, M. J. Wilson1, C. Miller23, G. Sabbiou2 and R. Rando1, 1Environmental Health Sciences, Tulane University, New Orleans, LA and 2Tulane Cancer Center, Tulane University, New Orleans, LA.

#1420
Poster Board Number........................................318
GENOTOXICITY ASSESSMENT OF ETHYLENEDIAMINE DINITRATE (EDDN) AND DIETHYLENETRIAMINE TRINITRATE (DETN). G. Reddy1, J. Song2, P. Kirby2 and M. S. Johnson1, 1Directorate of Toxicology, U.S. Army Public Health Command, Aberdeen Proving Ground, MD and 2SITEX Research Laboratories, Rockville, MD.

#1421
Poster Board Number........................................319
DOSE-RESPONSE OF NAPHTHALENE-INDUCED GENOTOXICITY AND GLUTATHIONE DETOXIFICATION IN HUMAN TK6 LYMPHBLASTS. L. Recio1, K. Shepard2, C. Swartz2 and G. Kedderis2, 1ILS, Research Triangle Park, NC and 2Consultant, Chapel Hill, NC.

Abstract #
#1422
Poster Board Number........................................320
DIMETHYL SULFOXIDE (DMSO) INHIBITION OF NAPHTHALENE-INDUCED CYTOTOXICITY AND GENOTOXICITY IN HUMAN TK6 CELLS. K. Shepard1, G. Kedderis2, C. Swartz2 and L. Recio1, 1ILS, Research Triangle Park, NC and 2Consultant, Chapel Hill, NC.

Tuesday Afternoon, March 8
1:00 PM to 4:30 PM
Exhibit Hall
Poster Session: Methods in Biomarker Discovery and Validation
Chairperson(s): Michael Dunn, Roche, Nutley, NJ.
Displayed: 1:00 PM–4:30 PM
Author Attended: 2:45 PM–4:30 PM

#1423
Poster Board Number........................................331

#1424
Poster Board Number........................................332
INTERPRETATION OF HANES VOC BLOOD DATA USING HEALTH-BASED SCREENING VALUES. L. L. Ayland1, B. Blount1, D. Pyat1, C. Kirnan1 and S. Hays2, 1Summit Toxicology, LLP, Falls Church, VA, 2Centers for Disease Control and Prevention, Atlanta, GA.

#1425
Poster Board Number........................................333

#1426
Poster Board Number........................................334
SERUM LEVELS OF THE PHOSPHOLIPID BIS(MONOCYLGLYCERO) PHOSPHATE AS AN INDICATOR OF PHOSPHOLIPIDOSIS INDUCED IN THE RAT BY CORALGIL. K. Thompson1, K. Huskins1, N. Harmann1, B. Rosenzweig1, S. Stewart1, D. Peters1, D. Mans1 and T. Colatsky2, 1DAPR, CDER, U.S. FDA, Silver Spring, MD, 2LCP, CDER, U.S. FDA, Silver Spring, MD and 3DPA, CDER, U.S. FDA, St. Louis, MO.

#1427
Poster Board Number........................................335
INVESTIGATION OF PREDICTIVE GASTROINTESTINAL TOXICITY BIOMARKERS FOR ONCOLOGY DRUG DEVELOPMENT IN RATS. W. Huang1, W. Scott2, M. Tawnley3, E. Kind1, A. Wu1, A. Sacaan1, A. Vitsky1 and A. John-Baptiste1, 1Drug Safety, Pfizer Global Research and Development, San Diego, CA and 2PDM, Pfizer Global Research and Development, San Diego, CA.

Cincinnati, OH.

C. B’Hymer and J. BHAB, NIOSH, J. E. Snawder Site Laboratory, LLC, Kirkland, WA. Sponsor: Pharmaceuticals, Alderley Park, Manchester, United Kingdom and 2NCTR, U.S. FDA, Jefferson, AR.

KIDNEY DAMAGE IN RATS.

MELAMINE-CYANURIC ACID-INDUCED URINARY BIOMARKER DETECTION OF AND ARGININES.

COVALENT MODIFICATION OF LYSINES THE PREFERENTIAL DETECTION OF CYSTEINE RESIDUES: A BASIS FOR ELECTROPHILE ADDUCTS ON.

ASSESSMENT OF CARDIAC EFFECTS VALIDATION OF BIOMARKERS FOR DEVELOPMENT PROCESS.


BLOOD COLLECTED VIA THE CULEX® AUTOMATED SYSTEM. C. Penn1, L. Morawiec1, M. Schwald1, N. Zamurovic1, S. Busch1, A. Wolf2, F. Pogna1, S. Chibout1, A. Odermatt1 and M. Dong1. Preclinical Safety, Novartis, Basel, Switzerland and Department of Pharmaceutical Sciences, University of Basel, Basel, Switzerland.


CHARACTERISATION OF THE PRODROMAL AND REVERSIBILITY VALUE OF NOVEL RENAL SAFETY BIOMARKERS IN GENTAMICIN-TREATED RATS. J. Wood1, A. Shoeb1, A. McGuinns1, P. Cleall1, D. Hardy1, D. Collins1, C. Dubray1, R. Williams1, A. Moody1, K. Lynch1, D. Ennulat1, T. Sellars1, T. Lambert2, S. Beushausen3, E. Harpur1, M. Guffroy1 and D. Bree3. Pfizer, Sandwich, United Kingdom. GlaxoSmithKlineKing, Prince of Prussia, PA, Pfizer, St. Louis, MO and Sanofi-Aventis, Alnwick, United Kingdom. Sponsor: D. Robinson Gravatt.

EVALUATION OF NOVEL BIOMARKERS OF NEPHROTOXICITY IN MICE. J. Gautier2, T. Gury1, J. Léonard1, O. Dorchies1, L. Stimmer1, C. Penno1,2, L. Morawiec1, M. Schwald1, S. Beushausen3, E. Harpur1, M. Guffroy1 and D. Bree3. Pfizer, Sandwich, United Kingdom. GlaxoSmithKlineKing, Prince of Prussia, PA, Pfizer, St. Louis, MO and Sanofi-Aventis, Alnwick, United Kingdom and Rules-Based Medicine, Austin, TX. Sponsor: R. Landsiedel.

IMPACT OF NUTRITION ON THE PLASMA METABOLOME IN RATS. W. Meiller1, M. Kann1, V. Strauss1, J. Werner1, E. Leibold2, H. G. Kann1, T. Walk1, R. Losee1, A. Prokoudine2, E. Fabian1, G. Krennrich1, M. Herold2 and B. van Ravenzwaay1. Experimental Toxicology and Ecology, BASF SE, Ludwigshafen am Rhein, Germany and Metanomics GmbH, Berlin, Germany. Sponsor: R. Landsiedel.

UTILITY OF MICRORNAs AS POTENTIAL BIOMARKERS OF TESTICULAR TOXICITY. H. Liu1, J. Milan1, L. Barone1, T. J. Monks1, J. Snow1, A. Shuieb1, A. McGuinty1, P. Cleall1, D. Hardy1, D. Collins1, C. Dubray1, R. Williams1, A. Moody1, K. Lynch1, D. Ennulat1, T. Sellars1, T. Lambert2, S. Beushausen3, E. Harpur1, M. Guffroy1 and D. Bree3. Pfizer, Sandwich, United Kingdom and DSRD, Pfizer Inc., Cambridge, MA.
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<th>Abstract #</th>
<th>Poster Board Number .....................................</th>
<th>Abstract #</th>
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<tr>
<td>#1443</td>
<td>INITIAL BIOLOGICAL QUALIFICATION OF SBDP-145 IN CEREBROSPINAL FLUID AS A BIOMARKER OF COMPOUND-INDUCED NEURODEGENERATION IN THE RAT. M. L. Print1, W. H. Jordan1, D. G. Hall1, D. W. Ballard1, U. W. Muller1, K. W. Wang1 and D. E. Watson1. 1Lilly Research Laboratories, Eli Lilly and Company, Indianapolis, IN, 2VeitPath Services, Mason, OH and 3Banyan Biomarkers, Alachua, FL.</td>
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<td>#1444</td>
<td>PET IMAGING OF TRANSLATOR PROTEIN 18 kDa (TSPO) REVEALS DELAYED NEUROINFLAMMATION COINCIDENT WITH PERSISTENT BEHAVIORAL DEFICITS IN RATS ACUTELY INTOXICATED WITH DFP. D. A. Braun1, D. Rowland1, Y. Li1, B. Ford1 and P. Lenz1. 1Molecular Biosciences, University of California, Davis, CA, 2Center for Molecular and Genomic Imaging, University of California, Davis, CA and 3Anatomy and Neurobiology, Neuroscience Institute, Morehouse School of Medicine, Atlanta, GA.</td>
<td>#1449</td>
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<td>#1446</td>
<td>GENOMICS AND PROTEOMICS ANALYSIS IDENTIFIED THE PROTEINS ASSOCIATED WITH ADIPOCYTE LIPOLYSIS AS A KEY REGULATOR FOR THE PATHOGENESIS OR PROGRESSION OF METABOLIC SYNDROME. J. Chang1, S. Okawa1, C. Ando2, K. Kuzuya1, G. Ichihara1 and S. Ichihara1. 1Life Science Research Center, Mie University, Tsu, Japan, 2Graduate School of Regional Innovation Studies, Mie University, Tsu, Japan, 3Nagoya University Graduate School of Medicine, Nagoya, Japan and 4Department of Environmental and Molecular Medicine, Mie University Graduate School of Medicine, Tsu, Japan.</td>
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<td>#1447</td>
<td>USE OF A QUANTITATIVE IMMUNOHISTOCHEMICAL METHOD FOR DIAGNOSING PHOSPHOLIPIDOSIS. K. A. Haskins1, S. Stewart1, D. Mans2, J. Zhang1, D. Peters1, T. Colatsky1 and K. L. Thompson1. 1Division of Applied Pharmacology Research, CDER, U.S. FDA, Silver Spring, MD and 2Division of Pharmaceutical Analysis, CDER, U.S. FDA, St. Louis, MO.</td>
<td>#1452</td>
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Program Description (Continued)

Abstract #
Tuesday Afternoon, March 8
1:00 PM to 4:30 PM
Exhibit Hall
Poster Session: Nanotoxicology

Chairperson(s): Laura Braydich-Stolle, AFRL/RHPB, Dayton, OH.
Displayed: 1:00 PM–4:30 PM
Chairperson(s): Poster Session: Nanotoxicology
Exhibit Hall
1:00 PM to 4:30 PM
Tuesday Afternoon, March 8
Abstract # Abstract #
Program Description (Continued)

Funk5 and Ramirez-Lee1, S. E. Jimenez-Badillo1, H. Rosas-
Virginia University, Morgantown, WV, 4Center of Montana, Missoula, MT and 5Experimental
Wang2,3, J. A. Price3, R. D. Queessenbury1 and B. D. Thrail1. 3Mechanical and Aerospace Engineering, West Virginia University, Morgantown, WV, 4Center for Environmental Health Sciences, University of Montana, Missoula, MT and 5Experimental Pathology Laboratories, Inc., Sterling, VA.

#1453
Poster Board Number .................................#1454
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Poster Board Number .................................#1456
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Poster Board Number .................................#1460
Poster Board Number .................................#1461
Poster Board Number .................................#1462
Poster Board Number .................................#1463

#1463
GLOBAL GENE PROFILING REVEALS DOSE AND TIME PROGRESSION OF KEY BIOLOGICAL RESPONSES OF LUNG EPITHELIAL CELLS TO NANOSCALE AMORPHOUS SILICA IN VITRO. N. J. Karin1, K. M. Waters1, J. G. Teegaarden1, W. Wang1, J. A. Price2, R. D. Queessenbury1 and B. D. Thrail1. 3Pacific Northwest National Laboratory, Richland, WA, 3Oak Ridge National Laboratory, Oak Ridge, TN and 4Battle Center for Fundamental and Applied Systems Toxicology, Columbus, OH.

#1462
EFFECT OF SILVER NANOPARTICLES ON NITRIC OXIDE RELEASE IN THE RAT TRACHEA SMOOTH MUSCLE. C. Gonzalez1, S. Salazar-Garcia1, P. P. Martinez-Cuevas1, A. Ramirez-Lee1, S. E. Jimenez-Badillo1, H. Rosas-Hernandez1 and S. F. Ali2. 1Faculty of Chemistry, Autonomous University of San Luis Potosi, San Luis Potosi, SLP, Mexico and 2Neurochem Lab, Division of Neurotoxicology, NCTR/U.S. FDA, Jefferson, AR.

#1461
INFLUENCE OF THE AGGLOMERATION STATE ON IN VIVO PULMONARY INFLAMMATION AND CYTOTOXICITY OF INHALED NANO-AEROSOLS OF TiO2. A. Noel1, K. Maghni1, Y. Cloutier3, C. Dion1, R. Tardif1 and G. Truchon1. Environmental and Occupational Health, University of Montréal, Montréal, QC, Canada, 2University of Montréal, Montréal, QC, Canada and 3Institut de Recherche Robert-Sauvé en Santé et en Sécurité du Travail, Montréal, QC, Canada.

#1460
EFFECT OF ENGINEERED TITANIUM DIOXIDE NANOPARTICLE SHAPE ON TOXICITY IN VIVO. D. W. Porter1,2, M. G. Wolfarth1, N. Wu1, A. Holian1, A. Hubbs1, K. A. Funk1 and V. Castranova1,2. 1HELD/PPRB, NIOSH, Morgantown, WV, 2Physiology and Pharmacology, West Virginia University, Morgantown, WV.

#1459
BIOCHEMICAL MODULATION OF COPPER NANOPARTICLE UPTAKE DIMINISHES CYTOTOXICITY. J. B. Lin, A. Schrand and S. M. Hussain. Applied Biotechnology, AFRL/RHPB, Wright-Patterson AFB, OH.

#1458
PULMONARY TOXICITY OF AMORPHOUS SILICA NANOMATERIAL: A COMPARISON OF INHALATION AND INSTILLATION STUDIES. L. Ma-Hock1, M. Wiemann1, S. Brill1, W. Wohlleben1, V. Strauss2, S. Treumann1, B. van Ravenzwaay3 and R. Landsiedel4. 1Experimental Toxicology and Ecology, BASF SE, Ludwigshafen am Rhein, Germany, 2be, Marl, Germany and 3Polymer Physics, BASF SE, Ludwigshafen am Rhein, Germany.

#1457
GLOBAL GENE PROFILING REVEALS DOSE AND TIME PROGRESSION OF KEY BIOLOGICAL RESPONSES OF LUNG EPITHELIAL CELLS TO NANOSCALE AMORPHOUS SILICA IN VITRO. N. J. Karin1, K. M. Waters1, J. G. Teegaarden1, W. Wang1, J. A. Price2, R. D. Queessenbury1 and B. D. Thrail1. 3Pacific Northwest National Laboratory, Richland, WA, 3Oak Ridge National Laboratory, Oak Ridge, TN and 4Battle Center for Fundamental and Applied Systems Toxicology, Columbus, OH.

#1456
PULMONARY TOXICITY OF BIODIESEL PARTICULATE MATTER. A. A. Shvedova1, E. Kissin1, A. R. Murray1, A. Tschil1, D. Schwegler-Berry1, S. H. Young1, V. E. Kogant1 and A. D. Bugarski1. 1PPRB, NIOSH, Morgantown, WV, 2Department of Environmental and Occupational Health, University of Pittsburgh, Pittsburgh, PA and 3OMSHR, NIOSH, Pittsburgh, PA.

#1455
PULMONARY TOXICITY OF BIODIESEL PARTICULATE MATTER. A. A. Shvedova1, E. Kissin1, A. R. Murray1, A. Tschil1, D. Schwegler-Berry1, S. H. Young1, V. E. Kogant1 and A. D. Bugarski1. 1PPRB, NIOSH, Morgantown, WV, 2Department of Environmental and Occupational Health, University of Pittsburgh, Pittsburgh, PA and 3OMSHR, NIOSH, Pittsburgh, PA.

#1454
NANOPARTICLE INHALATION ENHANCES CARDIAC PROTEIN PHOSPHORYLATION AND NEUROTRANSMITTER SYNTHESIS IN THE NODOSE GANGLIA OF RATS. H. Kan1, Z. Wu2, S. Young3, T. B. Chen1, J. L. Cumpton1, F. Chen1 and V. Castranova1. 1HELD/PPRB, NIOSH, Morgantown, WV and 2Department of Neurobiology and Anatomy, West Virginia University, Morgantown, WV.

#1453
PHOTO-ACTIVATION OF MULTISIZED TITANIUM DIOXIDE NANOPARTICLES (TiO2 NPS) RESULTS IN DIFFERENT ROS PRODUCTION AND OXIDATIVE TOXICITY PROFILES IN ZEBRAFISH EMBRYOS. O. Bar-Ilan1,2, K. H. Chad1, T. Pedersen2, R. Hamers1, R. E. Peterson1 and W. Heideman2,1. 1Division of Pharmaceutical Sciences, University of Wisconsin, Madison, WI and 2NSEC, University of Wisconsin, Madison, WI.

#1452
ALLERGIC AIRWAY DISEASE IN MICE. J. B. Lin, A. Schrand and S. M. Hussain. Applied Biotechnology, AFRL/RHPB, Wright-Patterson AFB, OH.

#1451
DISTRIBUTION, ELIMINATION, AND BIOPERSISTENCE TO 90 DAYS OF A SYSTEMATICALLY-INTRODUCED 30 NM CERIA ENGINEERED NANOMATERIAL IN RATS. R. A. Yokel1, T. C. Au1, M. Dus1, R. L. Florence1, J. M. Urine1, R. C. MacPhail1, M. T. Tseng1, D. Butterfield2, S. S. Hardas3, R. Sultana4, U. M. Graham2, P. Wu2 and E. A. Grulke2. 1Pharmaceutical Sciences, University of Kentucky, Lexington, KY, 2University of Kentucky, Lexington, KY, 3University of Louisville, Louisville, KY and 4U.S. EPA, Research Triangle Park, NC.

#1450
PULMONARY TOXICITY OF AMORPHOUS SILICA NANOMATERIAL: A COMPARISON OF INHALATION AND INSTILLATION STUDIES. L. Ma-Hock1, M. Wiemann1, S. Brill1, W. Wohlleben1, V. Strauss2, S. Treumann1, B. van Ravenzwaay3 and R. Landsiedel4. 1Experimental Toxicology and Ecology, BASF SE, Ludwigshafen am Rhein, Germany, 2be, Marl, Germany and 3Polymer Physics, BASF SE, Ludwigshafen am Rhein, Germany.


DEVELOPMENT OF NANO-AEROSOL GENERATION TEST PLATFORM FOR INHALATION TOXICOLOGY STUDIES. V. B. Mikhnev, W. S. Fosythe, B. N. Swita, K. R. Minardi and W. Wei. Battelle Toxicology Northwest, Richland, WA, 1Pacific Northwest National Laboratory, Richland, WA, 2Oak Ridge National Laboratory, Oak Ridge, TN and 3B-FAST, Battelle Center for Fundamental and Applied Systems Toxicology, Columbus, OH. Sponsor: R. Meng.


SHORT-TERM RAT INHALATION STUDY WITH AEROSOLS GENERATED FROM ACRYLIC ESTER POLYMERS WITH A SENSITIVITY METER. K. Wiench, L. Ma-Hock, V. Strauss, S. Gertrud, B. van Ravenzwaay and R. Landsiedel. 1Product Safety, BASF SE, Ludwigshafen, Germany, 2Experimental Toxicology and Ecology, BASF SE, Ludwigshafen, Germany and 3Dispersions, for Adhesives & Construction Europe, BASF SE, Ludwigshafen, Germany.

GENOTOXIC EFFECTS OF NANOMATERIALS IN LUNG TISSUE IN VITRO AND IN VIVO. M. Schule, K. Wiench, K. Chodakowski, A. Hartwig, S. Brill, L. Ma-Hock, B. van Ravenzwaay and R. Landsiedel. 1Product Safety, BASF SE, Ludwigshafen, Germany, 2Experimental Toxicology and Ecology, BASF SE, Ludwigshafen, Germany and 3Food Chemistry and Toxicology, Technical University Berlin, Berlin, Germany.
Abstract #  
#1477  
**Poster Board Number** .....................................425  
**NANOPARTICLE TOXICITY ON AIRWAY EPITHELIAL CELLS**.  
M. M. McCorkell1,2 and S. Boitano1,2.  
1Biomedical Engineering, University of Arizona, Tucson, AZ, 2Arizona Respiratory Center, Arizona Health Sciences Center, Tucson, AZ and 3Physics, University of Arizona, Tucson, AZ.  
Sponsor: R. L. Lantz.

Abstract #  
#1478  
**Poster Board Number** .....................................426  
**TRANSPORT MECHANISM OF NANOPARTICLE INTO THE BRAIN**.  
B. Choi, D. Kim and J. Park.  
Preventive Medicine, Chung-Ang University, Seoul, Republic of Korea.

Abstract #  
#1479  
**Poster Board Number** .....................................427  
**EMBRYONIC GENE EXPRESSION IS IMPACTED BY SURFACE FUNCTIONALITIES OF GOLD NANOPARTICLES**.  
L. Truong1,2, T. Zaikova1,3, J. Miller1,2, J. Hutchison1,2 and R. Tanguay1,3.  
1Environmental & Molecular Toxicology, Oregon State University, Corvallis, OR, 2The Oregon Nanoscience and Microtechnologies Institute and the Safer Nanomaterials and Nanomanufacturing Initiative, Eugene, OR and 3Chemistry, University of Oregon, Eugene, OR.

Abstract #  
#1480  
**Poster Board Number** .....................................428  
**DISPERSBILITY CONTROL AFFECTS THE RESULT OF CYTOTOXICITY TEST FOR NANOMATERIAL**.  
H. Yang1, K. Lee1, C. Lee2, K. Cho1, C. Kim1 and C. Song1.  
1Korea Institute of Toxicology, Jeongyou, Republic of Korea and 2Batelle Korea, Seoul, Republic of Korea.

Abstract #  
#1481  
**Poster Board Number** .....................................429  
**SILICA NANOPARTICLES CAUSE GENOTOXIC ACTIVITY IN THE IN VIVO COMET AND MICRONECULUS ASSAYS WHILE GOLD OR POLYSTYRENE NANOMATERIALS DO NOT**.  
Central Product Safety, Procter & Gamble, Cincinnati, OH.

Abstract #  
#1482  
**Poster Board Number** .....................................430  
**USE OF MICROCOSMS TO EVALUATE FATE AND EFFECTS OF NANOMATERIALS IN AQUATIC SYSTEMS**.  
D. S. Barber, J. Gao, L. C. Smith and K. W. Powers.  
University of Florida, Gainesville, FL.

Abstract #  
#1483  
**Poster Board Number** .....................................431  
**IMPACT OF DISSOLVED ORGANIC MATTER ON THE TOXICITY OF TITANIUM DIOXIDE NANOPARTICLES IN ZEBRAFISH EMBRYOS**.  
S. Yang1, O. Bar-Ilan1, K. M. Louis1, R. E. Peterson2, W. Heideman2, R. J. Hamers2 and J. A. Pedersen1.  
1Molecular and Environmental Toxicology, University of Wisconsin Madison, Madison, WI, 2School of Pharmacy, University of Wisconsin Madison, Madison, WI and 3Department of Chemistry, University of Wisconsin Madison, Madison, WI.

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**Program Description (Continued)**

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Abstract #  
#1484  
**Poster Board Number** .....................................432  
**NANOTOXICOLOGY AND NANOHEALTH BIBLIOGRAPHY FROM 2000 TO 2009**.  
W. Waissman1,2, M. M. Alencar1, M. Moura1, A. B. Veggi1, T. Pastorelo1 and R. B. Santana1.  
1Sergio Arouca National School of Public Health, Oswaldo Cruz Foundation, Rio de Janeiro, Brazil and 2Institute of Scientific and Technological Communication and Information in Health, Oswaldo Cruz Foundation, Rio de Janeiro, Brazil.  
Sponsor: E. Silbergeld.

Abstract #  
#1485  
**Poster Board Number** .....................................433  
**DISRUPTION OF MUSCARINIC RECEPTOR MEDIATED SIGNAL TRANSDUCTION BY OXIDATIVE STRESS**.  
C. Wu, J. Erickson, H. Wang, Y. Huang1 and R. S. Arousam.  
Biological Sciences, Missouri University of Science and Technology, Rolla, MO.

Abstract #  
#1486  
**Poster Board Number** .....................................434  
**SYSTEMATIC EVALUATION OF THE TOXICITY OF CARBON-COATED AND NON-COATED COPPER AND NICKEL NANOPARTICLES**.  
S. Minehama, A. Sarangi, A. Tropsha and R. J. Mumper.  
University of North Carolina Eshelman School of Pharmacy, Chapel Hill, NC.  
Sponsor: A. Ghio.

Abstract #  
#1487  
**Poster Board Number** .....................................435  
**THE OCCUPATIONAL HEALTH SURVEY NUMBER IN THE FACTORY HANDLING NANO-TITANIUM DIOXIDE**.  
H. Li1, T. Kobayashi2, S. Omura3, Y. Hiraku1, X. Ding2 and G. Ichihara3.  
1Life Science Research Center, Mie University, Tsu, Japan, 2Shanghai Institute of Planned Parenthood Research, Shanghai, China, 3Tokyo Institute of Technology, Yokohama, Japan.

Abstract #  
#1488  
**Poster Board Number** .....................................436  
**QUANTITATIVE PROTEOMICS ANALYSIS OF ADSORBED PLASMA PROTEINS CLASSIFIES NANOPARTICLES WITH DIFFERENT SURFACE PROPERTIES AND SIZE**.  
Biological Sciences Division, Pacific Northwest National Laboratory, Richland, WA.

Abstract #  
#1489  
**Poster Board Number** .....................................437  
**EFFECTS OF CERIUM OXIDE NANOPARTICLES ON GLYCINE MAX GROWN IN HYDROPONICS**.  
A. De La Rosa1, J. R. Peralta1, J. Gardea-Torresdey1 and J. Terry2.  
1Chemistry, University of Texas at El Paso, El Paso, TX and 2Physics, Illinois Institute of Technology, Chicago, IL.

Abstract #  
#1490  
**Poster Board Number** .....................................438  
**EFFECTS OF 12-WEEK-INHALATION EXPOSURE TO ETHYL TERT-BUTYL ETHER (ETBE) ON BEHAVIOR AND BRAIN IN C57BL/6J AND ALDH2(-/-) MICE**.  
JNIOSH, Kawasaki, Kanagawa, Japan.  
Sponsor: C. Tofiyama.
#1491 Poster Board Number .....................................439
OXIDATIVE STRESS ASSOCIATED WITH ULTRAFINE MODEL PARTICLE SYSTEMS CONTAINING CHEMISORBED ENVIRONMENTALLY PERSISTENT FREE RADICALS. M. A. Kelley1, V. Y. Hebert1, S. A. Cormier1, B. Dellingers2, S. Lomnicki1 and T. R. Dugan1. 1Pharmacology, Toxicology, and Neuroscience, Louisiana State University Health Sciences Center, Shreveport, LA, 2Pharmacology & Experimental Therapeutics, Louisiana State University Health Sciences Center, New Orleans, LA and 3Chemistry, Louisiana State University, Baton Rouge, LA.

#1492 Poster Board Number .....................................440

#1493 Poster Board Number .....................................441
IN VITRO VASCULAR TOXICITY OF METAL OXIDE NANOPARTICLES. M. Odegaard and K. Dreher. Environmental Public Health Division, U.S. EPA, Research Triangle Park, NC.

#1494 Poster Board Number .....................................442
ACUTE PHASE PROTEINS AS BIOMARKERS FOR PREDICTING THE EXPOSURE AND SAFETY OF NANOMATERIALS. Y. Yoshioka1,2,3, K. Higashisaka1, K. Yamashita1,2, M. Fujimura1, Y. Morishita1,2, P. Huiyan1, T. Ogura1, H. Nabeshi1,3, K. Nagano1, Y. Abe2, H. Kamada1,2, S. Tsunoda1,2, N. Itoh1, T. Yoshikawa1,2, Y. Tsutsumi1,2,3. 1Department of Toxicology and Safety Science, Graduate School of Pharmaceutical Sciences, Osaka University, Osaka, Japan, 2The Center for Advanced Medical Engineering and Informatics, Osaka University, Osaka, Japan, 3Laboratory of Biopharmaceutical Research, National Institute of Biomedical Innovation, Osaka, Japan and 4Department of Biomedical Innovation, Graduate School of Pharmaceutical Sciences, Osaka University, Osaka, Japan.

#1495 Poster Board Number .....................................443
TOLL-LIKE RECEPTOR 4 IS INVOLVED IN THE CEREBROVASCULAR TOXICITY OF PCB153 BOUND TO NANOPARTICLES. B. Zhang1,2, L. Chen3, B. Henning1, and M. Toborek2,3. 1Graduate Center for Nutritional Sciences, University of Kentucky, Lexington, KY, 2Department of Neurosurgery, University of Kentucky, Lexington, KY and 3College of Agriculture, University of Kentucky, Lexington, KY.

#1496 Poster Board Number .....................................444
ASSESSMENT OF PULMONARY TOXICITY IN MICE AFTER INHALATION EXPOSURE TO ZINC OXIDE. A. Adamakova-Dodd1, J. Kim1, S. U. Vorrink1, L. V. Stobousova2, P. T. O’Shaughnessy1, V. Y. Grassian1,2 and P. S. Thorne1,2. 1Occupational and Environmental Health, University of Iowa, Iowa City, IA, 2Interdisciplinary Graduate Program in Human Toxicology, University of Iowa, Iowa City, IA and 3Chemistry, University of Iowa, Iowa City, IA.

#1497 Poster Board Number .....................................501

#1498 Poster Board Number .....................................502
HLA-SPECIFIC T-CELL ACTIVATION AS AN UNDERLYING CAUSE OF DRUG-INDUCED HYPERSENSITIVITY. J. M. Goodwin1, T. Kawabata2 and M. T. Fletcher3. 1Compound Safety Prediction, Pfizer, Groton, CT and 2Immunotoxicology CoE, Pfizer, Groton, CT.

#1499 Poster Board Number .....................................503
EARLY CHANGES IN AROMATIC AMINE-INDUCED IDIOSYNCRATIC DRUG REACTIONS. W. Ng and J. Uetrecht. Pharmacy, University of Toronto, Toronto, ON, Canada.

#1500 Poster Board Number .....................................504

#1501 Poster Board Number .....................................505
EFFECT OF RETINOIC ACID ON NEVIRAPINE-INDUCED SKIN RASH AND THE INVOLVEMENT OF TH17 CELLS. X. Chen and J. P. Uetrecht. Faculty of Pharmacy, University of Toronto, Toronto, ON, Canada.

#1502 Poster Board Number .....................................506

Covalent Binding of Nevirapine in Vitro and in Vivo. A. Sharma and J. Uetrecht, Pharmaceutical Sciences, University of Toronto, Toronto, ON, Canada.

Dangers Signals in Nevirapine-Induced Skin Rash. X. Zhang and J. Uetrecht, Pharmaceutical Sciences, University of Toronto, Toronto, ON, Canada.

Involvement of T Helper 17 (Th17) Pathway in D-Penicillamine-Induced Autoimmunity. X. Zhu, J. Li and J. P. Uetrecht, Faculty of Pharmacy, University of Toronto, Toronto, ON, Canada, Faculty of Medicine, University of Toronto, Toronto, ON, Canada and Department of Immunotoxicology, R&D, Drug Safety Evaluation, Bristol-Myers Squibb Company, New Brunswick, NJ.

Indoles Mitigate the Development of Experimental Autoimmune Encephalomyelitis by Activation AHR and ER, Reciprocal Induction of Regulatory T Cells and TH17 Cells, and Induction of Apoptosis. M. Rouse, M. Nagarkatti and P. Nagarkatti, University of South Carolina, Columbia, SC.

TNF Receptor 2 (TNFR2)-Deficient Myelin Oligodendrocyte Glycoprotein (MOG)-Specific T Cell Receptor (TCR) Transgenic Mice Develop Spontaneous Autoimmunity. P. G. Miller, E. N. Sellers, R. S. Schondelmeyer, M. B. Bonn, J. K. Dey, J. A. Cascio, C. Franklin, H. Braley-Mullen, N. H. Ruddle and S. C. McKarnis, Surgery, University of Missouri, Columbia, MO, Molecular Microbiology & Immunology, University of Missouri, Columbia, MO, Biochemistry, University of Missouri, Columbia, MO and Biological Sciences, University of Missouri, Columbia, MO.

Anti-Mesothelial Cell Autoantibodies Associated with Asbestos Exposure and Pleural Disease. L. S. Marchand, J. C. Pfau, S. Sophie and E. A. Putnam, Biological Sciences, Idaho State University, Pocatello, ID, School of Medicine, University of Washington, Seattle, WA and Biomedical & Pharmaceutical Sciences, University of Montana, Missoula, MT.

Involvement of Oxidative Stress in Trichloroethylene-Mediated Autoimmunity: Dose- and Time-Response Study. G. Wang, J. Wang, X. Fan and M. Khan Pathology, University of Texas Medical Branch, Galveston, TX.


B1a Cell Activation by Glutamate. R. Marcum and J. C. Pfau, Biological Sciences, Idaho State University, Pocatello, ID.

Sex Hormones Determine Whether IL-33 Protects or Exacerbates Autoimmune Heart Disease. M. Coronado, D. Bedja, A. Bucek, K. Gabrielson and D. Fairweather, Johns Hopkins University, Baltimore, MD.

Program Description (Continued)

Abstract #

Tuesday Afternoon, March 8
1:00 PM to 4:30 PM

Exhibit Hall

Poster Session: Risk Assessment and Regulatory Policy Applications

Chairperson(s): Angelina Duggan, Exponent Inc., Philadelphia, PA, and Christopher Teaf, Florida State University, Tallahassee, FL.

Displayed: 1:00 PM–4:30 PM

Author Attended: 1:00 PM–2:45 PM

#1516

Poster Board Number .....................................524

THE USE OF DMELS IN REACH RISK CHARACTERIZATION. R. Roy, L. Milchak, N. Pechacek, J. Walton and R. Skoglund. Medical Department, 3M Company, St. Paul, MN.

#1517

Poster Board Number .....................................525


#1518

Poster Board Number .....................................526


#1519

Poster Board Number .....................................527


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Poster Board Number #1521

USING FEWER ANIMALS TO IDENTIFY CHEMICAL EYE HAZARDS: REVISED CLASSIFICATION CRITERIA NECESSARY TO MAINTAIN EQUIVALENT HAZARD LABELING. W. Stokes, J. Haseman, E. Lipscy, J. Trauc, N. Johnson, B. Jones and D. Allen. NIEATM, NIEHS, Research Triangle Park, NC.

Poster Board Number #1522


Poster Board Number #1523

PRACTICAL IMPLEMENTATION OF THE THRESHOLD OF CONCERN AND NOAEL-TO-LC50 RATIO FACTOR APPROACH TO DETERMINE ACUTE EFFECTS SCREENING LEVELS. T. D. Phillips, S. E. Ethridge and R. L. Grant. Toxicology Division, Texas Commission on Environmental Quality, Austin, TX.

Poster Board Number #1524


Poster Board Number #1525


Poster Board Number #1526

BASED TESTING — REDUCTION AND LABELING. T. D. Phillips, S. E. Ethridge and R. L. Grant. Toxicology Division, Texas Commission on Environmental Quality, Austin, TX.

Poster Board Number #1527

TO MAINTAIN EQUIVALENT HAZARD CLASSIFICATION CRITERIA NECESSARY TO MAINTAIN EQUIVALENT HAZARD LABELING. W. Stokes, J. Haseman, E. Lipscy, J. Trauc, N. Johnson, B. Jones and D. Allen. NIEATM, NIEHS, Research Triangle Park, NC.

Poster Board Number #1528

CHEMICAL EYE HAZARDS: REVISED CLASSIFICATION CRITERIA NECESSARY TO MAINTAIN EQUIVALENT HAZARD LABELING. W. Stokes, J. Haseman, E. Lipscy, J. Trauc, N. Johnson, B. Jones and D. Allen. NIEATM, NIEHS, Research Triangle Park, NC.

Poster Board Number #1529


Poster Board Number #1530


Poster Board Number #1531


Poster Board Number #1532

BASED TESTING — REDUCTION AND LABELING. T. D. Phillips, S. E. Ethridge and R. L. Grant. Toxicology Division, Texas Commission on Environmental Quality, Austin, TX.

Poster Board Number #1533

TO MAINTAIN EQUIVALENT HAZARD CLASSIFICATION CRITERIA NECESSARY TO MAINTAIN EQUIVALENT HAZARD LABELING. W. Stokes, J. Haseman, E. Lipscy, J. Trauc, N. Johnson, B. Jones and D. Allen. NIEATM, NIEHS, Research Triangle Park, NC.

Poster Board Number #1534

CHEMICAL EYE HAZARDS: REVISED CLASSIFICATION CRITERIA NECESSARY TO MAINTAIN EQUIVALENT HAZARD LABELING. W. Stokes, J. Haseman, E. Lipscy, J. Trauc, N. Johnson, B. Jones and D. Allen. NIEATM, NIEHS, Research Triangle Park, NC.

Poster Board Number #1535


Poster Board Number #1536


Poster Board Number #1537

BASED TESTING — REDUCTION AND LABELING. T. D. Phillips, S. E. Ethridge and R. L. Grant. Toxicology Division, Texas Commission on Environmental Quality, Austin, TX.

Poster Board Number #1538

TO MAINTAIN EQUIVALENT HAZARD CLASSIFICATION CRITERIA NECESSARY TO MAINTAIN EQUIVALENT HAZARD LABELING. W. Stokes, J. Haseman, E. Lipscy, J. Trauc, N. Johnson, B. Jones and D. Allen. NIEATM, NIEHS, Research Triangle Park, NC.

Poster Board Number #1539

CHEMICAL EYE HAZARDS: REVISED CLASSIFICATION CRITERIA NECESSARY TO MAINTAIN EQUIVALENT HAZARD LABELING. W. Stokes, J. Haseman, E. Lipscy, J. Trauc, N. Johnson, B. Jones and D. Allen. NIEATM, NIEHS, Research Triangle Park, NC.
# Abstract 

## #1527 Options for Increased Regulatory Oversight of Cosmetics in the U.S. N. Beck, K. Sullivan, and C. Willer. Physicians Committee for Responsible Medicine, Washington, D.C. and People for the Ethical Treatment of Animals, Norfolk, VA.


## #1529 Development of a Health Risk-Based Surface Contamination Clean-Up Standard for Occupational Exposure to Beryllium. P. Damian, SCS Engineers, West Sacramento, CA.


## #1531 Risk Assessment for Ethyl Tertiary-Butyl Ether (ETBE) to Determine Acceptable Drinking Water Levels. V. S. Bhat, G. L. Ball and C. J. McLellan. NSF International, Ann Arbor, MI.


Program Description (Continued)

Abstract #  
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#1544  
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INITIAL TOXICOLOGIC CHARACTERIZATION OF TRIAMINOQUINONIUM-1-METHYL-5-NITRIMINOTETRAZOLATE (TAG-MNT) IN FEMALE RATS AND IN VITRO ASSAYS. L. R. Williams, C. J. Cao, E. LaFiandra, L. C. Crouse, M. A. Bazar, W. S. Eck and M. S. Johnson. Directorate of Toxicology Health Effects; Research Program (MCHB-TS-THE), U.S. Army Public Health Command (Provisional), Aberdeen Proving Ground, MD.

#1545  
Poster Board Number .....................................605  
HUMAN HEALTH RISKS FROM EXPOSURE TO 1, 4-BUTANEDIOL IN CRAFT KIT BEADS. R. Mattuck, M. Seeley, K. R. Reid and J. E. Goodman. Graduate, Cambridge, MA.

#1546  
Poster Board Number .....................................606  

#1547  
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HEPATOTUMORIGENICITY OF ETHYL TERTIARY-BUTYL ETHER (ETBE) BY INHALATION EXPOSURE BUT NOT ORAL ADMINISTRATION IN F344 RATS. K. Nagano1, T. Nishizawa1, K. Yamazaki1, T. Noguchi1, A. Hagihara1, F. Nishimaki2, S. Iida1, K. Komiyama2 and S. Fukushima1. 1Japan Bioassay Research Center, Japan Industrial Safety and Health Association, Kanagawa, Japan, 2DIM Institute of Medical Science, Nagoya, Japan and 3Japan Petroleum Energy Institute, Tokyo, Japan.

#1548  
Poster Board Number .....................................608  

#1549  
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ACUTE ORAL TOXICITY STUDIES OF A NEW PESTICIDE-AMS18 IN MICE. J. Zhang, Y. Pang and S. Brinmoin. Molecular Pharmacology and Experimental Therapeutics, Mayo Clinic, Rochester, MN.

#1550  
Poster Board Number .....................................610  
SKIN BIOCOMPATIBILITY TESTING OF A POLYSIOPIRE ESTAMOSTER. N. Peichacek, T. Brunshide and L. Eichinger. 3M, St. Paul, MN.

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TOXICITY OF SMALL 50CC ENGINE EMISSIONS ON ORGANOTYPIC CULTURES OF RAT LUNG TISSUE: 2-STROKE, 4-STROKE ENGINES, AND LUBE OIL (LO) QUALITY IMPACTS. J. Morin1, D. Preterre2, V. Keravec3, C. Montef1 and F. Dinnere. 1U644, INSERM - School of Medicine Pharmacy, Rouen, France and 2Certam, Saint Etienne du Rouvray, France. Sponsor: R. Forster.

#1556  
Poster Board Number .....................................616  
HISTORY OF SAFE USE OF CYRIC PROTEIN. R. Ranjan1 and C. Herouet-Guichenezy1. 1Regulatory Toxicology, BayerCrop Science LP, Durham, NC and 2Regulatory Toxicology, Bayer SAS, BayerCropScience, Sophia Antipolis, France.

#1557  
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Program Description (Continued)

Poster Board Number..............................621

Poster Board Number..............................622
REPRODUCIBILITY OF METABOLOMICS PERFORMED IN PLASMA SAMPLES OF 28 DAY RAT SYSTEMIC TOXICITY STUDIES. H. G. Kampf, E. Fabian1, M. Herold1, M. Kopp1, G. Krennrich1, R. Looser2, W. Melling1, A. Prokoudine1, V. Strauss1, T. Walk2, J. Wiemer1 and B. van Ravenzwaay1. Experimental Toxicology and Ecology, BASF SE, Ludwigshafen, Germany, Computational Chemistry, BASF SE, Ludwigshafen, Germany and Metanomics GmbH, Berlin, Germany. Sponsor: C. Shelp.

Poster Board Number..............................623
OPPORTUNITIES TO MINIMISE ANIMAL USE IN REGULATORY TOXICOLOGY: A CROSS-COMPANY REVIEW. S. Sparrow1, S. Robinson2, C. Bruce1, A. Danks1, D. Everett1, R. Hill1, H. Palmer2 and K. Chapman1. GlaxoSmithKline, Ware, United Kingdom, AstraZeneca, Macclesfield, Cheshire, United Kingdom, Pfizer, Sandwich, Kent, United Kingdom, Charles River, Tranent, Scotland, United Kingdom, Covance Laboratories, Harrogate, United Kingdom, Sequani, Ledbury, United Kingdom, HLS, Huntington, United Kingdom and NC3Rs, London, United Kingdom.

Poster Board Number..............................624
THE LIMITED VALUE OF ACUTE TOXICITY TESTS IN SAFETY ASSESSMENT. S. Robinson1, S. Creton2 and K. Chapman2. AstraZeneca, Macclesfield, Cheshire, United Kingdom and NC3Rs, London, United Kingdom.

Poster Board Number..............................625

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Poster Board Number..............................627
ENVIRONMENTAL PREDICTORS OF U.S. COUNTY MORTALITY PATTERNS ON A NATIONAL BASIS. M. P. Chun1, R. S. Weinhold2, R. Thomas1, J. M. Gohte3 and C. J. Portier4. NIEHS, Research Triangle Park, NC, Independent Researcher & Journalist, Colorado City, Co., School of Public Health, University of California, Berkeley, CA, School of Public Health, University of Alabama at Birmingham, Birmingham, AL, and NCEH & ATSDR, CDC, Atlanta, GA.

Poster Board Number..............................628

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Poster Board Number..............................630
TOXICITY OF PARTICULATE MATTER FROM AFGHANISTAN AND IRAQ IN A TWO-WEEK INHALATION STUDY IN RATS. B. A. Wong1, K. C. Roberts1, C. U. Parkinsson2, V. P. Mokashi1 and P. A. Ortiz1. Naval Medical Research Unit – Dayton, Wright-Patterson AFB, OH and The Hamner Institutes for Health Sciences, Research Triangle Park, NC.

Poster Board Number..............................631
TOXICITY OF EXCITATORY AMINO ACIDS IN RED ALGAE FOR PARASITIC COPEPODES OF CULTURED PUFFERFISH. K. Yasui1 and M. Asakawa2. Graduate School of Biosphere Science, Hiroshima University, Hiroshima Prefecture, Japan and Graduate School of Biosphere Science, Hiroshima University, Higashi-Hiroshima, Hiroshima Prefecture, Japan.
Program Description (Continued)

Abstract #  Poster Board Number .....................................632  #1572
#1572 RESULTS OF A ONE-YEAR FISH CONSUMPTION SURVEY IN ALABAMA. E. S. Ebert1, N. Wilson2, M. Wacksman3, A. Fowler4, J. Schell1 and J. Loper5. 1ARCADIS, Portland, ME, 2ARCADIS, Brighton, MI, 3ARCADIS, Beverly, MA, 4Entrix, Houston, TX and 5The Loper Group, Seabrook, TX.

#1573 Poster Board Number .....................................633  #1573 ANALYSIS OF TOP 10 VOLATILE ORGANIC COMPOUNDS (VOCs) TO EVALUATE THE INDOOR AIR QUALITY WHICH MAY CAUSE SICK BUILDING SYNDROME. M. Hanazato1,2, E. Todaka3, H. Nakaoka4 and C. Mori5,6,7. 1Center for Preventive Medical Science, Chiba University, Chiba, Japan, 2Department of Architecture, Graduate School of Engineering, Chiba University, Chiba, Japan, 3Center for Environment, Health and Field Sciences, Chiba University, Kashiwa, Japan and 7Department of Bioenvironmental Medicine, Graduate School of Medicine, Chiba University, Chiba, Japan.

#1574 Poster Board Number .....................................634  #1574 EFFECT OF FEED RESTRICTION ON ROUTINE TOXICITY PARAMETERS IN WISTAR RATS. S. Jana, R. Nirogi, M. A. Mulla, S. Pandey, V. Goyal, A. Gothi, R. Vedamurthy and R. Mishra. Toxicology, Suven Life Sciences Limited, Hyderabad, Andhra Pradesh, India. Sponsor: V. Reddy.

#1575 Poster Board Number .....................................635  #1575 ACUTE NEUROBEHAVIORAL EFFECTS OF INHALATION EXPOSURE TO ETHYL ACETATE—A PILOT STUDY IN HUMAN VOLUNTEERS USING EVENT-RELATED POTENTIALS. S. A. Juran1, S. Kleinbeck2, M. Schaper3, G. Johanson4 and C. van Thriel1. 1Work Environment Toxicology, Karolinska Institutet, Stockholm, Sweden and 2Unit for Neurobehavioral Toxicology and Chemosensation, Leibniz Research Centre for Working Environment and Human Factors (IfADo), Dortmund, Germany.

#1576 Poster Board Number .....................................636  #1576 CASE STUDY: RISK ASSESSMENT WITH A MULTI-KINASE INHIBITOR WITH ONCOLOGICAL INDICATION. M. Brughera, R. Pulci, P. Colombo and A. Giusti. Preclinical Development, Accelera Srl, Nerviano - Milano, Italy.

#1577 Poster Board Number .....................................637  #1577 AN IN VITRO MODEL SYSTEM FOR ASSESSING THE EFFECTS OF OIL DISPERGERS IN HUMAN HEPATOCYTES. O. Bandele, M. Santillo and P. Wiesenfeld. Toxicology, Office of Applied Research and Safety Assessment, Center for Food Safety and Applied Nutrition, U.S. FDA, Laurel, MD.

#1578 Poster Board Number .....................................638  #1578 CHARACTERIZATION OF IONIC LIQUID COMPOUNDS FOR TOXICOLOGICAL EVALUATION. J. W. Algaier1, C. C. Pearson1, A. D. Ammenhausen1, Q. Lawrence2, J. L. Cookingham3, L. G. Siemann1, R. K. Harris2, B. Jayaram1 and C. S. South2. 1 Midwest Research Institute, Kansas City, MO and 2NIH, NIEHS, Research Triangle Park, NC.

Poster Session: ‘Omics in Toxicology Research
Chairperson(s): Scott Auerbach, NIEHS, Research Triangle Park, NC.

Tuesday Afternoon, March 8
1:00 PM to 4:30 PM
Exhibit Hall

Systems Biology
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<td>#1585</td>
<td>DESCRIPTIVE ‘OMICS OF ACETAMINOPHEN IN HUMANS, M. Jetten1, S. Gai2, A. Ruiz-Aracama3, T. de Kok4, J. van Delft5, S. Claessen6, A. Lommen3, P. A. Peijnenburg2, L. Pellis7, E. van Someren1, R. Sterium8, and J. Kleinjans9. Health Risk Analysis &amp; Toxicology, Maastricht University, Maastricht, Netherlands. Institute of Food Safety, RIKILT, Wageningen, Netherlands. Quality of Life, TNO, Zeist, Netherlands. Sponsor: H. van Loveren.</td>
<td>#1591</td>
<td>TRANSCRIPTIONAL DOSE RESPONSE ANALYSIS IN FEMALE MOUSE AND RAT LUNGS FOLLOWING REPEATED INHALATION EXPOSURE TO 2-CHLORO-1,3-BUTADIENE. M. W. Himmelstein1 and R. S. Thomas2. DuPont Haskell Global Centers, Newark, DE and The Hamner Institutes for Health Sciences, Research Triangle Park, NC.</td>
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<td>#1586</td>
<td>CISPATIN-INDUCED GENOTOXIC STRESS IN PRIMARY MOUSE HEPATOCYTES, MOUSE EMBRYONIC STEM CELLS, AND HEPG2 CELLS. L. Rieswijk1, D. Lizarraga2, K. Brauers1, B. van de Water2, H. Vriezing2, J. van Delft3, and J. Kleinjans2. Health Risk Analysis &amp; Toxicology, Maastricht University, Maastricht, Netherlands. Netherlands Toxicogenomics Centre, Maastricht, Netherlands. Toxicogenetics, LUMC, Leiden, Netherlands. Sponsor: H. van Loveren.</td>
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<tr>
<td>#1587</td>
<td>USING A TRANSCRIPTIONAL GENE SIGNATURE TO PREDICT SERTHROTOXICITY IN VITRO. D. DeSilver1, V. Bonato2, M. Kuhn1, and M. T. Fletcher1. Compound Safety Prediction, Pfizer, Inc., Groton, CT and Biostatistics, Pfizer, Inc., Groton, CT.</td>
<td>#1593</td>
<td>CHARACTERIZATION OF THE HEPATIC TRANSCRIPTOME RESPONSE TO A MIXTURE OF LOW MOLECULAR WEIGHT POLYBROMINATED DIPHENYL ETHERS: DISEASE, SIGNATURE, NETWORK AND PATHWAY ANALYSIS. S. S. Auerbach1, K. R. Shockley2, R. Thomas2, N. J. Machesky2, M. K. Vallant1, C. D. Hebert1, H. C. Cuny3 and J. K. Dunnick4. National Toxicology Program, National Institute of Environmental Health Sciences, Research Triangle Park, NC; Environmental Health Sciences, University of California, Berkeley, CA; Southern Research Institute, Birmingham, AL and Battelle Columbus Operations, Columbus, OH.</td>
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<tr>
<td>#1588</td>
<td>TOXICOGENOMIC COMPARISON OF THE TOXIC EFFECTS OF DIETARY TCDD IN RAINBOW TROUT AND ZEBRAFISH. Q. Liu1, M. L. Rise2, C. A. Struble1, J. M. Spitsbergen3, G. Goetz1, R. J. Hutz1, and M. J. Carvan1. Great Lakes Water Institute, Milwaukee, WI; Biological Sciences, University of Wisconsin Milwaukee, Milwaukee, WI; Ocean Sciences Centre, Memorial University of Newfoundland, St. John’s, NF, Canada; Department of Math, Statistics, and Computer Science, Marquette University, Milwaukee, WI; School of Freshwater Sciences, University of Wisconsin Milwaukee, Milwaukee, WI.</td>
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<td>RETROSPECTIVE GENE EXPRESSION ANALYSIS USING FORMALIN-FIXED TISSUE BLOCKS FROM TOXICOLOGICAL STUDIES. F. v. Landenberg1, P. Hewitt1, O. Mueller2 and C. S. Schmitt3. Merck Serono, Darmstadt, Germany.</td>
<td>#1596</td>
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<td>PERCELLOME TOXICOGNOMICS PROJECT AND ITS APPLICATION TO STUDIES ON ANTICANCER AGENTS. J. Kanno, K. Asakita, K. Igashira and S. Kitajima. Division of Cellular and Molecular Toxicology, National Institute of Health Sciences, Tokyo, Japan. Sponsor: N. Ryoichi.</td>
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#1598

**Poster Board Number:** 716

**Abstract #**

**Title:** NOVEL SHORT TERM PREDICTION SYSTEM FOR CARCINOGENICITY OF CHEMICALS BY HEPATIC TRANSCRIPT PROFILING IN A 28-DAY REPEAT-DOSE TOXICITY STUDY.

**Authors:** F. Saito1, H. Matsumoto1, M. Takeyoshi1, Y. Yakabe2 and T. Shiratani2. 

**Institutes:** Chemicals Assessment and Research Center, Chemicals Evaluation and Research Institute (CERI), Japan, Saitama, Japan and 1Department of Experimental Pathology and Tumor Biology, Nagoya City University Graduate School of Medical Sciences, Nagoya, Japan.

#1599

**Poster Board Number:** 717

**Abstract #**

**Title:** TIME AND CONCENTRATION DEPENDENT REGULATION OF THE TRANSCRIPTOME AND THE PHENOTYPE OF A MOUSE LIVER CELL LINE EXPOSED TO BAP.

**Authors:** D. Jannuzzi Madureira1, J. Michaelson1, A. Beyre1, S. Trump1, I. Lehmanna1 and K. Schirmerra1. 

**Institutes:** 1Swiss Federal Institute of Aquatic Science and Technology, Duebendorf, Switzerland, 2Swiss Federal Institute of Technology Zürich, Switzerland, 3Eawag, Swiss Federal Institute of Aquatic Science and Technology, Duebendorf, Switzerland, 4Institute for Health and Consumer Protection, European Commission - Joint Research Centre, Ispra, Varese, Italy. 

#1600

**Poster Board Number:** 718

**Abstract #**

**Title:** TRANSCRIPTOMICS ANALYSIS OF NANOPARTICLE-CONTAINING HAIR DYES.

**Authors:** D. A. Sarianni1, G. Cimino Reale, E. Maranfante, B. Casati, R. Brustio and A. Collotta.

**Institutes:** Institute for Health and Consumer Protection, European Commission - Joint Research Centre, Ispra, Varese, Italy. 

#1601

**Poster Board Number:** 719

**Abstract #**

**Title:** A TOXICOGENOMIC COMPARISON OF PRIMARY VERSUS PHOTOCHEMICALLY ALTERED AIR POLLUTANTS IN HUMAN LUNG CELLS.

**Authors:** J. E. Rager1, K. G. Sexton1, L. Smecst1, J. Jaspers1, B. Jeffy2, D. A. Jackson2, D. F. Zaluzec2, L. B. Kinter2, J. Milano3, M. N. M. unpublished1, J. D. De Sousa4.

**Institutes:** 1Environmental Sciences and Engineering, Gillings School of Global Public Health, University of North Carolina at Chapel Hill, Chapel Hill, NC and 2Center for Environmental Health Research, Fort Detrick, MD, 3SAS Institute, Cary, NC and 4Environmental Laboratory, U.S. Army Engineer Research and Development Center, Vicksburg, MS.

#1602

**Poster Board Number:** 720

**Abstract #**

**Title:** UNCOVERING TRANSCRIPTIONAL REGULATORS OF KIDNEY INJURY MOLECULE-1 IN CISPLATIN-INDUCED KIDNEY TOXICITY.

**Authors:** M. P. Wagoner, J. Milano, D. Brott, D. Thurman, Y. Drgan, L. B. Kinter and B. Jeffy.

**Institutes:** Safety Assessment U.S., AstraZeneca, Wilmington, DE.

#1603

**Poster Board Number:** 721

**Abstract #**

**Title:** CORRELATION BETWEEN TOXICOGENOMIC PROFILING AND TRADITIONAL SAFETY BIOMARKERS.

**Authors:** T. Wang1, M. Papoutsi2, M. Decristofaro3, M. Keselica1, E. Skubas, R. Spez1, P. Moulin2, F. Pognan1, A. Wolf1 and W. Klouw1.

**Institutes:** 1Translational Sciences, Novartis Institute of Biomedical Research-USA, Emeryville, CA, 2Translational Sciences, Novartis Institute of Biomedical Research-Switzerland, Basel, Switzerland and 3Novartis Institute of Biomedical Research-USA, Easter Hanover, NJ.

#1604

**Poster Board Number:** 722

**Abstract #**

**Title:** MUSCLE IMPLANTED PELLETS OF TUNGSTEN/NICKEL/COBALT, NICKEL, OR TANTALUM: A 12 MONTH STUDY OF METAL MOBILIZATION AND MICROARRAY EXPRESSION.


**Institutes:** 1Directorate of Toxicology, U.S. Army Public Health Command, APG, Aberdeen, MD, 2Department of Chemistry, U.S. Army Center for Environmental Health Research, Fort Detrick, MD, 3SAS Institute, Inc., Cary, NC and 4Environmental Laboratory, U.S. Army Engineer Research and Development Center, Vicksburg, MS.

#1605

**Poster Board Number:** 723

**Abstract #**

**Title:** EXPOSURE TO HEAVY METALS CAUSES DISTINCT CHANGES IN THE GENE EXPRESSION PATTERN OF A RAT LIVER- DERIVED CELL LINE.

**Authors:** M. Pormenterr, J. A. Lewis1 and D. A. Jackson1.

**Institutes:** U.S. Army Center for Environmental Health Research, Fort Detrick, MD and 1Excet, Inc., Fort Detrick, MD.

#1606

**Poster Board Number:** 724

**Abstract #**

**Title:** TRANSCRIPTOMICAL SIGNATURES FOR CHEMICALLY INDUCED HEPATOTOXICITY: IN VIVO PREDICTIVE POWER OF 3D LIVER CO-CULTURE OVER 2D HEPATOTOXICITY.

**Authors:** B. A. Naughton1, R. S. Thomas3, L. New1, C. I. Pearson1, A. H. Roter2 and D. R. Applegate1.

**Institutes:** 1RegeneMed Inc., San Diego, CA, 2Entelos, Inc., Foster City, CA and 3Genomics, The Hamer Institutes for Health Sciences, Research Triangle Park, NC.

Tuesday Afternoon, March 8

1:00 PM to 4:30 PM

Poster Session: Developmental Toxicology

Chairperson(s): Jyotshna Kanungo, U.S. FDA, Jefferson, AR.

Displayed: 1:00 PM–4:30 PM

Author Attended: 2:45 PM–4:30 PM

#1607

**Poster Board Number:** 801

**Abstract #**

**Title:** COMPARISON OF BDE-47 AND ITS HYDROXYLATED ANALOGUES ON THE DEVELOPMENT OF EMBRYONIC ZEBRAFISH.

**Authors:** C. Y. Usenko1 and E. D. Bruce2.

**Institutes:** 1Biology, Baylor University, Waco, TX, 2Biomedical Studies, Baylor University, Waco, TX and 3Department of Environmental Science, Baylor University, Waco, TX.
Program Description (Continued)

Abstract #

#1608

Poster Board Number .....................................802

STUDY OF ANTI-DIABETICS AND LMA BY MMP CHANGES ON HEPG2 CELLS USING LASER SCANNING CYTOMETER AND HYPERCYT-CYAN FLOW CYTOMETER. A. Juan-García1, J. Robinson1, V. Davisson1, C. Juan1, M. Ruiz2 and G. Font2. 1Basic Medical Sciences-PUCL, Purdue University, West Lafayette, IN, 2Biomedical Engineering-PUCL, Purdue University, West Lafayette, IN. 3Medicinal Chemistry and Molecular Pharmacology, Purdue University, West Lafayette, IN. Sponsor: I Medicina Legal, Valencia University, Burjassot, Valencia, Spain.

#1609

Poster Board Number .....................................803


#1610

Poster Board Number .....................................804


#1611

Poster Board Number .....................................805

IMPACT OF DIFFERENT OILY VEHICLES ON TESTICULAR TOXICITY OF DI-BUTYL PHthalate (DBP), A. I. Martinez-Andrade1, A. S. Lourenço1, B. C. Miniatovic1, M. F. Kienast1, R. N. Morais1 and P. R. Dalsenter1. 1Physiology, Universidade Federal do Paraná, Curitiba, Brazil and 2Pharmacology, Universidade Federal do Paraná, Curitiba, Brazil. Sponsor: Lundstedel.

#1612

Poster Board Number .....................................806

IN UTERO EXPOSURE TO BISPHENOL A INDUCES CHANGES IN THE DEVELOPING MAMMARY GLAND. J. LaRocca, J. Pietruska and M. Hixon. Brown University, Providence, RI.

#1613

Poster Board Number .....................................807

AN INVESTIGATION OF THE CLEARANCE OF 14C-LABELLED VITAMIN K IN CONTROL AND MCCP-TREATED FEMALE CD RATS. R. H. Powrie1, D. G. Farrar2 and C. R. Elcombe1. 1CXR Biosciences Ltd., Dundee, United Kingdom and 2Ineos Chlor Ltd., Runcorn, United Kingdom.

#1614

Poster Board Number .....................................808


#1615

Poster Board Number .....................................809

NEUROCHEMICAL EFFECTS OF MATERNAL HALOPERIDOL EXPOSURE ON THE DEVELOPING RAT. R. Williams. Florida A&M University, Tallahassee, FL.

#1616

Poster Board Number .....................................810

HISTIOTROPHIC NUTRITION INFORMS DNA METHYLATION PATTERNS AT THE EPOGEN-1 LOCUS IN CONCEPTUS. K. E. Sant, M. Nahar, D. Dolinoy and C. Harris. Environmental Health Sciences, University of Michigan, Ann Arbor, MI.

#1617

Poster Board Number .....................................811

A DEVELOPMENTAL TOXICITY STUDY IN SPRAGUE-DAWLEY RATS WITH XOMA 052, A NOVEL MONOCLONAL ANTIBODY TARGETING IL-1 BETA. K. Meyer1, C. Gasper1, J. Ma1, L. Cao1, J. Chen1, K. Der1 and B. Thorsrud1. 1Product Development, XOMA (U.S.) LLC, Berkeley, CA and 2Developmental & Reproductive Toxicology, MPI Research, Mattawan, MI.

#1618

Poster Board Number .....................................812

DEVELOPMENTAL HYPOTHYROIDISM DISRUPTS PERFORMANCE OF A SIGNAL DETECTION TASK IN RATS. M. Hasegawa1 and H. Wada1. 1Psychology, Hokkaido University, Sapporo, Japan and 2Japan Society for the Promotion of Science, Tokyo, Japan. Sponsor: K. Crofton.

#1619

Poster Board Number .....................................813

PROBING THE TOXICITY OF LEFLUNOMIDE AND ITS METABOLITE TERIFLUONOMIDE IN SPRAGUE-DAWLEY RATS WITH XOMA 052, A NOVEL MONOCLONAL ANTIBODY TARGETING IL-1 BETA. K. Meyer1, C. Gasper1, J. Ma1, L. Cao1, J. Chen1, K. Der1 and B. Thorsrud1. 1Product Development, XOMA (U.S.) LLC, Berkeley, CA and 2Developmental & Reproductive Toxicology, MPI Research, Mattawan, MI.

#1620

Poster Board Number .....................................814

IN UVO EXPOSURE TO PERFLUOROORANOCNIC ACID DECREASES HATCHING MUSCLE GLYCOGEN IN CHICKEN EMBRYOS. J. DeWitt1, J. Bryan2 and J. Lofris3. 1Pharmacology and Toxicology, East Carolina University, Greenville, NC, 2Biology and Chemistry, East Carolina University, Greenville, NC and 3Summer Ventures in Science and Mathematics, East Carolina University, Greenville, NC.

#1621

Poster Board Number .....................................815

ARSENIC DELAYS THE MUSCLE DIFFERENTIATION AND REPRESSES MYOGENIN EXPRESSION BY RECRUITING EZH2 AND SUPPRESSING MEF2C IN MOUSE MUSCLE CELLS. G. Hong and L. Bain. Biological Sciences, Clemson University, Clemson, SC.

#1622

Poster Board Number .....................................816

EFFECTS OF LOW-DOSE PRENATAL PF0A EXPOSURE ON THE MAMMARY GLAND OF CD-1 MICE. M. B. Macou1,2, L. R. Villanueva1, R. D. Zeha1, K. Tsutam-Gibbons1, M. J. Strynar1, J. P. Stanko1, S. S. White1, L. Helfant1 and S. E. Fenton1. 1Toxicology, University of North Carolina at Chapel Hill, Chapel Hill, NC, 2NIEHS, Research Triangle Park, NC, 3Chemistry, North Carolina Central University, Durham, NC, 4TAD, NHEERL, ORD, U.S. EPA, Research Triangle Park, NC and 5HEASD, NERL, ORD, U.S. EPA, Research Triangle Park, NC.
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<th>Abstract #</th>
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<tr>
<td>#1623</td>
<td>Poster Board Number</td>
<td>PYRIMETHAMINE—INVESTIGATIVE EMBRYO-FETAL DEVELOPMENT STUDY BY THE ORAL ROUTE (GAUGE) IN THE MINIPIG WITH MID-TERM CAESAREAN SECTIONS. E. C. Marsden, C. Pique and P. C. Barrow. Ricerca Biosciences SAS, Lyon, France.</td>
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<td>#1624</td>
<td>Poster Board Number</td>
<td>WNT INHIBITORY FACTOR 1 (WIF1) PROMOTES PROSTATIC BUD FORMATION AND MAY PARTIALLY PROTECT AGAINST DEFECTS IN PROSTATE DEVELOPMENT CAUSED BY TCDD EXPOSURE. A. Branam, R. W. Moore, L. L. Ahlber, S. H. Allgeier, V. Mehta, C. M. Vezina and R. E. Peterson. School of Pharmacy, University of Wisconsin, Madison, WI and †Comparative Biosciences, University of Wisconsin, Madison, WI.</td>
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<tr>
<td>#1625</td>
<td>Poster Board Number</td>
<td>IDENTIFICATION OF Wnt AND Rspo GENES WHOSE EXPRESSION PATTERNS IN FETAL MOUSE UROGENITAL SINUS (UGS) ARE ALTERED BY 2, 3, 7, 8-TETRACHLORODIBENZO- p-DIOXIN (TCDD), R. W. Moore, L. L. Ahlber, V. Mehta, C. M. Vezina and R. E. Peterson. School of Pharmacy, University of Wisconsin, Madison, WI and †Comparative Biosciences, University of Wisconsin, Madison, WI.</td>
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<tr>
<td>#1626</td>
<td>Poster Board Number</td>
<td>ZEBRAFISH EMBRYOS SEQUESTER PETROCHEMICAL COMBUSTION PRODUCTS IN LIPID DROPLETS, WITH UP-REGULATION OF BIOTRANSFORMATION, OXIDATIVE STRESS, AND INFLAMMATION-RELATED GENES. R. Xiao, A. Bui, K. Kleincw, and A. Penn. Louisiana State University School of Veterinary Medicine, Baton Rouge, LA.</td>
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<tr>
<td>#1627</td>
<td>Poster Board Number</td>
<td>PRENATAL TCDD AND POSTNATAL AUTOIMMUNE DISEASE: A COMPARISON OF TWO MURINE STRAINS. S. D. Holladay, A. Mustafa and R. M. Gogal. Department of Anatomy and Radiology, University of Georgia, Athens, GA.</td>
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<tr>
<td>#1628</td>
<td>Poster Board Number</td>
<td>EFFECT OF LOW-DOSE MERCURIC CHLORIDE EXPOSURE ON EARLY ZEBRAFISH EMBRYO DEVELOPMENT. L. C. Abbott, E. A. Moussa and S. A. Hassan. †Integrative Biosciences, Texas A&amp;M University, College Station, TX, ‡Anatomy and Embryology, Suez Canal University, Ismailia, Egypt and †Anatomy and Embryology, Suez Canal University, Ismailia, Egypt.</td>
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<tr>
<td>#1629</td>
<td>Poster Board Number</td>
<td>DEVELOPMENTAL TOXICITY OF THE HMG-COA REDUCTASE INHIBITOR (PPD10558) IN RATS AND RABBITS. A. S. Faqui, D. Prohaska, R. Lopez and G. McIntyre. †Drug Safety Evaluation, MPI Research, Mattawan, MI and ‡Drug Safety Evaluation, Furiex Pharmaceuticals, Morrisville, NC.</td>
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### Session Descriptions

#### Platform Sessions

**Informational Sessions**

#### Historical Highlights

**Roundtable Sessions**

**Regional Interest Session**

**Symposium Sessions**

**Thematic Sessions**

**Workshop Sessions**

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**Society of Toxicology 2011**

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**Program Description (Continued)**

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**Abstract #**

**Poster Board Number**

**Title**

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#1629 EMBRYO-FETAL DEVELOPMENT STUDY BY THE ORAL ROUTE (GAUGE) IN THE MINIPIG WITH MID-TERM CAESAREAN SECTIONS. E. C. Marsden, C. Pique and P. C. Barrow. Ricerca Biosciences SAS, Lyon, France.

#1624 WNT INHIBITORY FACTOR 1 (WIF1) PROMOTES PROSTATIC BUD FORMATION AND MAY PARTIALLY PROTECT AGAINST DEFECTS IN PROSTATE DEVELOPMENT CAUSED BY TCDD EXPOSURE. A. Branam, R. W. Moore, L. L. Ahlber, S. H. Allgeier, V. Mehta, C. M. Vezina and R. E. Peterson. School of Pharmacy, University of Wisconsin, Madison, WI and †Comparative Biosciences, University of Wisconsin, Madison, WI.

#1625 IDENTIFICATION OF Wnt AND Rspo GENES WHOSE EXPRESSION PATTERNS IN FETAL MOUSE UROGENITAL SINUS (UGS) ARE ALTERED BY 2, 3, 7, 8-TETRACHLORODIBENZO-p-DIOXIN (TCDD), R. W. Moore, L. L. Ahlber, V. Mehta, C. M. Vezina and R. E. Peterson. School of Pharmacy, University of Wisconsin, Madison, WI and †Comparative Biosciences, University of Wisconsin, Madison, WI.

#1626 ZEBRAFISH EMBRYOS SEQUESTER PETROCHEMICAL COMBUSTION PRODUCTS IN LIPID DROPLETS, WITH UP-REGULATION OF BIOTRANSFORMATION, OXIDATIVE STRESS, AND INFLAMMATION-RELATED GENES. R. Xiao, A. Bui, K. Kleincw, and A. Penn. Louisiana State University School of Veterinary Medicine, Baton Rouge, LA.

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#1628 EFFECT OF LOW-DOSE MERCURIC CHLORIDE EXPOSURE ON EARLY ZEBRAFISH EMBRYO DEVELOPMENT. L. C. Abbott, E. A. Moussa and S. A. Hassan. †Integrative Biosciences, Texas A&M University, College Station, TX, ‡Anatomy and Embryology, Suez Canal University, Ismailia, Egypt and †Anatomy and Embryology, Suez Canal University, Ismailia, Egypt.

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#1629 DEVELOPMENTAL TOXICITY OF THE HMG-COA REDUCTASE INHIBITOR (PPD10558) IN RATS AND RABBITS. A. S. Faqui, D. Prohaska, R. Lopez and G. McIntyre. †Drug Safety Evaluation, MPI Research, Mattawan, MI and ‡Drug Safety Evaluation, Furiex Pharmaceuticals, Morrisville, NC.

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#1626 ZEBRAFISH EMBRYOS SEQUESTER PETROCHEMICAL COMBUSTION PRODUCTS IN LIPID DROPLETS, WITH UP-REGULATION OF BIOTRANSFORMATION, OXIDATIVE STRESS, AND INFLAMMATION-RELATED GENES. R. Xiao, A. Bui, K. Kleincw, and A. Penn. Louisiana State University School of Veterinary Medicine, Baton Rouge, LA.

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#1628 EFFECT OF LOW-DOSE MERCURIC CHLORIDE EXPOSURE ON EARLY ZEBRAFISH EMBRYO DEVELOPMENT. L. C. Abbott, E. A. Moussa and S. A. Hassan. †Integrative Biosciences, Texas A&M University, College Station, TX, ‡Anatomy and Embryology, Suez Canal University, Ismailia, Egypt and †Anatomy and Embryology, Suez Canal University, Ismailia, Egypt.
Program Description (Continued)

Abstract #
#1638 Poster Board Number ..................................................832 POLYCYCLIC AROMATIC HYDROCARBONS EXERT STRUCTURE-DEPENDENT DIFFERENTIAL MECHANISMS OF TOXICITY IN DEVELOPING ZEBRAFISH, B. C. Goodale1, J. K. La Du1, S. C. Tilton1, K. M. Waters2 and R. L. Tanguay1. 1Environmental and Molecular Toxicology, Oregon State University, Corvallis, OR and 2Pacific Northwest National Laboratory, Richland, WA.

#1639 Poster Board Number ..................................................833 GENE EXPRESSION EVALUATION OF THE RELATIVE SAFETY OF PRENATAL STRESS AND OR ANTIDEPRESSANT EXPOSURE. C. H. Bourke, C. F. Capello and M. J. Owens. Psychiatry and Behavioral Sciences, Emory University, Atlanta, GA.


#1641 Poster Board Number ..................................................835 DEVELOPMENTAL ARSENIC EXPOSURE INCREASES PERINATAL MORTALITY AND CAUSES LIVER INFLAMMATION IN FEMALE MICE. M. W. Carmony, A. R. King, A. E. Hill and R. J. Sommer. Biology Department, Bates College, Lewiston, ME.

#1642 Poster Board Number ..................................................836 MICRORNA EXPRESSION PROFILES AFTER DEVELOPMENTAL EXPOSURE OF ZEBRAFISH (DANIO RERIO) EMBRYOS TO TCDD. N. Aluru1, M. J. Jenny1,2 and M. E. Hahn1. 1Biology Department, Woods Hole Oceanographic Institution, Woods Hole, MA and 2Department of Biological Sciences, University of Alabama, Tuscaloosa, AL.

#1643 Poster Board Number ..................................................837 MIRNAS ARE ESSENTIAL FOR BILE ACID HOMEOSTASIS DURING LIVER DEVELOPMENT. Y. J. Cui, J. Liu, Z. Fu, Y. Guo and C. D. Klauassen. Department of Pharmacology, Toxicology and Therapeutics, University of Kansas Medical Center, Kansas City, KS.

#1644 Poster Board Number ..................................................838 AN INHALATION DEVELOPMENTAL TOXICITY STUDY OF N-ETHYL ACETAMIDE IN RATS. J. Domoradzki1, T. Edwards1 and D. Kirkpatrick2. 1Dow Corning Corporation, Auburn, MI and 2WIL Research Laboratories, LLC, Ashland, OH.

#1645 Poster Board Number ..................................................839 EFFECTS OF THALIDOMIDE ON NORMAL FETAL GROWTH AND HEART RATE IN CYCROMOLGUS MONKEYS. C. Duabo, M. Kob, C. Cohle, K. Griffin, B. Lewis, A. Kuzmin, S. Magness and A. S. Fagi. Drug Safety Evaluation, MPI Research, Mattawan, MI.

Abstract #
#1646 Poster Board Number ..................................................840 COMPARATIVE EVALUATION OF LEARNING AND MEMORY IN RATS USING MORRIS MAZE VIDEO TRACKING SYSTEM AND PASSIVE AVOIDANCE. C. Lanphear, A. Terpstra, A. Rohr and A. S. Faqi. Drug Safety Evaluation, MPI Research, Mattawan, MI.

#1647 Poster Board Number ..................................................841 2, 3, 7, 8-TETRACHLORODIBENZO-P-DIOXIN (TCDD) INHIBITS EPICARDIAL DEVELOPMENT IN THE EMBRYONIC ZEBRAFISH HEART. J. S. Plavicki, W. Heideman and R. E. Peterson. School of Pharmacy, University of Wisconsin at Madison, Madison, WI.

Tuesday Afternoon, March 8
1:00 PM to 4:30 PM
Exhibit Hall

Poster Session: Apoptosis/Cell Death
Chairperson(s): Salmaan bayat-Hussain, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia, and Sidhartha Ray, UAMS College of Pharmacy & Health Sciences, Brooklyn, NY.

Displayed: 1:00 PM–4:30 PM

Author Attended: 1:00 PM–2:45 PM

#1648 Poster Board Number ..................................................901 MINOCYCLINE AND DOXYCYCLINE, BUT NOT TETRACYCLINE, DECREASE LIVER AND KIDNEY INJURY AFTER HEMORRHAGIC SHOCK AND RESUSCITATION IN MICE. A. Kholmukhamedov1, C. Czerny1, J. Hu1, J. Schwartz1 and J. J. Lemasters2,3. 1Pharmaceutical & Biomedical Sciences, Medical University of South Carolina, Charleston, SC and 2Biochemistry & Molecular Biology, Medical University of South Carolina, Charleston, SC.

#1649 Poster Board Number ..................................................902 DOXYCYCLINE AND MINOCYCLINE, BUT NOT OTHER TETRACYCLINE DERIVATIVES, INHIBIT THE MITOCHONDRIAL PERMEABILITY TRANSITION AND MITOCHONDRIAL IRON UPTAKE. J. Schwartz2, E. Holmhamedov3 and J. J. Lemasters1,2. 1Pharmaceutical & Biomedical Sciences, Medical University of South Carolina, Charleston, SC and 2Biochemistry & Molecular Biology, Medical University of South Carolina, Charleston, SC.

#1650 Poster Board Number ..................................................903 LYSOSOMES, COMPOUND ACCUMULATION, AND IN VITRO TOXICITY. S. Lu1, S. Nadanaciva1, R. Swiss2, B. Jessen3 and J. Will5. 1Drug Safety Research and Development, Pfizer Inc., San Diego, CA and 2Compound Safety Prediction, Pfizer Inc., Groton, CT.
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<tr>
<td>#1651</td>
<td>Lyssosomal iron release and mitochondrial iron uptake contribute to ischemia-reperfusion injury to rat hepatocytes. X. Zhang and J. J. Lemasters. Medical University of South Carolina, Charleston, SC.</td>
<td>#1658</td>
<td>Apoptosis and cell proliferation in HepG2 cells treated with Trovafloxacin and Tumor necrosis factor. K. M. Beggs, P. E. Ganey and R. A. Roth. Pharmacology and Toxicology, Michigan State University, East Lansing, MI.</td>
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<tr>
<td>#1652</td>
<td>The cytotoxic interaction between hyperoxia and neutrophil elastase in a murine hepatoma cell line is independent of HIF-1α signaling. E. M. Sparkenbaugh, M. A. Nother, P. E. Ganey and R. A. Roth. Pharmacology and Toxicology, Michigan State University, East Lansing, MI.</td>
<td>#1659</td>
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<td>#1653</td>
<td>The role of mitochonadria in amiodarone-induced apoptosis in rat pleural mesothelial cells. E. S. Taneva and J. M. Cerreta. PHS, St. Johns University, Queens, NY. Sponsor: L. Trombetta.</td>
<td>#1660</td>
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<tr>
<td>#1654</td>
<td>Acute single-mitochondrial responses to 1,3-dinitrobenzene in astrocytes, L. Mauret, I. C. Spears, J. Fernandez, D. Song, T. Epstein, A. Jurezka, S. Steiner and M. A. Philbert. 1Department of Environmental Health Sciences, Toxicology, University of Michigan, Ann Arbor, MI, 2Mechanical Engineering Department, University of Michigan, Ann Arbor, MI and 3Chemistry Department, University of Michigan, Ann Arbor, MI.</td>
<td>#1661</td>
<td>Quantitative assessment of [18F]-Dfnsh uptake by microPET imaging as a biomarker of anesthetic-induced neuronal death. X. Zhang, C. Wang, G. D. Newport, M. G. Paule, F. Liu, M. S. Berrdige, S. M. Apana, G. Kaballka and W. Slkker. NCTR /U.S. FDA, Jefferson, AR, 3D Imaging, Little Rock, AR and 5The University of Tennessee, Knoxville, TN.</td>
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<tr>
<td>#1655</td>
<td>Are reactive oxygen species required for autophagy? J. Jiang, D. A. Stoyanovsky, A. Maeda, J. S. Greenberger and V. E. Kagan. 1Environmental and Occupational Health, University of Pittsburgh, Pittsburgh, PA and 2Radiation Oncology, University of Pittsburgh, Pittsburgh, PA.</td>
<td>#1662</td>
<td>Induction of apoptosis-associated ribosomal RNA (rrna) Cleavage by the trichothecene deoxynivalenol. K. He, H. Zhou and J. Petka. 1Department of Microbiology &amp; Molecular Genetics, Michigan State University, East Lansing, MI, 2Center for Integrative Toxicology, Michigan State University, East Lansing, MI and 3Food Science &amp; Human Nutrition, Michigan State University, East Lansing, MI.</td>
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<td>#1656</td>
<td>Connexin32 hemichannels facilitate the apoptotic-to-necrotic transition during fas-mediated hepatocyte cell death. M. Vinken, E. Decrock, E. De Vuyyst, M. De Bock, V. Roostermajn, B. De Geest, J. Demester, N. Sanders, T. Vanhaecke, I. Leybaert and V. Rogiers. 1Toxicology, Free University Brussels, Brussels, Belgium, 2Basic Medical Sciences/Physiology Group, Ghent University, Ghent, Belgium, 3Molecular Biomedical Research, Ghent University, Ghent, Belgium, 4General Biochemistry and Physical Pharmacy, Ghent University, Ghent, Belgium and 5Gene Therapy, Ghent University, Ghent, Belgium.</td>
<td>#1663</td>
<td>Development of novel indolequinone anti-tumor agents: mechanism of toxicity in human pancreatic cancer. C. Yen, D. Siegel, M. Colacizzi, A. Chiloux, J. Newsome, C. J. Moody and D. Ross. 1Pharmaceutical Sciences, University of Colorado Denver, Aurora, CO and 2Chemistry, University of Nottingham, Nottingham, United Kingdom.</td>
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<tr>
<td>#1657</td>
<td>Deciphering the role of caspase in regulating c-flip expression in germ cells. Y. Liu, P. Yao and J. H. Richburg. Center for molecular and Cellular Toxicology, College of Pharmacy, Division of Pharmacology and Toxicology, The University of Texas at Austin, Austin, Texas.</td>
<td>#1664</td>
<td>Sdf-1α protects cardiac cells from palmatate-induced nitrosative stress-mediated Er stress and cell death through activation of Amk-p-mediated Il-6 excetration. Y. Zhao, W. Li and L. Cai. 1University of Louisville, Louisville, KY and 2The Fist Hospital of Jilin University, Changchun, China.</td>
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**Society of Toxicology 2011**

**Program Description (Continued)**

**Abstract #**

**Poster Board Number**

**Abstract #**

**Poster Board Number**

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**Abstract #**

**Poster Board Number**

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**TUESDAY**
Program Description (Continued)

Abstract #

**#1665**
Poster Board Number .....................................918

THE MECHANISMS OF PARAOQUAT-INDUCED LUNG TOXICITY IN VIVO AND IN VITRO. Y. Yang1, D. Hung2,3, C. Chen4, H. Wu4, K. Chen5, C. Su6, C. Huang6 and Y. Chen7. 
1Graduate Institute of Drug Safety, China Medical University, Taichung, Taiwan, 2Toxicology Center, China Medical University Hospital, Taichung, Taiwan, 3Department of Emergency, China Medical University Hospital, Taichung, Taiwan, 4Department of Otorhinolaryngology, Head and Neck Surgery, Changhua Christian Hospital, Changhua, Taiwan, 5School of Chinese Medicine, China Medical University, Taichung, Taiwan and 6Department of Physiology, China Medical University, Taichung, Taiwan.

**#1666**
Poster Board Number .....................................919

ROLE OF CANNABINOID RECEPTORS IN CANNABIDIOL-MEDIATED APOPTOSIS IN LIPOPOLYSACCHARIDE (LPS) ACTIVATED B LYMPHOCYTES. Y. Su1, Y. Deng1, R. Rao1, P. Narugkatti and M. Nagarkatti. University of South Carolina, Columbia, SC.

**#1667**
Poster Board Number .....................................920

EFFECTS OF PBDES CONGENERS (BDE-209 AND BDE-47) ON HUMAN HEPATOMA CELLS (HEPG2) PROLIFERATION AND VIABILITY. D. J. Dora1 and A. O. de Souza. Quimica, Faculdade de Filosofia, Ciências e Letras de Ribeirão Preto - Universidade de Sao Paulo, Ribeirão Preto, SP, Brazil.

**#1668**
Poster Board Number .....................................921

HYDROXYL RADICALS MEDIATES CISPLATIN-INDUCED APOPTOSIS IN HUMAN HAIR FOLLICLES DERMAL PAPILLA CELLS AND KERATINOCYTES THROUGH BCL-2-DEPENDENT MECHANISM. S. Luangpipong1, P. Channvorchate1, V. Pongrakhpananon2, L. Wang2, U. Nimmanpit2 and Y. Rojanasakul3. 1West Virginia University, Morgantown, WV, 2National Institute for Occupational Safety and Health, Morgantown, WV, 3Chulalongkorn University, Bangkok, Thailand.

**#1669**
Poster Board Number .....................................922

LC-ESI/MS REVEALS UNUSUAL OXYGENATED LYSO-PHOSPHATIDYLSERINES PRODUCED AFTER OXIDATION AND HYDROLYSIS BY PLASMA LIPOPROTEIN-ASSOCIATED PHOSPHOLIPASE A2 OF SN-1, SN-2-DILINOLEOYL-PS. V. A. Tyurin1,2, Y. Y. Tyurina1, C. H. Macphee1 and V. E. Kayou1,2. 1Center for Free Radical and Antioxidant Health, University of Pittsburgh, Pittsburgh, PA, 2Environmental and Occupational Health, University of Pittsburgh, Pittsburgh, PA and 1GlaxoSmithKline, King of Prussia, PA.

**#1670**
Poster Board Number .....................................923

GROWTH INHIBITION OF BENZO(A)PYRENE (BAP)-EXPOSED HT29 HUMAN COLON CANCER CELLS BY RESVERATROL. A. C. Huderson, J. N. Myers and A. Ramesh. Biochemistry & Cancer Biology, Meharry Medical College, Nashville, TN.

**#1671**
Poster Board Number .....................................924

CYTOTOXICITY COMPARISON OF DIFFERENT ORGAN TISSUES IN ORGAN SPECIFIC CELL LINES. Z. Lin, R. Swiss, Y. Will and M. Pletcher. Compound Safety Prediction, Pfizer Global Research & Development, Groton, CT.

**#1672**
Poster Board Number .....................................925

STORE-OPERATED CALCIUM CHANNELS PLAY A SIGNIFICANT ROLE IN ROS-INDUCED NECROTIC CELL DEATH. F. M. Ramirez, R. Xie, S. S. Lau and T. J. Monks. Southwest Environmental Health Sciences Center, Department of Pharmacology & Toxicology, College of Pharmacy, University of Arizona, Tucson, AZ.

**#1673**
Poster Board Number .....................................926

PROTECTION OF HYDROQUINONE-INDUCED APOPTOSIS BY FAU IS MEDIATED BY NQO1 IN W7.2 MOUSE THYMOMA CELLS. S. H. Inayat-Hussain1, L. E. Siew2, M. K. Chan3, N. F. Rajab3, D. Ross2 and G. T. Williams2. 1Environmental Health Program, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia, 2School of Pharmacy, University of Colorado at Denver, Denver, CO and 3Institute for Science and Technology in Medicine and School of Life Sciences, Keele University, Keele, United Kingdom.

Tuesday Afternoon, March 8
1:00 PM to 4:30 PM
Exhibit Hall

**Author Attended:** 2:45 PM–4:30 PM

**Chairperson(s):** Joel G. Pounds, Battelle, PNRL, Richland, WA.

**Displayed:** 1:00 PM–4:30 PM

**#1674**
Poster Board Number .....................................731

AFLATOXIN PREVALENCE AND HEPATOCELLULAR CARCINOMA IN GHANA: A REGIONAL ANALYSIS. N. J. Mitchell1, P. E. Jolly2, C. M. Jolly2, A. Marquino-Cardona3 and T. D. Phillips2. 1College of Veterinary Medicine, Texas A&M University, College Station, TX, 2Department of Epidemiology, School of Public Health, University of Alabama at Birmingham, Birmingham, AL and 3Department of Agricultural Economics and Rural Sociology, Auburn University, Auburn, AL.

**#1675**
Poster Board Number .....................................732

CYTOCHROME P4501A PROMOTER POLYMORPHISMS AND ACTIVITY IN NATURAL POPULATIONS ADAPTED TO CHRONIC POLLUTION. L. Williams1 and M. Oleksiap. 1Environmental and Molecular Toxicology, North Carolina State University, Raleigh, NC and 2University of Miami, Miami, FL.
Abstract #

#1676 Poster Board Number ..................................... 1 Two Biomarkers for Evaluation of Organophosphate (OP) Poisoning in Humans. G. H. DeOliveira1, G. L. Emerick1, K. A. Belaz2, M. Goncalves1 and R. V. Oliveira2. 1Natural Actives Principles and Toxicology, UNESP Sao Paulo State University, Araraquara, Sao Paulo, Brazil and 2Department of Chemistry, University Federal of Sao Carlos, Sao Carlos, SP, Brazil.


#1680 Poster Board Number ..................................... 6 Insecticide Residues and Their Selected Biomarkers in Produce: Field Studies Using Malathion and Fenpropatrin in Strawberries. L. Chen1, Z. Chen1, J. Xu1, T. Lopez2, G. Sunkarao2, H. Vega2 and R. I. Krieger2. 1Veterinary Medicine: Molecular Biosciences, University of California Davis, Davis, CA and 2Pharmacology and Toxicology, University of California Davis, Davis, CA.


Abstract #

#1682 Poster Board Number ..................................... 845 MALDI Imaging of Prostate Cancer Tissue toward Validation of Biomarker Identification. C. M. Hattan1, N. J. Mastrandrea1, J. M. C Gard2, R. Nagle1, T. J. Monks3 and S. S. Lau. 1Southwest Environmental Health Sciences Center, Department of Pharmacology/Toxicology, College of Pharmacy, University of Arizona, Tucson, AZ and 2College of Medicine, University of Arizona, Tucson, AZ.

#1683 Poster Board Number ..................................... 846 Molecular Dosimetry of N-Hydroxymethyl-4G Adducts Following Formaldehyde Exposure to Non-Human Primates. B. C. Moeller1, K. Liu3, M. Doyle-Eiselle3, J. McDonald4, A. Giglioni1 and J. A. Swenberg5,6. Curriculum in Toxicology, University of North Carolina at Chapel Hill, Chapel Hill, NC, 2Department of Environmental Sciences and Engineering, University of North Carolina at Chapel Hill, Chapel Hill, NC and 3Lovelace Respiratory Research Institute, Albuquerque, NM.

#1684 Poster Board Number ..................................... 847 2, 3, 7, 8-Tetrachlorodibenzo-P-Dioxin Responsive Transcripts in Avian Embryonic Liver, Identified by Large-Scale Differential Display System with Vertebrate-Common Degenerate Oligonucleotide Primers. H. Teraoka1, S. Ito1, N. Ukai1, E. Kim1, H. Iwata1, T. Kitazawa2, T. Hiraga2 and D. Endo1. 1School of Veterinary Medicine, Rakuno Gakuen University, Ebetsu, Hokkaido, Japan, 2Department of Biology, Kyung Hee University, Seoul, Republic of Korea and 3Center for Marine Environmental Studies, Ehime University, Matsuyama, Ehime, Japan.

#1685 Poster Board Number ..................................... 848 Is Trichloroethylene-Induced Formic Aciduria A Biomarker of Exposure Rather Than a Sign of Toxicity? E. A. Lock, N. Yaqoob and A. Evans. School of Pharmacy and Biomolecular Sciences, Liverpool John Moores University, Liverpool, United Kingdom.

#1686 Poster Board Number ..................................... 930 Validation of a Portable X-Ray Fluorescence (XRF) Technology to Quantify Lead in Bone in Vivo. S. Sanchez1, M. G. Weiskopf1 and L. H. Nie2. 1School of Health Sciences, Purdue University, West Lafayette, IN and 2Harvard School of Public Health, Boston, MA.

#1687 Poster Board Number ..................................... 931 Use of Globin Adducts for 1, 3-Butadiene Internal Dosimetry That Reflects Exposure and Metabolism. N. K. Bordeear1, S. Carro1, L. Collins2, W. Bodnar1, P. Upton1, V. Walker2 and J. A. Swenberg3. 1Environmental Science and Engineering, The University of North Carolina at Chapel Hill, Chapel Hill, NC and 2University of Vermont, Burlington, VT.
Tuesday Afternoon, March 8
1:00 PM to 2:00 PM
Room 156

Exhibitor Hosted Session: Latest Advances in Arrhythmia Detection and in Non-Invasive Blood Pressure Monitoring from Ambulatory Animals
Presented by: emka TECHNOLOGIES

An alternative to implantable telemetry for measuring blood pressure (BP) in ambulatory animals, will be presented. We will explain how improvements in hardware and in software algorithms enabled higher efficiency and reliability in the noninvasive study of BP. Finally we will describe computerized methods that optimize efficiency and minimize resources in the detection of arrhythmia.

Tuesday Afternoon, March 8
1:00 PM to 2:00 PM
Room 140B

Exhibitor Hosted Session: The Marmoset As an Experimental Model for the Development of Biopharmaceuticals
Presented by: RTC Research Toxicology Centre

Pharmaceuticals are now often represented by biotechnology-derived products. For biopharmaceuticals NHP are usually the only relevant model. Marmosets with their small size and early sexual maturation represent an interesting alternative to macaque for toxicity testing and could speed up development, requiring a limited amount of product to start safety evaluation.

Program Description (Continued)

Abstract #

#1688 Poster Board Number .....................................932
AFLATOXIN EXPOSURE IN RURAL RESIDENTS OF BURKINA FASO, WEST AFRICA. P. A. Nikiema, G. Qian, L. Tang, J. H. Williams and J. Wang. University of Georgia, Athens, GA.

#1689 Poster Board Number .....................................933
EMPOYING A NEW ANALITICAL METHOD FOR MEASURING THE CYANIDE METABOLITE, 2-AMINOTHIAZOLINE-4-CARBONYLIC ACID, IN BIOLOGICAL SAMPLES. J. C. Yu¹, I. Petrikovics¹, S. Martin¹², J. Nas¹, D. Thompson¹ and S. Holmes¹. Chemistry, Sam Houston State University, Huntsville, TX and ¹Forensic Science, Sam Houston State University, Huntsville, TX.

#1690 Poster Board Number .....................................934
MOLECULAR DOSIMETRY AND HALF LIFE OF 2-HYDROXYMETHYL-DG ADDUCT IN RATS EXPOSED TO FORMALDEHYDE. K. Lu¹, B. Moeller¹, M. Doyle-Eisele¹, J. McDonald and J. A. Swenberg². Environmental Sciences and Engineering, University of North Carolina at Chapel Hill, Chapel Hill, NC, ²Curriculum in Toxicology, University of North Carolina at Chapel Hill, Chapel Hill, NC and ²Lovelace Respiratory Research Institute, Albuquerque, NM.

#1691 Poster Board Number .....................................935
FORMALDEHYDE-INDUCED HYDROXYMETHYL DNA ADDUCTS IN RATS EXPOSED TO ISOTOPE LABELED METHANOL. H. Gul, K. Lu, P. Upton and J. A. Swenberg, Environmental Sciences and Engineering, University of North Carolina at Chapel Hill, Chapel Hill, NC.

#1692 Poster Board Number .....................................936
HUMAN BIOMARKERS FOR TRICRESYL PHOSPHATE EXPOSURE. J. Marsiliach Lopez¹, J. Richter¹, T. B. Cole¹, J. H. Kim¹, R. C. Stevens¹², M. J. MacCoss³, D. Tomaszela³, E. J. Hsieh¹, R. M. Suzuki¹², L. M. Schroper³, O. Lockridge¹ and C. E. Furlong¹². ¹Medicine, Division of Medical Genetics, University of Washington, Seattle, WA, ²Genome Sciences, University of Washington, Seattle, WA, ³Environmental and Occupational Health Sciences, University of Washington, Seattle, WA, ³Anesthesiology, University of Washington, Seattle, WA and ¹University of Nebraska Medical Center, Omaha, NE.

#1693 Poster Board Number .....................................937

#1694 Poster Board Number .....................................938
IDENTIFICATION OF URINARY METABOLIC PROFILES ASSOCIATED WITH METHYLMERCURY EXPOSURE USING A METABOLOMIC APPROACH. P. Tremblay¹², D. Gaudreau¹, D. Dewailly¹ and P. Ayotte¹². ¹Axe de Recherche en Santé des Populations et Environnementale, CHUQ-CHUL and Université Laval, Québec, Canada and ²Laboratoire de Toxicologie, Institut National de Sante Publique du Québec, Québec, Canada.
The Effects of Low-Dose Lead Symposium Session: Developmental Origins of Adult Disease: The Effects of Low-Dose Lead

Chairperson(s): Erin Hines, U.S. EPA, Research Triangle Park, NC, and Andrew Rooney, NIEHS, Research Triangle Park, NC.

Sponsor: Metals Specialty Section

Endorsed by: Neurotoxicology Specialty Section
Reproductive and Developmental Toxicology Specialty Section
Risk Assessment Specialty Section

Numerous epidemiology and animal toxicology studies support an association between an adverse prenatal environment and the development of diseases in later life. Experimentally, prenatal exposure to lead (Pb) at low, environmentally-relevant doses causes physiological changes that increase the likelihood of diseases in adulthood such as obesity, hypertension, and neurological disorders. Although human epidemiological data also support an association between increased Pb exposure and hypertension or cognitive impairment, the exact mechanisms by which lead exerts these effects in epidemiologic studies is unknown. We will discuss experimental animal toxicology data that suggest several possible mechanisms for developmental origins of adult diseases (DOAD) associated with exposure to low levels of lead. Data support a sex-dependent mechanism resulting in increased fat deposition and late-onset obesity, retinal degeneration, and motor activity aberrations following low dose gestational lead exposure in male mice. Lead-induced hypothalamic pituitary adrenal axis dysfunction is a potential mechanism for a range of adult diseases and disorders, including hypertension, diabetes, metabolic syndrome, schizophrenia, and cognitive dysfunction. Epigenetic mechanisms have also been implicated, and epigenetic pathways may present a mechanistic link between developmental lead exposure and the etiology of Alzheimer’s disease. These data highlight the importance of exposure windows for the development of adverse health effects associated with low-level lead and have possible risk assessment implications for ongoing assessments such as the NTP Monograph on Low-Level Lead and the U.S. EPA Integrated Science Assessment for Lead.

Tuesday Afternoon, March 8
1:30 PM to 2:00 PM
Room 140A

Exhibitor Hosted Session: Uses for Stereology in Toxicologic Pathology

Presented by: WIL Research Laboratories

Unbiased stereological analysis is required for documentation of shifts in neuronal and other cell populations as well as changes in lung parameters such as alevoeol counts and size estimations. This session will introduce the specialized terminology and basic mathematical and technical concepts involved in stereological sampling and analysis.

Tuesday Afternoon, March 8
1:30 PM to 4:15 PM
Room 144

Environment and Disease

Symposium Session: Developmental Origins of Adult Disease: The Effects of Low-Dose Lead

Chairperson(s): Erin Hines, U.S. EPA, Research Triangle Park, NC, and Andrew Rooney, NIEHS, Research Triangle Park, NC.

Sponsor: Metals Specialty Section

Endorsed by: Neurotoxicology Specialty Section
Reproductive and Developmental Toxicology Specialty Section
Risk Assessment Specialty Section

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Tuesday Afternoon, March 8
1:30 PM to 2:00 PM
Room 140A

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Presented by: WIL Research Laboratories

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Tuesday Afternoon, March 8
1:30 PM to 4:15 PM
Room 144

Abstract #

#1698 1:35 LOW-LEVEL GESTATIONAL LEAD EXPOSURE IS A RISK FACTOR FOR LATE-ONSET METABOLIC SYNDROME AND NEURODEGENERATION. D. A. Fox. University of Houston, Houston, TX.

#1699 2:15 DEVELOPMENTAL LEAD (PB) EXPOSURE AND PERMANENT HPA AXIS DYSFUNCTION: A POTENTIAL UNIFYING BIOLOGICAL MECHANISM FOR PB-ASSOCIATED DISEASES AND DISORDERS. D. A. Cory-Slechta, Department of Environmental Medicine, University of Rochester Medical Center, Rochester, NY.

#1700 2:55 EARLY LIFE EXPOSURE TO PB AND PROGRAMMED SUSCEPTIBILITY TO NEURODEGENERATIVE DISEASE. N. Zawia. Biomedical Sciences, University of Rhode Island, Kingston, RI.

#1701 3:35 CONTRASTING THE DEVELOPMENTAL AND ADULT ORIGINS OF ADVERSE EFFECTS FROM LEAD IN THE DRAFT NTP MONOGRAPH ON LOW-LEVEL LEAD. A. A. Rooney. Center for the Evaluation of Risks to Human Reproduction, NIEHS, National Toxicology Program, Research Triangle Park, NC.
Program Description (Continued)

Abstract #

#1702 1:30 DOES THE CLOCK MAKE THE POISON? INFLUENCE OF THE CIRCADIAN CLOCK ON TOXICOLOGICAL MECHANISMS AND OUTCOMES. H. Zarbl¹ and L. A. Hooven². ¹Environmental and Occupational Health Sciences Institute, Robert Wood Johnson Medical School, Piscataway, NJ and ²Department of Zoology, Oregon State University, Portland, OR.

1:30 INTRODUCTION. Helmut Zarbl


#1704 2:00 TICK-TOXICOLOGY: CLOCK GENE EXPRESSION AND INTERACTIONS BETWEEN THE MOLECULAR PATHWAYS FOR THE REGULATION OF CIRCADIAN RHYTHMS AND TOXIN METABOLISM. D. J. Earnest, Neuroscience and Experimental Therapeutics, Texas A&M Health Sciences Center, College Station, TX. Sponsor: H. Zarbl.

#1705 2:25 THE HEPATOCYTE AUTONOMOUS CLOCK MODULATES THE CHRONOTOXICITY OF ACETAMINOPHEN. C. A. Bradfield¹, J. A. Walzser¹, B. P. Johnson¹, Y. Liu¹, A. Shen¹, E. L. McDreamont¹, B. McIntosh¹, A. Vollrath¹, A. C. School¹ and J. S. Takahashi¹. The McArdle Laboratory for Cancer Research, University of Wisconsin School of Medicine and Public Health, Madison, WI and Northwestern University, Evanston, IL.

#1706 2:50 CIRCADIAN EXPRESSION OF DRUG PROCESSING GENES IN MICE. C. D. Klausen. Pharmacology, University of Kansas Medical Center, Kansas City, KS.


#1708 3:40 METHYLSelenocysteine RESETS THE RHYTHMIC EXPRESSION OF CIRCADIAN AND GROWTH REGULATORY GENES DISRUPTED BY NITROSOMETHYLAURE IN VIVO. M. Fang and H. Zarbl. Environmental and Occupational Health Sciences Institute, Robert Wood Johnson Medical School, Piscataway, NJ.

4:05 PANEL DISCUSSION/Q&A.

Abstract #

Tuesday Afternoon, March 8
1:30 PM to 4:15 PM
Room 143

Symposium Session: Macrophages: Regulators of Toxicity and Disease Pathogenesis

Chairperson(s): Debra Laskin, Rutgers University, Piscataway, NJ, and Andrew Gow, Rutgers University, Piscataway, NJ.

Sponsor:
Toxicologic and Exploratory Pathology Specialty Section

Endorsed by:
Immunotoxicology Specialty Section
Mechanisms Specialty Section
Nanotoxicology Specialty Section

Macrophages function as control switches of the immune system, providing a balance between pro- and anti-inflammatory responses. To accomplish this, they develop into different subsets: classically (M1) or alternatively (M2) activated macrophages. Whereas M1 macrophages display a cyto-toxic, proinflammatory phenotype, M2 macrophages, suppress immune and inflammatory responses and participate in wound repair and angiogenesis. Critical to the actions of these divergent or polarized macrophage subpopulations is the regulated release of inflammatory mediators. When properly controlled, classically activated M1 macrophages effectively destroy invading pathogens, tumor cells, and foreign materials. However, when M1 activation becomes uncontrolled, these cells release excessive quantities of cytotoxic mediators that contribute to disease pathogenesis. The activity of M1 macrophages is countered by alternatively activated M2 macrophages which release mediators that down regulate M1 cells, and stimulate growth, extracellular matrix turnover, and tissue repair. Aberrant functioning of M2 macrophages can lead to fibrosis and tumor metastasis and progression. Ultimately, it is the balance in the production of mediators by these two cell types that determines the outcome of the tissue response to chemical toxicants and disease progression. These different models will be presented to illustrate this divergent role of macrophages in disease pathogenesis and toxicity.

#1709 1:30 MACROPHAGES: REGULATORS OF TOXICITY AND DISEASE PATHOGENESIS. D. Laskin and A. Gow. Pharmacology and Toxicology, Rutgers University, Piscataway, NJ.

1:30 INTRODUCTION. Debra Laskin

#1710 1:35 MACROPHAGES AND HEPATOTOXICITY: A BATTLE OF FORCES. D. Laskin¹, C. Gardner¹, Y. Liu¹ and J. Laskin¹. Pharmacology and Toxicology, Rutgers University, Piscataway, NJ and ²UMDNJ-RWJ Medical School, Piscataway, NJ.

#1711 2:05 LUNG MACROPHAGE RESPONSES TO BIOACTIVE ENGINEERED NANOMATERIALS (ENM) INVOLVES ACTIVATION OF THE NLRP3 INFLAMMASOME. A. Holian and C. Migliaccio. Center for Environmental Health Sciences, University of Montana, Missoula, MT.

#1712 2:35 MACROPHAGE DIVERSITY AND POLARIZATION IN IMMUNOPATHOLOGY. A. Mantovani, Istituto Clinico Humanitas IRCCS, University of Milan, Milan, Italy. Sponsor: D. Laskin.

#1713 3:05 MECHANISMS OF MICROGLIAL ACTIVATION IN RESPONSE TO TOXICANTS. A. Gow, Pharmacology and Toxicology, Rutgers University, Piscataway, NJ. Sponsor: D. Laskin.
Program Description (Continued)

Abstract #


4:05 PANEL DISCUSSION/Q&A.

Tuesday Afternoon, March 8
1:30 PM to 4:15 PM
Room 147

Integration of Toxicological and Epidemiological Evidence to Understand Human Risk

Symposium Session: When Is Exposure Not Exposure? Defining the Dose-Response Region between “Effect” and “Adverse Effect” Implications for Human Health Risk Assessment


Sponsor: Risk Assessment Specialty Section

Endorsed by: Molecular Biology Specialty Section

“Omic technologies demonstrate global changes in gene regulation and expression following chemical exposure, causing toxicologists to revisit the question, what is an adverse effect and what isn’t. Dose-dependent transitions in genomic and related responses reflect the levels of exposure that cause detectable perturbations to the biological system under study. We will focus on two transitions, having both dose and temporal dimensions, which are advanced as being pivotal to understanding mode of action and prediction of toxicity. The first transition is from no-detectable-effect on the biological system relative to unexposed controls, to the first-perceptible-effect at the global genome level, observed as up- and down-regulation of genes that regulate adaptive responses. The second transition is from the adaptive response region to the first adverse response or critical effect region of the dose-response relationship. We will explore if and how ‘omic phenomena elicited by chemical exposures translate into useful information for risk assessors. Consideration of the adaptive capacity of the biological system and severity of the effect might further inform our definition of the term adverse and inform the magnitude of traditional uncertainty factors used. Understanding dose-dependent transitions combined with dosimetry models that characterize the exposure-tissue concentration relationship might permit risk assessors to define exposures delimited by safe and adverse boundaries. We will conclude by describing emerging advances in high-throughput quantitative ‘omic technologies, and findings from studies with endogenous and exogenous compounds and nanoparticles, to address how we move from the vast array of ‘omic data generated to practical risk assessment applications.

#1715 1:30 WHEN IS EXPOSURE NOT EXPOSURE? DEFINING THE DOSE-RESPONSE REGION BETWEEN “EFFECT” AND “ADVERSE EFFECT” IMPLICATIONS FOR HUMAN HEALTH RISK ASSESSMENT. C. English. NSF International, Ann Arbor, MI.

1:30 INTRODUCTION. Caroline English

#1716 1:39 USE OF THE HIERARCHICAL OXIDATIVE STRESS PARADIGM FOR HAZARD AND RISK ASSESSMENT IN RESPONSE TO AMBIENT ULTRAFINE AND ENGINEERED NANOPARTICLE TOXICITY. A. E. Nel. Medicine, University of California Los Angeles, Los Angeles, CA. Sponsor: A. Nel.

Abstract #

#1717 2:05 HUMAN EXPOSURE CONTEXT FOR NANOPARTICLE TOXICITY ASSESSMENT BY BIOLOGICAL PATHWAY BASED DOSE-RESPONSE MODELING. J. G. Teegarden1, M. N. Costa2, K. M. Waters2 and J. E. McDermott3. 1Biological Monitoring and Modeling, Pacific Northwest National Laboratory, Richland, WA and 2Computational Biology and Bioinformatics, Pacific Northwest National Laboratory, Richland, WA.


#1719 2:57 FORMALDEHYDE: DOSE-DEPENDENT TRANSITIONS FOR AN ENDOGENOUS COMPOUND WITH HIGH DOSE CARCINOGENICITY. M. E. Andersen, Computational Biology, The Hanner Institutes for Health Sciences, Research Triangle Park, NC.

#1720 3:23 ENVIRONMENTAL EPIGENOMICS AND RISK ASSESSMENT: WHAT CONSTITUTES AN ADVERSE EFFECT AND ISSUES OF NONLINEARITY. D. C. Dolinoy, Environmental Health Sciences, University of Michigan, Ann Arbor, MI.

#1721 3:49 INTERPRETING DOSE-RESPONSE INFORMATION ON INTERMEDIATE STAGES OF CAUSAL CASCADES IN TOXICITY MODE OF ACTION. L. R. Rhomberg, Gradient, Cambridge, MA.

Tuesday Afternoon, March 8
1:30 PM to 4:15 PM
Room 150

Workshop Session: Nonclinical to Clinical Abuse Liability Assessment of Drugs: Current Practices, Challenges, and Impact of Recent Regulatory Guidance

Chairperson(s): Brian Gemzik, Bristol-Myers Squibb, Princeton, NJ, and Carrie Markgraf, Merck, Lafayette, NJ.

Sponsor: Regulatory and Safety Evaluation Specialty Section

Endorsed by: Drug Discovery Toxicology Specialty Section

Neurotoxicology Specialty Section

An increased level of attention has been focused on the assessment of abuse liability for drugs that affect the central nervous system as a consequence of recent regulatory guidances from the EMEA, ICH, as part of M3(R2), and U.S. FDA (draft). It is therefore critical to understand the current issues facing the pharmaceutical research and regulatory communities in the evaluation of new drug candidates for abuse and dependence potential. Nonclinical and clinical evaluations each contribute to the assessment of a drug for class scheduling, and to the information in the product label. Animal models for the study of drugs with pharmacologic mechanisms known to be associated with abuse are well characterized, and clinical trial protocols enrolling experienced users of abused drugs have been widely utilized in risk assessment. However, unique challenges are encountered in both nonclinical and clinical discovery and development settings when evaluating drugs with novel mechanisms of action. In recognition of the need for a broad and integrated understanding in the toxicology community, this symposium will blend current topics in this field of growing interest,
Program Description (Continued)

Abstract #

and present the scientific background and challenges in the context of the emerging regulatory landscape. Speakers will discuss the translational aspects of nonclinical and clinical findings to regulatory and scheduling processes. Emphasis will be placed on presentation and discussion of issues, with specific examples, that bridge these areas of interest and enhance overall awareness of the topic.

#1722 1:30 NONCLINICAL TO CLINICAL ABUSE LIABILITY ASSESSMENT OF DRUGS: CURRENT PRACTICES, CHALLENGES, AND IMPACT OF RECENT REGULATORY GUIDANCES. B. Gemzìk. Discovery Toxicology, Bristol-Myers Squibb Company, Princeton, NJ.

1:30 INTRODUCTION. Brian Gemzik


#1724 2:05 ANIMAL MODELS FOR ASSESSMENT OF ABUSE POTENTIAL: TRNSLATION TO CLINICAL EVALUATION. M. J. Kallman. Covance Inc., Greenfield, IN.


4:05 PANEL DISCUSSION/Q&A.

Tuesday Afternoon, March 8
1:30 PM to 4:15 PM
Room 207

Emerging Global Public Health Issues

Workshop Session: Risk Assessment for Proteins Introduced into Genetically Modified Crops

Chairperson(s): Bruce Hammond, Monsanto Company, St. Louis, MO, and Joseph Jez, The Donald Danforth Plant Science Center, St. Louis, MO.

Sponsor:
  Biotechnology Specialty Section

Endorsed by:
  Food Safety Specialty Section
  Risk Assessment Specialty Section

In 2009, there was 330 million acres of genetically modified (GM) crops planted in 25 countries. Despite rapid adoption, planting of GM crops remains controversial in some countries. GM crops undergo comprehensive food safety assessment before commercialization. This includes proteins introduced into the crop to achieve desired technical effects. One of the safety questions asked is if the introduced proteins (IP) have a history of "safe use" (HOSU) in food. For registration of GM crops in Europe, if there is no reliable safety information, IP without a HOSU must be tested in a 28 day repeat dose toxicity study. Thus we will explore appropriate information that might resolve safety concerns for IP without a HOSU. Advances in the field of molecular biology over the last 30 years have increased our ability to modify the structure, stability, and activity of proteins of interest. These modified proteins may not have a HOSU. However, absence of HOSU does not mean absence of safety. Protein engineering and evolution studies suggest that changes in amino acid sequences of proteins not related to those with known toxicological hazards (i.e., toxins or allergens) will not make a protein potentially hazardous de novo. Modifications often exert little effect on biological function, and some substitutions are deleterious to protein structure and function. In regards to dietary risk assessment of proteins introduced into GM crops, risk assessors have generally made the highly conservative assumption that the IP remains functionally intact during the processing of the crop into human food fractions. However for crops such as corn or soy which are extensively processed, the IP that have been tested do not survive processing functionally intact. This information could be relevant to resolving concerns about the safety of IP that do not have a HOSU. However, if the IP is related to known mammalian toxins, remains functionally intact after processing or is not susceptible to digestion, then further toxicology testing may be needed.

#1728 1:30 RISK ASSESSMENT FOR PROTEINS INTRODUCED INTO GENETICALLY MODIFIED (GM) CROPS. B. G. Hammond. Product Safety Center, Monsanto Company, St. Louis, MO.

1:30 INTRODUCTION. Bruce Hammond

#1729 1:35 NATURE’S BALANCING ACT: EVOLUTIONARY CHANGES IN PROTEIN FAMILIES. J. M. Jez. The Donald Danforth Plant Science Center, St. Louis, MO. Sponsor: B. Hammond.

#1730 2:07 ENGINEERING PROTEINS TO IMPROVE BIOLOGICAL FUNCTION. S. J. Franklin. Protein Technologies, Monsanto Company, Cambridge, MA Sponsor: B. Hammond.


#1733 3:43 RISK ASSESSMENT RECOMMENDATIONS FOR INTRODUCED PROTEINS. B. G. Hammond. Product Safety Center, Monsanto Company, Saint Louis, MO.
Program Description (Continued)

Abstract #

Tuesday Afternoon, March 8
1:30 PM to 4:15 PM
Room 151

Workshop Session: The Spectrum of Systems Biology

Chairperson(s): William Mattes, PharmPoint Consulting, Poolesville, MD, and Lyle Burgoon, U.S. EPA, Durham, NC.

Sponsor:
Molecular Biology Specialty Section

Endorsed by:
Risk Assessment Specialty Section

What is Systems Biology? While being hailed as the most promising approach for creating breakthroughs in scientific understanding in the wake of the ‘omics crush, systems biology is a phrase used to describe a multitude of approaches to understanding and/or predicting biological responses to stimuli. Decades ago systems biology invoked quantitative metabolic flux modeling, while today it is used to describe pathway analysis of ‘omic data, quantitative signaling network modeling, the integration of multiple ‘omic data, and many other approaches. Our panel of experts are poised to discuss their divergent views of systems biology and will describe how their research addresses a holistic solution to biologic data. Before concluding a panel discussion will convene that will provide a more global (i.e., systems) view of systems biology.

#1734 1:30 THE SPECTRUM OF SYSTEMS BIOLOGY. L. Burgoon1 and W. Mattes2. 1U.S. EPA, Durham, NC and 2PharmPoint Consulting, Poolesville, MD.

#1735 1:35 BIOSIMULATION OF DRUG-INDUCED LIVER INJURY. H. J. Clewell1, B. A. Howell1, Y. Yang1, S. Q. Siler2, R. Ho1, R. Kumar2, A. H. Harrill1, M. E. Andersen1 and P. B. Watkins1. 1The Hamner Institutes for Health Sciences, Research Triangle Park, NC and 2Entelos, Inc., Foster City, CA.


#1737 2:39 PHARMGKB: THE PHARMACOGENOMICS KNOWLEDGE BASE. T. E. Kleide, Department of Genetics, Stanford University Medical Center, Stanford, CA. Sponsor: L. Burgoon.


#1739 3:43 INTEGRATED ANALYSIS OF DISTINCT MOLECULAR AND PHENOTYPIC DATA TYPES IN XENOBiotic RESPONSE MODELING. R. J. Brennan. Toxicology, GeneGo Inc., San Jose, CA.

Abstract #

Tuesday Afternoon, March 8
1:30 PM to 4:15 PM
Room 202B

Toxicity Testing: State of Science and Strategies to Improve Public Health

Platform Session: Application of Zebrafish Models in Toxicology

Chairperson(s): Robert Chapin, Pfizer Global Research and Development, Groton, CT, and Colleen Doshna, Pfizer Inc., Groton, CT.

#1740 1:30 ZEBRAFISH: A PREDICTIVE MODEL FOR ASSESSING CANCER DRUG-INDUCED ORGAN TOXICITY. L. D’Amico1, C. Li1, E. Glaze2, M. Davis1 and W. L. Seng1. 1Phylionix, Cambridge, MA and 2NCI, NIH, Bethesda, MD. Sponsor: P. McGrath.

#1741 1:51 MANIPULATION OF THE WNT/β-CATENIN PATHWAY BY PROTOTYPIC INHIBITORS COMPARED TO MORPHOLINO KNOCKDOWN IN ZEBRAFISH. S. M. Eddy, D. B. Stedman and M. D. Aloe1. Drug Safety, Pfizer Global Research and Development, Groton, CT.


#1744 2:54 THE EFFECTS OF CHEMICALS IN THE U.S. EPA’S TOXCAST LIBRARY ON CAENORHABDITIS ELEGANS AND ZEBRAFISH DEVELOPMENT. W. A. Boyd1, M. V. Smith1 and J. H. Freedman1. 1NIEHS, Durham, NC and 2SRA International, Durham, NC.

#1745 3:15 A PROTEOMIC ANALYSIS OF ASERENIC EXPOSED ZEBRAFISH (DANIO RERIO) SUGGESTS ALTERED LIPID METABOLISM. P. Carlson1 and R. J. Van Beneden1. 1Graduate School of Biomedical Sciences, University of Maine, Orono, ME and 2School of Marine Sciences, University of Maine, Orono, ME. Sponsor: G. Mayer.

#1746 3:35 LOCALIZATION OF MEGALIN ALONG ZEBRAFISH LATERAL LINE. C. Doshna1, C. Nykyforchyn1, P. Burch1 and M. D. Aloe1. 1DSRD, Pfizer, Groton, CT and 2University of CT, Storrs, CT.

#1747 3:55 PERSISTENT LIFE HISTORY EFFECTS OF ATRAZINE EXPOSURE IN ZEBRAFISH: A MULTI-GENERATIONAL STUDY ENCOMPASSING GENE EXPRESSION, FITNESS, AND EPIGENETIC EFFECTS. S. Lewis1, G. J. Weber2, S. M. Petersen1, J. L. Freeman1 and M. S. Sepulveda2. 1Forestry and Natural Resources, Purdue University, West Lafayette, IN and 2School of Health Sciences, Purdue University, West Lafayette, IN.
TUeSDAY

#1753 3:03 HOUSEKEEPING GENE EXPRESSION IN NORMAL HUMAN EPIDERMAL KERATINOCYTES ALTERED BY SULFUR MUSTARD EXPOSURE. S. L. Beach, J. F. Dillman and A. L. Ruff. U.S. Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, MD.


Tuesday Afternoon, March 8
1:30 PM to 4:15 PM

Program Description

### Platform Session: Chemical and Biological Weapons—Sulfur Mustard Effects

**Chairpersons:** Jean Clare Seagrave, Lovelace Respiratory Research Institute, Albuquerque, NM, and Ganda Reddy, U.S. Army-CHPPM, Aberdeen Proving Ground, MD.


- **#1752 2:45** MECHANISMS OF VESICANT-INDUCED CYTOTOXICITY IN LUNG EPITHELIAL CELLS. Y. Wang, D. E. Heck and D. L. Laskin. 1Environmental & Occupational Medicine, UMDNJ-Robert Wood Johnson Medical School, Piscataway, NJ, 2Pharmacology & Toxicology, Rutgers University, Piscataway, NJ and 3Environmental Health Sciences, New York Medical College, Valhalla, NY.

- **#1753 3:03** HOUSEKEEPING GENE EXPRESSION IN NORMAL HUMAN EPIDERMAL KERATINOCYTES ALTERED BY SULFUR MUSTARD EXPOSURE. S. L. Beach, J. F. Dillman and A. L. Ruff. U.S. Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, MD.

TOXICITY OF INTRANASALLY-ADMINISTERED SILVER NANOPARTICLES. M. Genter1, N. C. Newman1, H. G. Shertzer1, S. F. Ali2, S. M. Hussain1 and B. Bollot1. 1Environmental Health, University of Cincinnati, Cincinnati, OH, 2Neurochemistry Laboratory, Division of Neurotoxicology, NCTR/U.S. FDA, Jefferson, AR, 3Applied Biotechnology Branch, AFRL, Wright-Patterson AFB, Dayton, OH and 4GEMpath, Institute, COMWEL, Ansan, Republic of Korea.

RECOVERY FROM SILVER NANOPARTICLE EXPOSURE-INDUCED LUNG FUNCTION CHANGES IN SPRAGUE-DAWLEY RATS. J. Lee1, J. Sung1, J. Ji2, K. Song1, J. Lee1, J. Lee1, J. Park2, H. Park2, C. Kang1 and K. Ahn1. 1Hoseo University, Asan, Republic of Korea, 2Korea Conformity Laboratories, Incheon, Republic of Korea, 3Samsung Electronics, Ltd., Suwon, Republic of Korea, 4Occupational Lung Diseases Institute, COMWEL, Ansan, Republic of Korea, 5Chung-Ang University, Seoul, Republic of Korea, 6Korea Research Institute of Standards and Science, Daejeon, Republic of Korea and 7Hanyang University, Seoul, Republic of Korea.

CLEARANCE OF ACCUMULATED SILVER AFTER CESSATION OF SILVER NANOPARTICLE (AGNP) EXPOSURE IN TISSUES OF SPRAGUE-DAWLEY RATS. J. Lee1, Y. Yu1, Y. Kim1, K. Song1, H. Ryu1, J. Sung1, M. Kwon1, J. Park2, J. Lee1, H. Park2, C. Kang1 and D. Marshall1. 1Hoseo University, Asan, Republic of Korea, 2KT&G, Daejeon, Republic of Korea, 3Korea Conformity Laboratories, Incheon, Republic of Korea, 4Chung-Ang University, Seoul, Republic of Korea, 5Occupational Lung Diseases Institute, COMWEL, Ansan, Republic of Korea, 6Korea Research Institute of Standards and Science, Daejeon, Republic of Korea and 7PerkinElmer, Boston, MA.

PREMATURE CELLULAR SENESCENCE-INDUCED BY NANOPARTICLE EXPOSURE: A NOVEL APPROACH TO NANOTOXICITY TESTING. D. Ellis and S. Hussain. Air Force Research Laboratory 711 HPW/RHPBA, Wright-Patterson AFB, OH.
Program Description (Continued)

Tuesday Afternoon, March 8
3:30 PM to 4:30 PM
Room 156

Exhibitor Hosted Session: HepaRG, Novel Human Hepatic Cells for *In Vitro* Tox

Presented by: Biopredic Inc

Biologics present an ongoing challenge to both PK/PD assessment and safety/immunotoxic effects. This session will discuss issues around assay development, impact of immunogenicity on PK/efficacy, and risk-based approach to determine what, if any, additional safety immune-based endpoints should be assessed.

Tuesday Afternoon, March 8
3:30 PM to 4:30 PM
Room 140A

Exhibitor Hosted Session: The Use of Minipigs in the Development of New Medicines

Presented by: Ellegaard Göttingen Minipigs A/S

This session provides an overview of marketed drug products where minipigs were used for safety and/or efficacy assessment. General trends of use are identified, furthermore its predictivity towards select clinical adverse reactions is evaluated.

Tuesday Afternoon, March 8
4:30 PM to 6:00 PM
Room 207
(SOT Members Only)

50th Anniversary Member Celebration Meeting

All members are invited to celebrate the Society's first 50 years of accomplishments. This fun event will highlight the history and growth of the Society over the past 50 years recognizing the members who are responsible for the Society's success. Come see what is going in the Time Capsule that will be opened in 2036 by future SOT members. Receive your copy of *The Society of Toxicology: The First Fifty Years*.

Tuesday Evening, March 8
6:30 PM to 9:30 PM
Grand Ballroom
(Ticket Required)

50th Anniversary Celebration Event

Come celebrate the 50th Anniversary in style. Dance the night away with tunes from the Beatles as preformed by BeatleMania Live. Dress in your favorite decade's attire (60's to the future)! Additional entertainment plans include festive decorations, games, delicious food stations, and beverages. This is truly an event you will not want to miss! All tickets will be sold on a first-come, first-served basis and are non-refundable after February 11, 2011.
#1765 6:30 50 YEARS OF “THE PILL”: RISK REDUCTION AND DISCOVERY OF BENEFITS BEYOND CONTRACEPTION, Brinda Mahadevan1, K. D. Chadwick2, R. T. Burkman1 and D. Nicholson1. 1Abbott Laboratories, Abbott Park, IL, and 2Department of Obstetrics and Gynecology, Tufts University School of Medicine, Springfield, MA. The understanding of the underlying mechanisms of a potential drug safety liability and prediction of a potential risk to man is important from a safety and regulatory perspective. Significant progress in molecular and cellular biology has led to in vitro models being applied for this purpose. Precision-cut organ slices is an outstanding in vitro model, which maintains the in vivo tissue organization, contains all in vivo relevant cell types, architecture and functional heterogeneity. Historically, organ slice cultures have been applied to study drug metabolism, pharmacology, and compound toxicity. Recently, it has been used to provide information on immune and inflammatory responses, provide insight into pathways of organ injury, assess the involvement of specific cell types in toxicity, and differentiate between species specific responses, thus furthering our understanding in predicting human toxicities and their underlying mechanisms. We will review this latest state-of-the-art use of this technology by providing a forum for the users of precision-cut slices to share their experiences. Our panel of experts will discuss the strengths, opportunities, and limitations of the model to evaluate target organ toxicities. A focal point of our discussions will be the use of slice technology used as a predictive tool in drug development and bridging compound-related safety from different animal species to man. We will provide an overview of the innovative use of toxicity endpoints, functional markers, and demonstrate the use of the model for tailor-made assessment of mechanisms of drug-induced target organ toxicity.

#1766 6:30 PRECISION-CUT TISSUE SLICES REVISITED: A CLASSICAL METHOD MEETS NEW CHALLENGES. Armin Wolf, Novartis Institutes of Biomedical Research (NIBR), Basel, Switzerland, and Alison E. Vickers, Allergan, Irvine, CA. The introduction of oral contraceptives (OCs) in the 1960s, both health benefits and safety concerns have been attributed to their use. In most instances, the non-contraceptive benefits of OCs outweigh the potential risks. OCs are highly effective, safe, and widely used; approximately 85% of women in the United States will use an OC for an average of five years. However, widespread use of OC formulations by women throughout their reproductive life cycle has given rise to concerns about the effects of OCs on risk factors for coronary heart disease. As with many drug firsts, many lessons can be learned from its development and use. Indeed, “the pill” played a significant role in reshaping pharmacology, social perceptions of medication, and the regulatory process for new drugs during the second half of the 20th century. In addition to the history and side effects/toxicity of OCs, the non-contraceptive health benefits that women experience that expand far beyond pregnancy prevention will be illuminated.
Program Description (Continued)

Abstract #  
6:55 USE OF PRECISION-CUT LIVER SLICE CULTURES TO STUDY KUFFER CELL-MEDIATED DRUG TOXICITY. Nandita Shangari
7:05 EX VIVO LUNG CULTURE MODELS TO STUDY RESPIRATORY INFLAMMATION AND THEIR RELEVANCE FOR IN VIVO. Armin Braun
7:15 CROSS-SPECIES COMPARISON ON PHARMACOLOGICAL AND TOXICOLOGICAL ACTIVITIES IN PRECISION-CUT LUNG SLICES. Christian Martin
7:25 CROSS-SPECIES COMPARISON OF DRUG METABOLISM AND TOXICITY IN INTESTINAL SLICES. Genny M. Groothuis
7:35 PANEL DISCUSSION/Q&A.

Wednesday Morning, March 9
6:30 AM to 7:50 AM
Room 150

Toxicity Testing: State of Science and Strategies to Improve Public Health

Informational Session: The Application of the Threshold of Toxicological Concern Concept to the Preclinical Safety Assessment of Non-Pharmaceutical Medical Products, Including Medical Devices and Combination Drug-Device Products
Chairperson(s): Richard W. Hutchinson, Johnson & Johnson; Ethicon, Somerville, NJ, and Ronald P. Brown, U.S. FDA, Silver Spring, MD.
Sponsor:
Medical Device Specialty Section
Endorsed by:
Regulatory and Safety Evaluation Specialty Section
Risk Assessment Specialty Section

The Threshold of Toxicological Concern (TTC) is a concept used to estimate safe exposure levels for chemicals for which toxicological data are not available. It is based on chemical structure and known safety data for structurally related chemicals. This value represents a low level of exposure with negligible risk to humans. The process for demonstrating preclinical safety or bio compatibility of medical devices often involves a staged approach starting with a thorough understanding of the chemical composition of the device, then progressing through in vitro and in vivo bioassays and ultimately continuing the risk management process through the lifecycle of the product. The TTC concept is a tool that many risk assessors use to make decisions early in this staged process, and international committees are actively developing standardized methods for applying these techniques. In order to adequately explore this topic, we begin by discussing the history of the TTC concept along with an overview of the areas that this concept has been embraced up to this point. We will provide a description of how tolerable intake levels are set for medical device extractables when an adequate database of information about the extracted chemical is known. In addition, information will be provided on how the TTC concept can be used for extractable chemicals from medical devices for which structural information is known but the toxicological database is insufficient. Finally, the validation of a software package in the context of extractable chemicals known to be relevant to medical devices will be described.

Abstract #  
6:35 HISTORY OF THE THRESHOLD OF TOXICOLOGICAL CONCERN CONCEPT. Mitchell Cheeseman
6:50 USE OF ISO 10993-17 GUIDELINES FOR SETTING TOLERABLE EXPOSURE LIMITS. Jon Cammack
7:05 THRESHOLD OF TOXICOLOGICAL CONCERN: APPLICATION TO MEDICAL DEVICES. Richard W. Hutchinson
7:20 CATEGORIZATION OF COMPOUNDS RELEASED FROM MEDICAL DEVICE MATERIALS INTO CRAMER CLASSES USING TOXTREE SOFTWARE. Ron Brown
7:35 PANEL DISCUSSION/Q&A.

Wednesday Morning, March 9
6:30 AM to 7:50 AM
Room 144

Education-Career Development Session: From Pilot Grants to High-End Journals: The Science of Writing
Chairperson(s): Marie C. Fortin, Environmental and Occupational Health Sciences Institute, Piscataway, NJ, and Anne LoCicero, The Hunner Institutes for Health Sciences, Research Triangle Park, NC.
Sponsor:
Education Committee
Endorsed by:
Career Resource and Development Committee
Postdoctoral Assembly
Student Advisory Council

Want to learn how to write effective grants and publications, or sharpen your scientific writing skills to communicate better? As toxicologists, it is essential that we be able to articulate new ideas in the form of grants and to disseminate the results of research in the form of scientific publications. Thus effective communication through writing is fundamental therefore it is crucial for early career scientists to learn effective writing skills. Publishing is imperative in academic or non-profit sectors and obtaining sufficient funding is a necessity when establishing a career and reputation. However, most scientists do not receive any formal training in writing and these skills are usually learned by following the style of a mentor or other authors. This issue is particularly important for graduate students, postdoctoral fellows, and other early career scientists who would like to enhance their critical writing skills which are needed for good communication. Our panel of experts will provide the audience with tactics to write promising NIH grant applications, general approaches that enhance the publication success of scientific papers, as well as concrete scientific writing strategies from an author’s and reader’s standpoint. Attendees will be provided with tips to enhance their skills that will enable more effective communication of both their ideas and their science, from grant proposals to publication.
Inherited or acquired defects in detecting, signalling or repairing DNA damage are associated with various human pathologies, including immuno-deficiencies, neurodegenerative diseases and various forms of cancer. Our increasing knowledge of cellular DNA-damage responses (DDR) is therefore providing new insights into the aetiology of such diseases and, moreover, is presenting opportunities for novel diagnostic and therapeutic strategies. Work in Dr. Jackson’s laboratory aims to decipher the mechanisms by which cells detect DNA damage and signal its presence to the DNA-repair and cell-cycle machineries. In particular, much of the work focuses on DNA double-strand breaks (DSBs) that are generated by ionizing radiation and radiomimetic chemicals, and which can also arise when the DNA replication apparatus encounters other DNA lesions.

In this talk, Dr. Jackson will first provide an overview of how cells respond to DNA damage and will describe the key protein players in these events. Next, he will discuss some of our recent work that has identified new proteins that mediate DSB responses, control DSB processing or modulate chromatin structure at DNA damage sites. He will then explain how this type of work identified therapeutic opportunities that led to me founding KuDOS Pharmaceuticals Ltd, whose mission was to develop DDR inhibitors for cancer therapy. Finally, he will use the example of the KuDOS drug olaparib (now owned by and being developed by AstraZeneca) to highlight the exciting potential for DDR inhibitors in treating many cancers. Specifically, Dr. Jackson will explain the molecular basis for how olaparib is exquisitely cytotoxic to cancer cells bearing DSB repair defects because of inherited mutations in BRCA1 or BRCA2 but is well tolerated by normal cells of cancer patients. In closing, he will explain how this and related mechanisms of “synthetic lethality” might be applied to a wider range of cancers that bear DDR defects.

Symposium Session: Autism: Genetic, Epigenetic, and Environmental Factors Influencing Neural Networks

Chairperson(s): Isaac Pessah, University of California Davis, Davis, CA, and Cindy Lawler, National Institute of Environmental Health Sciences, Durham, NC.

Sponsor: Neurotoxicology Specialty Section

Endorsed by: Reproductive and Developmental Toxicology Specialty Section

Risk Assessment Specialty Section

Our current knowledge about how genetic, epigenetic, and environmental factors contribute to autism susceptibility is ever changing. From a toxicologist’s perspective, the identity of defective genes and signaling pathways linked to autism provide important clues about exposures to environmental chemicals that influence autism susceptibility, severity, and/or treatment outcomes. One fundamental way by which heritable genetic vulnerabilities can amplify the adverse effects triggered by environmental exposures is if both factors (genes × environment) converge to dysregulate the same signaling systems at critical times of development. Thus, we will review current knowledge of genetic contributions to autism risk, and present new evidence that autism is associated with an appreciably increased level of genomic instability in low copy repeat (LCR) rich intervals of the genome and how environmental factors that affect genomic stability could contribute to the incidence and severity of autism. We will highlight new findings from both a mouse model of Rett Syndrome and human tissues that contribute to our understanding of how developmental exposures to brominated flame retardants (PBDEs) influence DNA methylation and neurobehavioral outcomes relevant to autism. An update will be provided on recent progress in understanding how impairments in neural connectivity contribute to autism including seminal findings of the role of MET polymorphisms play in autism risk and how polyaromatic hydrocarbons found in air pollution might influence MET signaling. Finally, we will review the major translational issues confronting autism research and provide information about current funding opportunities in autism research.
Program Description (Continued)

Abstract #

**#1771 9:55 EPIDEMIC INTERACTION BETWEEN PERINATAL PBDE EXPOSURE AND MEC22308 MUTATION THROUGH X CHROMOSOME INACTIVATION.** J. LaSalle, R. O. Valleroy, M. Golab, J. K. Suarez, R. Woods, T. Tu, A. George, P. J. Kostyniak, I. N. Pessah, and R. Berman. Microbiology and Immunology, University of California Davis School of Medicine, Davis, CA, *Molecular Biosciences, University of California Davis School of Veterinary Medicine, Davis, CA, *Environmental Toxicology, University of California Davis School of Medicine, Davis, CA, *Neurological Surgery, University of California Davis School of Medicine, Davis, CA, *Toxicology Research, State University of New York, Buffalo, NY.


11:30 PANEL DISCUSSION/Q&A.

Wednesday Morning, March 9
9:00 AM to 11:45 AM
Room 144

**Environment and Disease**

**Symposium Session: Gene-Environment Disease Interactions in Fish Models of Human Disease**

**Chairperson(s):** Michael Carvan, University of Wisconsin Milwaukee, Milwaukee, WI, and Seth Kullman, North Carolina State University, Raleigh, NC.

**Sponsor:** Molecular Biology Specialty Section

**Endorsed by:**

Mechanisms Specialty Section

Use of alternative species for toxicity testing is a fast growing field in toxicology and provides many distinct advantages as an adjunct to mammalian testing. Thus, we will highlight the use of small aquarium fish as models to investigate mechanistic toxicity in relation to environment and disease etiology. It is clear that much insight into human health and safety can be gained through research involving various aquatic species. Much effort has been put into using fish species as translational models for detailed mechanistic investigation in cancer, aging, tissue regeneration, genetic diseases and disorders, and stem cell biology. These findings emphasize that most cellular, molecular, and biochemical processes are well conserved across vertebrate groups. The use of aquatic organisms as models in biomedical research has a rich and extensive history. Their research value is widely appreciated, comprising a taxonomically and environmentally diverse group, providing researchers with opportunities to investigate a wide range of systems and processes. New contributions to the toxicology literature reflect in part the strategic use of available resources and chronicle the advantages inherent when these models are coupled to modern experimental approaches in human disease. We will effectively communicate the current state of research with small aquarium fish models in mechanistic toxicology as it relates to molecular approaches addressing gene-environment and environmental-disease interactions. Focus areas will include ‘omic approaches, role of gene duplicates and polymorphic sequences in toxicity, and association of genetic and environmental factors in disease susceptibility. In conclusion, we will provide a forum for investigators to exchange scientific information and encourage enhancement of the utility of aquatic models for studies of human disease.

**#1774 9:00 GENE-ENVIRONMENT DISEASE INTERACTIONS IN FISH MODELS OF HUMAN DISEASE.** M. J. Carvan, J. Postlethwait, M. Hahn, S. Kullman, and J. Bronstein. Great Lakes WATER Institute, Milwaukee, WI, University of Oregon, Eugene, OR, Woods Hole Oceanographic Institution, Woods Hole, MA, *North Carolina State University, Raleigh, NC and University of California Los Angeles, Los Angeles, CA.


11:40 CLOSING REMARKS/summary.
The World Health Organization finds that 30% of all human cancers are cancer of the skin, and one in five Americans will develop skin cancer in their lifetime. Furthermore, increased cancer mortality has been linked to a history of non-melanoma skin cancer. The majority of skin cancers arise from chemical contact or exposure to ultraviolet radiation, but a complete understanding of the mechanisms involved in cancer development remains elusive. Chronic irritation and inflammation have also been observed at sites of tumorigenesis; this, coupled with the fact that tumors routinely present with deregulated proliferative signaling pathways, suggests inflammatory signaling may significantly contribute to skin carcinogenesis. Understanding how inflammation alters tumor development and progression could identify novel preventative and therapeutic strategies to treat or reduce skin cancer.

Our divergent panel of experts will discuss the mechanisms by which the inflammatory micro-environment alters skin tumor formation and progression, the importance of epidermal homeostasis, the differential roles of key inflammatory cells that contribute to the tumor phenotype, how mouse models can be applied to human relevance, and how this research impacts risk assessment and regulation. Because inflammation has been implicated in other cancers, investigators can apply, exploit, and build upon the discussed strategies and mechanisms for other cancer models. For those investigators interested in the integrative and multi-disciplinary nature of cancer biology, this discussion and collaboration will lay the groundwork to help understand the novel mechanisms of skin carcinogenesis. In conclusion, exploration of this topic will enable U.S. to identify potential targets that can be related to the cause of cancer ultimately striving to decrease the incidence and mortality of this very common worldwide cancer.

#1780 9:00 MECHANISMS OF INFLAMMATION IN SKIN CARCINOGENESIS. L. Mordasky Markell and M. G. Borland. Center for Molecular Toxicology and Carcinogenesis, Penn State University, University Park, PA.

#1781 9:05 A SERIES OF AUTOCRINE AND PARACRINE FEEDBACK LOOPS IN INFLAMMATION PATHWAYS ARE REQUIRED FOR TUMOR FORMATION IN SKIN CARCINOGENESIS. S. H. Yuspaa. National Cancer Institute, National Institutes of Health, Bethesda, MD. Sponsor: L. Markell.

#1782 9:35 IKKα FUNCTION IN SKIN INFLAMMATION AND TUMORIGENESIS. Y. Hu. NCI, Frederick, MD. Sponsor: L. Markell.

#1783 10:05 MODELING THE INFLAMMATORILY-IMMUNOSUPPRESSIVE SWITCH DURING PREMALIGNANT PROGRESSION. A. Glick and A. Gunderson. Veterinary and Biomedical Sciences, Penn State University, University Park, PA. Sponsor: L. Mordasky Markell.

#1784 10:35 DOES SEX MATTER IN THE DEVELOPMENT OF NON-MELANOMA SKIN CANCERS? T. Oberyeyen, N. J. Sullivan, K. L. Tober, M. A. Bill, J. A. Riggenbach, J. S. Schick and G. B. Lesinski. Pathology, The Ohio State University, Columbus, OH and 1Internal Medicine, The Ohio State University, Columbus, OH. Sponsor: L. Mordasky Markell.


11:35 PANEL DISCUSSION/Q&A.

Symposium Session: New Insights into the Nrf2-Keap1 Pathway and Its Impact on Human Disease

Chairs: Thomas Kensler, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, and Donna Zhang, University of Arizona, Tucson, AZ.

Sponsor: Mechanisms Specialty Section

Endorsed by: Carcinogenesis Specialty Section

Molecular Biology Specialty Section

Damage mediated by reactive electrophilic intermediates can have a profound effect on many cellular functions, and has been implicated in cancer, inflammation, neurodegenerative diseases, cardiovascular diseases, and aging. Eukaryotic cells have evolved anti-oxidant defense mechanisms to neutralize reactive oxygen species (ROS) and maintain cellular redox homeostasis. Eukaryotic cells also express cofactors and enzymes for trapping reactive electrophiles. A key adaptive response system for protection against ROS and electrophilic intermediates is mediated by the transcription factor Nrf2, through the antioxidant responsive element (ARE) sequences and the promoter regions of dozens of cytoprotective genes. Basal levels of Nrf2 remain relatively low, due to its negative regulation by Keap1, which targets Nrf2 for ubiquitination and degradation. However, upon activation, cysteine residues of Keap1 are modified, leading to conformational changes that impair ubiquitination of Nrf2, thus allowing Nrf2 to translocate into the nucleus to activate the expression of its downstream genes. The activation of the Nrf2 pathway is not only important in protecting cells against the deleterious effects caused by carcinogens and environmental toxicants, but also, Nrf2 protects against drug-induced organ toxicity and damage. Unfortunately, the dark-side of Nrf2 has been revealed indicating that constitutive activation of Nrf2, due to mutations in either Nrf2 or Keap1, creates an environment conducive to cancer cell growth and thus, contributes to chemoresistance. Our knowledge on the Nrf2 pathway has progressed rapidly, and new important insights into its complex regulation have emerged. Thus it is important to highlight the novel mechanisms that activate the Nrf2 pathway, cross-talk between Nrf2 with other essential cell signaling pathways to maintain cellular homeostasis, the protective role of Nrf2 in human diseases, and paradoxically its role as a hostage in cancer. In conclusion, we will explore the essential role of Nrf2 in disease and in a variety of biological processes that regulate the response to environmental exposures.
Realistic human exposures are comprised of multiple chemical as well as non-chemical stressors. Non-chemical stressors, such as poor diet and psychological or psychosocial stress, often elicit adverse effects by targeting the same signaling pathways as chemical stressors and, therefore, have the potential to significantly modify our responses to chemical exposures. In recent years, regulatory agencies have emphasized the need for conducting cumulative risk assessments in order to account for real-world, multi-chemical exposure scenarios; however, the incorporation of non-chemical stressors into these cumulative risk assessments represents a novel and complex challenge. Development of a systematic approach for assessing the joint action of chemical and non-chemical stressors is needed in order to prioritize non-chemical stressors for inclusion in cumulative risk assessments, determine the type of data needed to incorporate non-chemical stressors, and develop methods for assessing their contribution to overall risk. We will highlight key issues in order to provide a rational starting place for moving forward. Therefore it is important to put this issue in context, describe data needs, and propose methods for incorporating non-chemical stressors into cumulative risk assessments. Participants represent perspectives from regulatory agencies, industry, non-profit, and academia.
pulmonary toxicity testing data for two classes of materials—those for nano
titania and multi-walled carbon nanotubes (MWCNTs). The hazard data
were generated for these two classes by utilizing standardized regulatory
guideline methodologies, which make such predictions for closely-related
materials approachable. Additional methodologies which may facilitate
broader-based conclusions or assist in screening include use of other in vivo
-based testing approaches such as those involving shorter-term inhalation,
or aspiration/intratracheal instillation protocols. We will highlight different
perspectives, consistent with our panel of experts diverse backgrounds
which are needed to address this complex need. In addition, we will offer
the latest findings on the pulmonary toxicity of nano titania and MWCNTs.
In addition, viewpoints will be offered on how generalizable the findings
are to other types of titania and MWCNTs, given differing physicochemical
properties, methods of particle generation and delivery, and current perspec-
tives on modes of actions. Insights will be presented on how such data
can be utilized in applications such as pre-screening, and establishment
of protective levels for workers. We believe that the dialogue between
the panelists and the audience will facilitate the identification of areas
of agreement, and key information needs, in order to further develop these
approaches.

#1797 9:00  EXTENDING PULMONARY TOXICITY FINDINGS FOR NANOMATERIALS.  D. Warheit and P. Sayre.1 U.S. EPA, Washington, D.C. and 2DuPont, Providence, RI.

#1798 9:05  TESTING OF MWCNT FOR POSSIBLE HEALTH HAZARDS AND RELEASE FROM COMPOSITE MATERIALS.  R. Landsiedel1, W. Wohlfleben1, L. Ma-Hock1, S. Treumann1, K. Wiersch1 and B. van Ravenzwaay2. 1Department of Experimental Toxicology and Ecology, BASF SE, Ludwigshafen am Rhein, Germany, 2Polymer Physics Department, BASF SE, Ludwigshafen am Rhein, Germany and 3Product Safety Department, BASF SE, Ludwigshafen am Rhein, Germany.

#1799 9:27  EXPERIMENTAL EVIDENCE FROM A 90-DAY MWCNT INHALATION STUDY IN RATS: ANALYSIS OF COMMON DENOMINATORS OF MWCNT WITH SUBMICRONIZED PARTICLES.  J. Pauluhn.  Toxicology, Bayer HealthCare, Wuppertal, Germany.

#1800 9:49  FACTORS AFFECTING THE PULMONARY RESPONSE TO CARBON NANOTUBES.  V. Castranova.  Pathology & Physiology Branch, CDC NIOSH, Morgantown, WV.

#1801 10:11  TITANIA-CRYSTALLINITY AND SURFACE REACTIVITY EFFECTS ON TOXICITY — NOT ALL NANO TITANIUM DIOXIDE PARTICLES HAVE THE SAME HAZARD POTENTIAL.  D. B. Warheit.  DuPont Haskell Global Centers, Newark, DE.

#1802 10:33  CHARACTERIZING MWCNTS AND TITANIA NANOSTRUCTURES: DIFFERENT MATERIALS REQUIRE DIFFERENT TECHNIQUES.  C. Sayes.  Texas A&M University, College Station, TX.


11:17  PANEL DISCUSSION/Q&A.
A new computational tool to determine tissue: blood partition coefficients for a variety of chemicals. E. E. Carpenter, A. N. Mayeno and B. Reisfeld. Department of Chemical and Biological Engineering, Colorado State University, Fort Collins, CO.


Measuring compound selectivity and its link to in vivo toxicity study outcome. X. Wang and N. Greene. Compound Safety Prediction, Pfizer, Groton, CT.

Abstract #

#1823 Poster Board Number .....................................107 THE IN VITRO METABOLISM OF METHYL AND PROPYL PARABENS IN HUMAN AND RAT. K. Choi, H. Joo, J. Campbell, M. Andersen and H. Clewell. The Hamner Institutes for Health Sciences, Research Triangle Park, NC.

#1824 Poster Board Number .....................................108 PHASE II BIOTRANSFORMATION OF DI(2-ETHYLHEXYL) PHthalATE IN HUMAN AND RAT. J. O'Connell1,2, K. Choi1, J. Grimes1, T. Clewell1, J. Campbell1 and H. Clewell1. The Hamner Institutes for Health Sciences, Research Triangle Park, NC and 2The University of North Carolina at Chapel Hill, Chapel Hill, NC.

#1825 Poster Board Number .....................................109 EFFECTS OF METABOLISM BY INTESTINAL MICROORGANISM ON PHARMACOKINETICS OF BAICALIN IN VIVO. T. Jeong, M. Kang, G. Ko, S. Yoo, H. Ha, M. Kong and D. Lee. Pharmacy, Yeungnam University, Gyeongsan, Gyeongbuk, Republic of Korea.

#1826 Poster Board Number .....................................110 IMMUNOTOXIC EFFECTS OF ARBUTIN VIA METABOLISM BY INTESTINAL BACTERIA IN VITRO. M. Kang1,2, H. Ha1, H. Kim1, G. Ko1, S. Yoo1, D. Lee1, M. Kong1, Y. Ahn1, H. Jeong2 and T. Jeong1. Pharmacy, Yeungnam University, Gyeongsan, Gyeongbuk, Republic of Korea, 3Pharmacy, Chungnam National University, Daejeon, Republic of Korea and 4Yakult Co., Yongin, Republic of Korea.

#1827 Poster Board Number .....................................111 ROLE OF METABOLISM BY INTESTINAL BACTERIA IN GENIPOSIDE-INDUCED TOXICITY IN MAMMALIAN CELL CULTURES. M. Kong1,2, H. Ha1, H. Kim1, G. Ko1, S. Yoo1, D. Lee1, M. Kang1, H. Jeong3 and T. Jeong4. A. S. University of Arizona, Tucson, AZ.

#1828 Poster Board Number .....................................112 METABOLIC CONVERSION OF AFLATOXIN B2 TO AFLATOXIN B1 IN DUCKS. A. Poapolathep1, S. Poapolathep1, S. Isaryodom1, K. Insilyp1, N. Kingkaew1, Y. Sugita-Konishi1 and S. Kamagari1. Department of Pharmacology, Faculty of Veterinary Medicine, Kasetsart University, Bangkok, Thailand, 2Research Center for Food Safety, University of Tokyo, Tokyo, Japan, 3Department of Animal Husbandry, Faculty of Agriculture, Kasetsart University, Bangkok, Thailand and 4Division of Microbiology, National Institute of Health Sciences, Tokyo, Japan.

#1829 Poster Board Number .....................................113 THIOETHER METABOLITES OF 3, 4-METHYL-N ED Dioxy M ETHAMPHETAMINE ARE POTENT INHIBITORS OF THE HUMAN SEROTONIN TRANSPORTER (HSERT). L. E. Lizarraza, J. Herndon, S. S. Lau and T. J. Monks. Pharmacology/Toxicology, University of Arizona College of Pharmacy, Tucson, AZ.

Abstract #

#1830 Poster Board Number .....................................114 METABOLISM OF 2, 3', 3, 4, 6'-HEXACHLOROBIPHENYL (PCB136) IN PRECISION-CUT RAT LIVER SLICES. X. Wu1, K. Dammannahalli2, M. Duffel3 and H. Lehmeler4. 1Occupational and Environmental Health, The University of Iowa, Iowa City, IA and 2Medicinal and Natural Products Chemistry, The University of Iowa, Iowa City, IA.

#1831 Poster Board Number .....................................115 STRUCTURAL CHARACTERIZATION OF O-METHYLATED-CATECHOL METABOLITE OF BENZO[a]PYRENE-7, 8-DIENE IN THREE HUMAN LUNG CELLS. M. Huang, L. Zhang, I. A. Blair and T. M. Penning. Centers of Excellence in Environmental Toxicology and Cancer Pharmacology, Department of Pharmacology, University of Pennsylvania, Philadelphia, PA.

#1832 Poster Board Number .....................................116 A MEANS TO STUDY CRITICAL ADDUCT PROTEIN TARGETS: COMPARISON OF TOXIC NAPHTHALENE AND NON-TOXIC DIETHYL MALEATE SHOWS EQUIVALENT IN VIVO COVALENT BINDING AND GLUTATHIONE DEPLETION IN AIRWAY EPITHELIUM. D. Krawiec1, D. Morin1, L. Van Winkle2 and A. Buckpitt3. Molecular Biosciences, University of California Davis, Davis, CA and 2Anatomy Physiology and Cell Biology, University of California Davis, Davis, CA.

#1833 Poster Board Number .....................................117 EFFECT OF DDT ON TESTOSTERONE BIOTRANSFORMATION BY RAT BRAIN MICROSONES. A. Sierra-Santoyo1, O. Horacio2 and M. L. Lopez-Gonzalez2. 1Occupational and Environmental Health, The Hamner Institute for Health Sciences, Cranbury, NJ and 2Department of Pharmacology, University of Arizona, Tucson, AZ.

#1834 Poster Board Number .....................................118 TWO MECHANISMS INVOLVED IN ECSTASY-INDUCED HEPATOTOXICITY. I. Antolino Lobo1,2, W. Strach1, D. A. Fiechter1, I. S. Ludwig1, M. van den Berg1, J. Meulenberg1,2 and M. van Duerssen1,2. Endocrine Toxicology, IRAS, Utrecht, Netherlands and 2National Poisons Information Centre, National Institute for Public Health and the Environment, Bilthoven, Netherlands.

#1835 Poster Board Number .....................................119 TOXICITY OF AMINONITRILES IN MALE SPRAGUE-DAWLEY RATS. M. Y. Farrowqui and T. Lacy. Biology, University of Texas Pan American, Edinburg, TX.

#1836 Poster Board Number .....................................120 DRUGS INTERACTING WITH TRICHLOROETHYLENE METABOLISM IN RAT AND HUMAN. M. Cheikh-Rouhou1 and S. Haddad1. 1Environmental and Occupational Health, Université de Montréal, Montréal, QC, Canada and 2Biological Sciences, TONE, Université du Québec à Montréal, Montréal, QC, Canada.
Program Description (Continued)

Abstract #
Wednesday Morning, March 9
9:00 AM to 12:30 PM
Exhibit Hall

Poster Session: Phase I and II Biotransformation Enzymes
Chairperson(s): Bhagavatula Moorthy, Baylor College of Medicine, Houston, TX.

Displayed: 9:00 AM–12:30 PM
Author Attended: 11:00 AM–12:30 PM

#1837
Poster Board Number .................................121
HUMAN DIOXIN-INDEUCIBLE CYTOCHROME P450, CYP2S1, METABOLIZES CYCLOOXYGENASE—AND LIPOOXYGENASE—DERIVED EICOSANOIDs—P. H. Bui1,2, S. Imaizumi3, S. Bhelanagari4, S. T. Reddy1, and O. Hankinson1,2, 1Pathology and Laboratory Medicine, University of California Los Angeles, Los Angeles, CA, 2Baylor College of Medicine, Houston, TX, 3Department of Molecular and Medical Pharmacology, University of California Los Angeles, Los Angeles, CA, 4Faculty of Pharmacy & Pharmaceutical Sciences, University of Alberta, Alberta, AB, Canada.

#1838
Poster Board Number .................................122
CYTOCHROME P450'S VARY IN THEIR ABILITY TO GENERATE REACTIVE OXYGEN SPECIES, V. Mishin1, D. E. Heck2, D. L. Laskin3, and J. D. Laskin4, 1Pharmacology & Toxicology, Rutgers University, New Brunswick, NJ, 2Environmental Health Sciences, New York Medical College, Valhalla, NY, 3University of California Los Angeles, Los Angeles, CA, 4Department of Molecular and Medical Pharmacology, University of California Los Angeles, Los Angeles, CA.

#1839
Poster Board Number .................................123
BACKGROUND LEVELS OF THE TRYPTOPHAN PHOTOPRODUCT 6-FORMYLINDOLO[3,2-b]CARBAZOLE (FICZ) DETERMINE THE OUTCOME OF IN VITRO BIOASSAYS FOR AH-RECEPTOR ACTIVATION, U. Rannug1, E. Wincent2, A. Mohammadi Bardbori1, T. Ailsberg1, and A. Runnug2, 1Department of Genetics, Microbiology, and Toxicology, Stockholm University, Stockholm, Sweden, 2Institute of Environmental Medicine, Karolinska Institutet, Stockholm, Sweden, and 3Department of Applied Environmental Science, Stockholm University, Stockholm, Sweden.

#1840
Poster Board Number .................................124
CYTOCHROME P450 CYP2A2, CYP3A, AND PREGNANE X RECEPTOR IN ZEBRAFISH (DANIO RERIO): EXPRESSION IN RESPONSE TO POTENTIAL AGONISTS FOR PXR, A. Kahota1, A. Bainy2, M. Siebert1, B. Woodin1, J. Goldstone1, and J. Segerman1, 1Biological Department, Woods Hole Oceanographic Institution, Woods Hole, MA, and 2Department of Bioquímica, Universidade Federal de Santa Catarina, Florianópolis, SC, Brazil.

#1841
Poster Board Number .................................125
TRANSCRIPTIONAL AND POST-TRANSCRIPTIONAL REGULATIONS OF CYP1A1 GENE BY LEAD IN HUMAN HEPATOMA HEPG2 CELL. H. M. Korashy1 and A. O. El-Kad2, 1Pharmacology & Toxicology, King Saud University, Riyadh, Saudi Arabia, and 2Faculty of Pharmacy & Pharmaceutical Sciences, University of Alberta, Edmonton, AB, Canada.

#1842
Poster Board Number .................................126

#1843
Poster Board Number .................................127
BUTADIENE EPoxide METABOLITES INHIBIT CYP2E1 ACTIVITY, J. H. Hartman1, G. P. Miller2, and G. Boyeson1, 1Biochemistry, University of Arkansas for Medical Sciences, Little Rock, AR, and 2Environmental and Occupational Health, University of Arkansas for Medical Sciences, Little Rock, AR.

#1844
Poster Board Number .................................128
EFFECTS OF HERBAL EXTRACTS ON CYTOCHROME P450-ASSOCIATED MONOOXYGENASE ACTIVITIES IN ENRICHED RAT LIVER MICROSOMES, D. Lee, M. Kong, G. Ko, S. Yoo, H. Ha, T. Jeong and M. Kang, Pharmacy, Yeungnam University, Gyeongsan, Gyeongbuk, Republic of Korea.

#1845
Poster Board Number .................................129
IS THE PROMISCUITY OF THE ARYL HYDROCARBON RECEPTOR A MYTH? E. Wincent1,2, J. Bengtsson2, U. Rannug2, and A. Runnug2, 1Institute of Environmental Medicine, Karolinska Institutet, Stockholm, Sweden, and 2Department of Genetics, Microbiology, and Toxicology, Stockholm University, Stockholm, Sweden.

#1846
Poster Board Number .................................130
IN VITRO METABOLISM OF DI(2-ETHYHLHEXYL) PHthalate (DEHP) BY VARIOUS HUMAN AND RAT ORGan MICROSOMES, S9, AND CYP ISOFORMS, J. Campbell, K. Choi, H. Joo, R. Clewell, and H. Clewell, The Hamner Institutes, Research Triangle Park, NC.

#1847
Poster Board Number .................................131
USE OF ALTERNATIVE PROMOTERS AS REGULATORS OF HUMAN MICROsomal EPoxide HYDROLASE EXPRESSION, H. Nguyen, X. Yang, and C. J. Omiecinski, Center for Molecular Toxicology, Penn State University, University Park, PA.

#1848
Poster Board Number .................................132
RESPECTIVE ROLES OF CYP2A2 AND CYP2F2 IN THE BIOACTIVATION OF 3-METHYLINDOLE IN MOUSE OLFACTORY MUCOSA AND LUNG, X. Zhou1, J. D’Agostino1, L. Li1, G. S. Yost1, and X. Ding1, 1Wadsworth Center, Albany, NY, 2University of Utah, Salt Lake City, UT.
#1849 Poster Board Number .....................................133
MICROSOMAL METABOLISM OF NAPHTHALENE (NA) IN TARGET AND NON-TARGET RODENT TISSUES: COMPARISON WITH NON-HUMAN PRIMATES. A. Buckpirt, D. Morin, P. Edwards and L. Van Winkle. Veterinary Medicine, University of California Davis, Davis, CA.

#1850 Poster Board Number .....................................134
CYTOCHROME P450S MEDIATE THE METABOLISM AND ARE REGULATED BY BERBERINE IN MICE AND HUMANS. Y. J. Guo¹, F. Li², Y. Chen¹, Z. Tan¹, C. Pope³, X. Chen¹, X. Ma², C. D. Klaassen¹ and H. Zhou¹. ¹Pharmacogenetics Research Institute, Institute of Clinical Pharmacology, Central South University, Changsha, China, ²University of Kansas Medical Center, Kansas and ³XenoTech, LLC, Kansas City, KS.

#1851 Poster Board Number .....................................135
CYTOCHROME P450 2S1 MEDIATED REGULATION OF HUMAN LUNG CELL PROLIFERATION. A. M. Rowland, T. W. Madanyakper, T. P. Fidler and L. Montoya. Chemistry and Biochemistry, New Mexico State University, Las Cruces, NM.

#1852 Poster Board Number .....................................136
NEW ROLES OF CYTOCHROME P4501A1 AND THE ENDOGENOUS ARYL HYDROCARBON RECEPTOR (AHR) LIGAND 6-FORMYLINDOLO[3, 2-b]CARBAZOLE (FICZ) IN REGULATION OF CELL GROWTH. A. Rannug¹, H. Mei¹, A. Mohammadi-Baraboli¹, Y. Wei¹ and U. Rannug¹. ¹Institute of Environmental Medicine, Karolinska Institutet, Stockholm, Sweden, ²Department of Community Medicine, Mercer University School of Medicine, Macon, GA and ³Department of Genetics, Microbiology, and Toxicology, Stockholm University, Stockholm, Sweden.

#1853 Poster Board Number .....................................137

#1854 Poster Board Number .....................................138
RAT CYTOCHROME P450 2S1 (CYP2S1) IS NOT INDUCED BY THE ARYL HYDROCARBON RECEPTOR (AHR) AGONIST PCB126. B. Wang¹, L. Robertson¹², K. Wang² and G. Ludewig².¹Human Toxicology, University of Iowa, Iowa City, IA; ²Occupational & Environmental Health, University of Iowa, Iowa City, IA and ³Biostatistics, University of Iowa, Iowa City, IA.

#1855 Poster Board Number .....................................139
REGULATION OF CARBONYL REDUCTASE EXPRESSION AND ACTIVITY BY AH RECEPTOR LIGANDS. E. A. Amouzougan¹, C. R. Klocke², H. A. Charlier¹ and K. A. Mitchell¹. ¹Biological Sciences, Boise State University, Boise, ID and ²Chemistry and Biochemistry, Boise State University, Boise, ID.

#1856 Poster Board Number .....................................140
INCREASED LEVELS OF OXIDATIVE DNA ADDUCTS IN CYTOCHROME P450 (CYP)1A2-NULL MICE AND PREMATUR INFANTS EXPOSED TO HYPEROXIA: NOVEL BIOMARKERS FOR BRONCHOPULMONARY DYSPLASIA (BPD). B. Moorthy¹, L. Wang², C. Xanthi³, G. Zhou¹ and W. Jiang³. ¹Pediatrics, Baylor College of Medicine, Houston, TX and ²Institute of Biotechnology, Texas A&M University, Houston, TX.

#1857 Poster Board Number .....................................141
ALTERATION IN EXPRESSION OF MOUSE CARBOXYLsterol ESTER ISOFORMS FOLLOWING DEVELOPMENTAL DELTAMETHRIN EXPOSURE: ROLE OF NUCLEAR RECEPTORS. A. A. Baker and J. R. Richardson. Toxicology, UMDNJ-Rutgers University, Piscataway, NJ.

#1858 Poster Board Number .....................................142
TRANSCRIPTIONAL REGULATION OF THE HUMAN MICROSOMAL EPoxide HYDROLASE GENE (EPHX1) DRIVEN BY A FAR UPSTREAM ALTERNATIVE PROMOTER. S. Su¹² and C. Omiecinski¹. ¹Huck Institute of Life Sciences, Penn State University, University Park, PA and ²Center for Molecular Toxicology and Carcinogenesis, Penn State University, University Park, PA.

#1859 Poster Board Number .....................................143
ROS PRODUCTION AND ENZYME INACTIVATION OF ZEBRAFISH CYP1S BY HALOGENATED AROMATIC HYDROCARBONS. J. V. Goldstone¹, P. Urban², D. Pompon² and J. J. Stegemann¹. ¹Biology, Woods Hole Oceanographic Institution, Woods Hole, MA and ²CNRS-Gif sur Yvette, Gif sur Yvette, France.

#1860 Poster Board Number .....................................144
OXIDATIVE METABOLISM OF STYRENE IN CYP2F2-NULL MOUSE LIVER AND LUNG MICROSOMES. S. Shen¹, L. Li², X. Ding² and J. Zheng². ¹Center for Developmental Therapeutics, Seattle Children’s Research Institute, Seattle, WA, and ²Wadsworth Center, New York State Department of Health, and School of Public Health, State University of New York, NY and ³Department of Pediatrics, University of Washington, Seattle, WA.

#1861 Poster Board Number .....................................145
DOWN REGULATION OF MOUSE CYP2D5 IN PRIMARY HEPATOCYTES USING RNAI. O. Efrahy¹, B. Damiri¹ and W. S. Baldwin². ¹Biological Sciences, Clemson University, Clemson, SC and ²Environmental Toxicology Program, Clemson University, Clemson, SC.

#1862 Poster Board Number .....................................146
DIFFERENTIAL SULFOTRANSFERASE EXPRESSION AFTER FASTING AND CALORIC RESTRICTION IN LIVERS OF LEAN (C57BL/6) AND OBESE (OB/OB) MICE. N. H. Knudsen¹, S. R. Kulkarni², J. Xu³, R. S. King⁴ and A. L. Slife⁴. ¹Biomedical and Pharmaceutical Sciences, University of Rhode Island, Rhode Island, RI.
Program Description (Continued)

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<td>#1863</td>
<td>NAT1 INTERACTION WITH PPD AND OXIDIZED PPD. J. Bonifas, D. Dierolf and B. Blömeke. Environmental Toxicology, University Trier, Trier, Germany.</td>
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Wednesday Morning, March 9
9:00 AM to 12:30 PM
Exhibit Hall

Poster Session: Toxicology Education: K–12 and Beyond

Chairperson(s): Sue Ford, St. Johns University, Jamaica, NY.

Displayed: 9:00 AM–12:30 PM

Author Attended: 9:00 AM–11:00 AM

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<th>Abstract #</th>
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<td>#1865</td>
<td>INSPECTOR TOXICOLOGY: AN INNOVATIVE TOXICOLOGY AWARENESS PROGRAM. D. Handel1 and A. R. Schatz1. 1Mid-Atlantic Society of Toxicology (MASOT), Bordentown, NJ and 2Department of Pharmaceutical Sciences, St. John’s University, Jamaica, NY.</td>
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<td>#1866</td>
<td>TOTALLY TOXIC: A K-12 SCIENCE OUTREACH ACTIVITY USING CASE STUDIES TO TEACH BASIC PRINCIPLES OF TOXICOLOGY. C. P. Carron1 and D. R. Mattie2. 1Biological Sciences, Northern Kentucky University, Highland Heights, KY and 2Nano/Toxicology Section, AFRL/Wright-Patterson AFB, Dayton, OH.</td>
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<td>#1869</td>
<td>THE IDAHO SCIENCE &amp; ENGINEERING FESTIVAL: SATELLITE EVENT FOR K-12 SCIENCE EDUCATION. J. C. Pjia, C. Evilia and L. DeVeaux. Biological Sciences, Idaho State University, Pocatello, ID.</td>
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Poster Board Number .....................................206

THE VOYAGE OF THE ODYSSEY: A UNIQUE PLATFORM FOR TOXICOLOGY RESEARCH AND EDUCATION. 1. Kerr1 and J. P. Wiese2,3, 2Ocean Alliance, Lincoln, MA, 3Wise Laboratory of Environmental and Genetic Toxicology, University of Southern Maine, Portland, ME and 4Maine Center for Toxicology and Environmental Health, University of Southern Maine, Portland, ME. |

Poster Board Number .....................................207

REINFORCING QUANTITATIVE SKILLS THROUGH DATA ANALYSIS IN AN UNDERGRADUATE TOXICOLOGY COURSE. V. A. Fitsanakis, Biology, King College, Bristol, TN. |

Poster Board Number .....................................208

UNDERGRADUATE RESEARCH UTILIZING C. ELEGANS DURING A TOXICOLOGY COURSE. M. Pomeroy-Black. LaGrange College, LaGrange, GA. |

Poster Board Number .....................................209

DEVELOPING UNDERGRADUATE ENVIRONMENTAL HEALTH AND TOXICOLOGY CURRICULA WITH RESEARCH EXPERIENCE OPPORTUNITIES. B. W. Brooks. Baylor University, Waco, TX. |

Poster Board Number .....................................210

INTRODUCTION OF UNDERGRADUATE STUDENTS TO TOXICOLOGY-RELATED ISSUES THROUGH JOURNALING. S. M. Ford. Toxicology Program, St. Johns University, Queens, NY. |

Poster Board Number .....................................211

TOXLEARN: AN NLM-SOT EDUCATIONAL COLLABORATION. P. Wexler1, M. Kamrin2, B. Edermiller1 and S. Ray1. 1Toxicology and Environmental Health Information Program, National Library of Medicine, Bethesda, MD, 2Center for Integrative Toxicology, Michigan State University, East Lansing, MI, 3Society of Toxicology, Reston, VA and 4Pharmaceutical Sciences, AMS College of Pharmacology & Health Sciences, Long Island University, Brooklyn, NY. |

Poster Board Number .....................................212

SO YOU WANT TO START A TOXICOLOGY GRADUATE PROGRAM? A. de Peyster. Graduate School of Public Health, San Diego State University, San Diego, CA. |

Poster Board Number .....................................213

TRISK: A EUROPEAN ADVANCED RISK ASSESSORS TRAINING PROGRAMME FOR TOXICOLOGY EXPERTS. A. Morett1,2, C. L. Galli1, H. Hakansson1, S. Price1, B. J. Blauhofer4, R. Kahl1 and M. Gerevini1. 1University of Milano, Milano, Italy, 2ICPS, Osoppo Saco, Milano, Italy, 3Karolinska Institute, Stockholm, Sweden, 4University of Surrey, Guildford, United Kingdom, 5University of Turin, Turin, Italy, 6University of Helsinki, Helsinki, Finland, 7University of Bergen, Bergen, Norway, and 8University of Tampere, Tampere, Finland. |
Program Description (Continued)

Poster Session: Safety Testing of Pharmaceuticals

Chairperson(s): Kenneth Olivier, Merrimack Pharmaceuticals, Cambridge, MA.

Displayed: 9:00 AM–12:30 PM

Author Attended: 11:00 AM–12:30 PM

#1881
Poster Board Number .........................301
ZEBRAFISH BEHAVIOR IN TESTS OF SOCIAL PREFERENCE AND SOCIAL NOVELTY FOLLOWING ACUTE PARACETAMOL, 5-HT, 6 OR CB AGONIST EXPOSURES. P. A. Barba-Escobedo and G. G. Gould. 1Arts & Sciences, Texas A&M San Antonio, San Antonio, TX and 2Physiology, University of Texas Health Science Center at San Antonio, San Antonio, TX.

#1882
Poster Board Number .........................302
TOXICITY EVALUATION OF INHALED LOXAPINE IN THE RAT. B. E. Stewart, M. Garley and A. Koester. 1Alexza Pharmaceuticals, Inc., Mountain View, CA and 2Battelle, Columbus, OH.

#1883
Poster Board Number .........................303
TOXICITY EVALUATION OF INHALED LOXAPINE IN THE DOG. M. K. Garley, B. E. Stewart and R. Matheson. 1Alexza Pharmaceuticals, Inc., Mountain View, CA and 2Charles River Laboratories Preclinical Services Montréal, Senneville, QC, Canada.

#1884
Poster Board Number .........................304

#1885
Poster Board Number .........................305
TOXICOLOGY ASSESSMENT OF SHET2A: A NOVEL CHEMOPREVENTIVE AGENT, IN RATS AFTER 28-DAY ORAL ADMINISTRATION. K. K. Kabirov, J. M. Kapetanovic, A. Banerjee, A. D. Zakharyov, D. M. Benbenishty and V. Lyubimov. 1University of Illinois at Chicago, Chicago, IL, 2National Cancer Institute, Bethesda, MD and 3University of Oklahoma Health Sciences Center, Oklahoma City, OK.

#1886
Poster Board Number .........................306
CALCIUM CHANNEL BLOCKERS DISRUPT LEARNING IN AN INCREMENTAL REPEATED ACQUISITION PROCEDURE. J. Bailey, Y. Liu, W. Ravis and C. Newland. 1Psychology, Auburn University, Auburn, AL and 2Pharmacal Sciences, Auburn University, Auburn, AL.

#1887
Poster Board Number .........................307
APOPTOTIC MECHANISMS OF ARSENIC TRIOXIDE IN HUMAN PROMYELOCYTIC LEUKEMIA (HL-60) CELLS. C. G. Yedjou and P. B. Tchounwou. Biology, Jackson State University, Jackson, MS.

#1888
Poster Board Number .........................308

#1889
Poster Board Number .........................309
MECHANISTIC INSIGHT AND SENSITIVITY OF HIGH-CONTENT SCREENING (HCS) OVER SINGLE-PARAMETER CYTOTOXICITY ASSAYS. P. Walker, J. Mein, M. Jacewicz, J. Gilbert, R. Annand, H. Gill and K. Tsaioun. 1Apredeca, Watertown, MA and 2Cytexot, Macclesfield, United Kingdom.

#1890
Poster Board Number .........................310
INTRACELLULAR CALCIUM BY GEMfibrozil CONTRIBUTE TO THE INHIBITING L6 MYOBLAST DIFFERENTIATION. R. Dai, A. Liu, J. Yang and P. J. Gonzales. 1School of Biosciences and Bioengineering, South China University of Technology, Guangzhou, China, 2Lab. of Metabolism, National Cancer Institute, Bethesda, MD and 3Zhongshan Pharmass Corporation, Zhongshan City, Guangdong, China.
Abstract #   Poster Board Number .....................................311
#1891 BINDING OF THE THERAPEUTIC ANTIBODY CP-75871 TO IGF-IR INDUCES PARTIAL AGONIST SIGNALING IN HUMAN AND MONKEY IMMUNE CELLS. D. U. Lee and B. Jessen. Drug Safety, Pfizer R&D, La Jolla, CA.

Abstract #   Poster Board Number .....................................312
#1892 A 5-DAY ORAL REPEAT-DOSE TOXICITY STUDY IN SPRAGUE-DAWLEY RATS TO EVALUATE THE TOLERABILITY OF AN S1P AGONIST. C. Hurs, T. Sullivan and J. Clarke. Biogen Idec, Cambridge, MA.

Abstract #   Poster Board Number .....................................313
#1893 THERAPEUTIC EFFICACY AND SAFETY EVALUATION OF UC-II ALONE OR IN COMBINATION WITH GLUCOSAMINE AND CHONDROITIN IN ARTHRITIC DOGS USING PIEZOELECTRIC SENSOR-BASED GROUND FORCE PLATE. R. C. Gupta, T. D. Canedy, J. Lindley, B. A. Carroll, M. Konemann, C. Hendricks, M. Bagchi, D. Bagchi and J. T. Goad. Toxicology, Murray State University, Hopkinsville, KY and InterHealth Research Center, Benicia, CA.

Wednesday Morning, March 9
9:00 AM to 12:30 PM
Exhibit Hall

Novel Approaches to Preclinical Safety Assessment: Bridging the Gap between Discovery and the Clinic through Translational Toxicology

Poster Session: Pharmaceutical Safety Assessment: Novel Methods

Chairperson(s): Clement Vedou, Jackson State University, Jackson, MS.

Displayed: 9:00 AM–12:30 PM

Author Attended: 9:00 AM–11:00 AM

Abstract #   Poster Board Number .....................................322
#1894 AUTOMATIC SINGLE CELL CALCIUM TRANSIENT ANALYSIS FOR CARDIOTOXICITY SCREENING AND PHARMACOLOGICAL TESTING. F. Cerignoli, D. Charlot, R. Ingermanson, K. Wei, A. Savchenko, J. H. Price, P. M. McDonough and M. Mercola. Muscle Development and Regeneration Program, Sanford-Burnham Medical Research Institute, La Jolla, CA; Vaia Sciences Inc., San Diego, CA; Quantitative Microscopy Laboratory, Sanford-Burnham Medical Research Institute, La Jolla, CA and Bioengineering, University of California, San Diego, CA.

Abstract #   Poster Board Number .....................................323

Poster Board Number .....................................324

Poster Board Number .....................................325

Poster Board Number .....................................326
#1898 NOVEL IN VITRO APPROACH FOR ASSESSING CARDIAC CONTRACTILE LIABILITIES USING MICROPATTERNED MUSCULAR THIN FILMS. A. Grosberg, M. D. Brighan, J. A. Goss, P. W. Alford and K. K. Parker. Harvard School of Engineering and Applied Sciences, Boston, MA and Wyss Institute for Biologically Inspired Engineering at Harvard University, Boston, MA. Sponsor: A. Bahinski.

Poster Board Number .....................................327
#1899 A NOVEL IN VITRO APPROACH TO IDENTIFY MECHANISMS OF HEPATOTOXICITY. C. Hu, D. Pietrzak, K. French and K. Frazier. Safety Assessment, GlaxoSmithKline, King of Prussia, PA.

Poster Board Number .....................................328

Poster Board Number .....................................329
#1901 A HUMAN BREATHING LUNG-ON-A-CHIP FOR DRUG SCREENING AND NANO TOXICOLOGY APPLICATIONS. D. Huh, B. D. Matthews, A. Mammo, M. Montoya, H. Hsin and D. E. Ingerber. Wyss Institute for Biologically Inspired Engineering at Harvard University, Boston, MA; Children’s Hospital Boston and Harvard Medical School, Boston, MA and School of Engineering and Applied Sciences, Harvard University, Cambridge, MA. Sponsor: A. Bahinski.

Poster Board Number .....................................330
#1902 IN VITRO PREDICTION OF INJECTION SITE REACTIONS USING L6 RAT SKELETAL MUSCLE CELLS. J. A. Willy, N. Schulte, E. Ekkelkamp, J. Walgren, A. Stauber, J. L. Stevens and T. K. Baker. Toxicology, Eli Lilly and Co., Indianapolis, IN and Preformulation, Eli Lilly and Co., Indianapolis, IN.
HEPARG CELL MODEL IN HIGH-CONTENT SCREENING ASSAYS GIVES MECHANISTIC INSIGHT INTO METABOLISM-MEDIATED HEPATOTOXICITY. J. Mein1, P. Walker1, M. Jácewicz2, R. Annand1, D. Steen2, C. Chesne2, H. Gill3 and K. Tsaioun3. 1Apredecia, Watertown, MA, 2Biopredic, Rennes, France and 3Cyprotex, Macclesfield, United Kingdom.


HEPATOXIC DRUGS THAT DISTURB MITOCHONDRIAL FUNCTIONS ARE DETECTED IN THE SPERMATOZOA MOTILITY ASSAY. I. Edebert1, L. Löfstedt1, I. Rafter1, I. Cotgreave1, P. Rigler1, A. Serov2 and R. Rigler1. 1Safety Assessment, Molecular Toxicology, AstraZeneca R&D Södertälje, Södertälje, Sweden and 2Biophos SA, PSE-A EPFL, CH-1015, Lausanne, Switzerland. Sponsor: P. Moldeus.

IDENTIFYING KEY KINASES ASSOCIATED WITH BONE MARROW TOXICITY. L. Marroquin, W. Hu and B. Jessen. Pfizer, San Diego, CA.

A RAT HEART SLICE MODEL TO EVALUATE THE IMPACT OF DRUG-INDUCED INJURY ON CARDIAC HEALTH. J. Herrmann and A. Vickers. Allergan, Irvine, CA.


EX VIVO CYTOCHROME P450 INDUCTION ANALYSIS AS A TOOL TO CLARIFY MECHANISM OF LIVER DYSFUNCTION IN RODENT TOXICITY STUDIES. M. Graham1, C. Garner1, P. P. Laine1, H. Garside1, A. Scally2, H. Marshall1 and J. Valentim1. 1Safety Assessment, AstraZeneca, Alderley Park, United Kingdom and 2Safety Assessment, AstraZeneca, Molndal, Sweden and 3Safety Assessment, AstraZeneca, Charnwood, United Kingdom.

A FLOW CYTOMETRIC MULTIPEX HIGH-THROUGHPUT APOPTOSIS ASSAY USING THE HTFC™ SYSTEM. C. Black1, B. Stout1, K. Lu1, T. Duensing1, P. Rana2 and Y. Wif2. 1IntelliCyt Corporation, Albuquerque, NM and 2Compound Safety Prediction, Pfizer Inc., Groton, CT.
Abstract #

#1918
Poster Board Number .....................................346
INTEGRATION OF PGF-4, MICRONUCLEUS,
CHROMOSOME ABERRATION, AND
COMET ASSAY ENDPOINTS IN A 28-DAY
RODENT TOXICITY STUDY WITH
4-NITROQUINOLINE-1-OXIDE (4NQO). M.
McKeon, H. Chen, T. E. Lawlor, H. Murfi, D. J.
Covance Laboratories, Inc., Vienna, VA.

#1919
Poster Board Number .....................................347
COMPUTERIZED ARRHYTHMIA
DETECTION IN LARGE TELEMETED
ANIMALS: A NOVEL STRATEGY TO ASSESS
DRUG LIABILITIES. R. Mikaelian1, S. Authier1,2,
F. Koeppe1, F. Ross1, D. Labarre1, S. Fournier1 and
E. Troncy1. Laboratory Research Inc., Laval, QC.
Canada. 1Notocord, Paris, France and 2Faculty of
Veterinary Medicine, University of Montréal, St.

#1920
Poster Board Number .....................................348
HOW TO IMPROVE SENSITIVITY OF
RESPIRATORY SAFETY PHARMACOLOGY
STUDIES IN CYNOLOGUS MONKEYS
USING IMPEDANCE MONITORED BY
IMPLANTABLE TELEMETRY: THE USE OF
SUPER-INTERVALS. F. Duguay1, S. Authier1,2, S.
Fournier1 and B. Moon1. Laboratory Research Inc.,
Laval, QC, Canada. 1Laboratory Research Inc., Laval, QC,
Canada and 2Faculty of Veterinary Medicine, University of Montréal, St.
Hyacinthe, QC, Canada and 3Data Science International, St. Paul, MN.
Sponsor: K. Draper.

#1921
Poster Board Number .....................................349
RESPIRATORY SAFETY PHARMACOLOGY
MONITORING IN CONSCIOUS GÖTTINGEN
MINIPIGS: QUALIFICATION OF A NEW
MODEL. C. Ponzi2, J. Gervais1,2, E. Troncy1 and
S. Authier1,2. Laboratory Research Inc., Laval, QC.
Canada and 1Faculty of Veterinary Medicine,
University of Montréal, St. Hyacinthe, QC, Canada.
Sponsor: K. Draper.

#1922
Poster Board Number .....................................350
SUBCUTANEOUS LOCAL TOLERANCE
FOR BILOGIC DRUG DEVELOPMENT:
COMPARISON OF TWO APPROACHES. S.
Fleming-Weis1, L. M. Diehl1, D. Aleksandrowicz1, J.
Morrow1, K. J. Ziskowski1, K. Ishida1, L. E. Beebe1,
J. M. Fletcher1, W. P. Davis2 and J. R. Clarke3.
1Pharmacotoxicology, Biogen Idec, Cambridge, MA.
2Toxicology, Charles River Laboratories, Spencerville, OH. 3Pathology Associates, Charles
River Laboratories, Frederick, MD and 4Comparative
Pathology, Biogen Idec, Cambridge, MA.

#1923
Poster Board Number .....................................351
CYNOLOGUS MONKEYS: FACTORS
AND ISSUES FOR CONSIDERATION IN
THE SELECTION OF SEXUALLY MATURE
MALES AND FEMALES FOR PRECLINICAL
SAFETY STUDIES. D. Mitchell, H. Palmer,
R. Davis and C. Chesher. Safety Assessment,
Huntingdon Life Sciences, Cambridgeshire, United
Kingdom.

#1924
Poster Board Number .....................................352
SERIAL COLLECTION OF
CEREBROSPINAL FLUID VIA A
SURGICALLY OR PERCUTANEOUSLY
IMPLANTED CATHETER IN
CYNOLOGUS MONKEYS, J. K. Herman,
R. Avery, M. Taschner, P. Love, J. Fohey, M.
Abdelhamied and W. Meier. Nonclinical Safety
Assessment, Covance Laboratories, Madison, WI.

#1925
Poster Board Number .....................................353
TEMPERATURE REGULATION AND THE
ASSESSMENT OF TOXICITY. K. L. Has7
and M. D. Green2. Corporate Regulatory Affairs,
sanofi-aventis, Bethesda, MD and 2OVRR, DVRPA,
U.S. FDA, Bethesda, MD.

#1926
Poster Board Number .....................................354
APPLICATION OF THE DRIED BLOOD
SPOT TECHNIQUE IN THE BIOANALYSIS
OF SULPIDE. R. Forster, R. Michaud, S.
Laurent and T. Ameller. CIT, EVREUX Cedex,
France.

#1927
Poster Board Number .....................................355
INTRAVITREOUS ADMINISTRATION IN
THE RABBIT AND MINIPIG. R. Forster,
V. Haag, J. Legrand and B. Palate. CIT, EVREUX
Cedex, France.

#1928
Poster Board Number .....................................356
ASSESSMENT OF COMMON PRECLINICAL
VEHICLE FORMULATIONS USED IN DRUG
DISCOVERY BY MAGNETIC RESONANCE
SPECTROSCOPY (MRS). R. Sriram and S.
Liachtenko. Pfizer Inc., Groton, CT. Sponsor: M.
Paule.

#1929
Poster Board Number .....................................357
DEVELOPMENT AND VALIDATION OF A
PHARMACOKINETIC LIGAND BINDING-
ASSAY FOR THE DETECTION OF A
HUMANIZED THERAPEUTIC IN MULTIPLE
SPECIES. A. Neaga, Y. Boyle-Holmes, J. E.
Coash, Y. Q. Xiao and L. D. Albee. Department
of Immunology, MPI Research, Mattawan, MI.
Sponsor: A. Faqi.

#1930
Poster Board Number .....................................358
A THOROUGH CHARACTERIZATION OF
THE THE FREQUENCY RESPONSE OF
VARIOUS IN VIVO BLOOD PRESSURE
MEASUREMENT TECHNOLOGIES. J. P.
Kroehle, J. Grenwis and R. Sarayyan. DSI, St. Paul,
MN.

#1931
Poster Board Number .....................................359
OPTIMIZATION OF INTRAVENOUS
CYNOLOGUS MONKEY INFUSION VIA
VASCULAR ACCESS PORT. A. M. Brooks and
A. N. Alexander. Department of Toxicology, Covance
Inc., Madison, WI.

#1932
Poster Board Number .....................................360
CONTROLLING FOR CROSS
CONTAMINATION IN TOXICOLOGY
STUDIES. M. M. Peet, C. J. Dean, C. Diabo,
E. St. Peter and S. E. Boley. General Toxicology, MPI
Research, Mattawan, MI.
Program Description (Continued)

Poster Session: Risk Assessment: Conceptual Constructs and Current Controversies

Chairperson(s): David Eastmond, University of California Riverside, Riverside, CA, and Julie Goodman, Gradient Corporation, Cambridge, MA.

Displayed: 9:00 AM–12:30 PM

Author Attended: 11:00 AM–12:30 PM

#1933

#1934
Poster Board Number .....................................408 AN EVALUATION OF FACTORS FOR CLASSIFYING A CHEMICAL AS INDUCING CANCER IN EITHER RODENTS OR HUMANS VIA A MUTAGENIC MODE OF ACTION USING A WEIGHT OF EVIDENCE APPROACH. D. A. Eastmond1, S. V. Valmire2 and B. Sonawane2. Environmental Toxicology Program, University of California Riverside, Riverside, CA and National Center for Environmental Assessment, U.S. EPA, Washington, D.C.

#1935
Poster Board Number .....................................409 A WEIGHT-OF-EVIDENCE EVALUATION OF ASBESTOS EXPOSURE AND MESOTHELIOMA RISK AMONG ELECTRICIANS. M. Peterson, L. A. Bailey, D. G. Dodge, J. E. Goodman and P. A. Valberg. Gradient, Seattle, WA.

#1936

#1937
Poster Board Number .....................................411 ARSENIC SPECIATION IN AIR: AN EVALUATION OF THE CURRENT STATE OF KNOWLEDGE AND RESEARCH NEEDS. A. S. Lewis1, K. R. Reid1, M. C. Pollock1 and S. Campleman2. Gradient, Cambridge, MA and Electric Power Research Institute, Palo Alto, CA.

#1938
Poster Board Number .....................................412 THE ROLE OF IRON IN THE REDUCED BIOAVAILABILITY OF ARSENIC IN SOIL. V. L. Mitchell1, C. N. Alpern1, N. T. Basta1, T. Burlak1, S. W. Castel1, R. L. Fears1, A. L. Foster4, C. S. Kim1, P. A. Myers1 and E. Petersen1. Toxic Substances Control, Cal EPA, Sacramento, CA. 1U.S. Geological Survey, Sacramento, CA, 2Ohio State University, Columbus, OH, 3California State University, Sacramento, CA, 4University of Missouri, Columbia, MO, 5U.S. Geological Survey, Menlo Park, CA, 6Chapman University, Orange, CA and 7University of Utah, Salt Lake City, UT.

#1939
Poster Board Number .....................................413 ARSENIC RISK ASSESSMENT FOLLOWING REMOVAL OF CONSTRAINING FACTORS — REFERENCE POPULATION AND MEDIAN EXPOSURE METRIC. S. H. Lamm1,2, S. Robbins2, J. Lu1, R. Chen1 and M. Feinleib1. 1Epidemiology, Consultants in Epidemiology and Occupational Health (CEOH), Washington, D.C., 2Health Policy and Management, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, 3Mathematics, American University, Washington, D.C., 4Center for New Design in Learning and Scholarship, Georgetown University, Washington, D.C. and 5Epidemiology, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD. Sponsor: J. Tsuji.

#1940
Poster Board Number .....................................414 INTERPRETING NHANES DATA ON ARSENIC LEVELS IN URINE USING BIOMONITORING EQUIVALENTS. C. R. Kirman1, S. M. Hays2, L. L. Aylward3 and R. Schoeny4. Summit Toxicology LLP, Orange, OH. 1Summit Toxicology LLP, Lyons, Co., 2Summit Toxicology LLP, Falls Church, VA and 3U.S. EPA, Washington, D.C.

#1941
Poster Board Number .....................................415 A REVIEW OF THE POTENTIAL ASSOCIATION BETWEEN CHILDHOOD LEUKEMIA AND BENZENE. D. Pyatt1,2,3 and S. Hays2,4. 1Summit Toxicology, Superior, Co., 2School of Public Health, University of Colorado, Denver, CO and 3MTEHS Program, University of Colorado, Denver, CO.

#1942
Poster Board Number .....................................416 USE OF IN VITRO BIOACCESSIBILITY ANALYSIS, HUMAN HEALTH RISK ASSESSMENT, AND URINARY ARSENIC MEASUREMENTS TO ASSESS EXPOSURE AND RISKS OF CHILDREN IN A NORTHERN CANADIAN SMELTER COMMUNITY. E. Sigal, A. M. Safruk and C. M. Baccalupo. Intrinsik, Mississauga, ON, Canada.

#1943
Poster Board Number .....................................417 BLOOD AND URINARY ELIMINATION KINETICS OF BISPHENOL A IN HUMANS FOLLOWING DIETARY EXPOSURE. J. G. Teeguarden1,2, R. Gunavan2 and A. Calafat2. 1Biological Monitoring and Modeling, Pacific Northwest National Laboratory, Richland, WA and 2Organic Analytical Toxicology Branch, National Center for Environmental Health, Centers for Disease Control, Atlanta, GA.

#1944

#1945
E. Dodd and Molecular Toxicology, National Center for Halmes Triangle Park, NC and 2Experimental Pathology Myers Corporation, Cambridge, MA.

M. Seeley Cambridge, MA.


#1949

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#1953
Poster Board Number .....................................427 SUB-CHRONIC NAPHTHALENE INHALATION CAUSES A DECREASE IN P53 CODON 271 CAT MUTANT FRACTION IN THE NASAL RESPIRATORY EPITHELIIUM OF MALE RATS. F. Meng, Y. Wang, M. B. Myers, B. A. Wong, E. A. Gross, H. J. Clewell, D. E. Dodd and B. L. Parsons. 1Division of Genetic and Molecular Toxicology, National Center for Toxicological Research/U.S. FDA, Jefferson, AR, 2Division of Toxicology and Preclinical Studies, The Hamner Institutes for Health Sciences, Research Triangle Park, NC and 3Center for Human Health Assessment, The Hamner Institutes for Health Sciences, Research Triangle Park, NC.

#1954

#1955

#1956
Poster Board Number .....................................430 OVERVIEW OF EPIDEMIOLOGY DATA FOR INDUSTRIES WITH NAPHTHALENE-CONTAINING STREAMS. R. J. Lewis. ExxonMobil Biomedical Science Inc., Ammandale, NJ. Sponsor: M. Bird.

#1957
Poster Board Number .....................................431 NAPHTHALENE RESEARCH: THE RELEVANCE OF TUMORS IN RODENTS TO HUMAN RISK ASSESSMENT. A. LeHaray and K. Wise. 1Naphthalene Council, Alexandria, VA and 2American Petroleum Institute, Washington, D.C.

#1958
Poster Board Number .....................................432 PUTATIVE MECHANISMS OF ENVIRONMENTAL CHEMICAL-INDUCED STEATOSIS. J. Kaiser. Oak Ridge Institute for Science and Education, Oak Ridge, TN.

#1959
Poster Board Number .....................................433 POLYCHLORINATED BIPHENYLS ARE NOT “DIOXINS”, AND OTHER INCONVENIENT TRUTHS RELEVANT TO THE USE OF TOXIC EQUIVALENCY FACTORS (TEFs) IN HUMAN HEALTH RISK ASSESSMENT. J. B. Silworth and E. A. Carlson. General Electric, Niskayuna, NY.

#1960
Poster Board Number .....................................434 APPLICATION OF LINEAR AND NON-LINEAR, DOSE-RESPONSE MODELS FOR POLYCHLORINATED BIPHENYLS (PCBs) BASED ON A RECEPTOR-MEDIATED MODE OF ACTION (MOA) FOR TUMOR PROMOTION. R. E. Keenan, P. O. Gwinn, J. M. Hambleton, J. Shoenfeld and J. B. Silworth. 1Integral Consulting Inc., Portland, ME, 2Integral Consulting Inc., Annapolis, MD and 3General Electric Global Research, Niskayuna, NY.

#1961
Poster Board Number .....................................435 TOXIC EQUIVALENCY FACTORS ARE NOT UNIVERSAL WITHIN VERTEBRATE CLASSES: EVIDENCE, MECHANISTIC REASONS, AND REGULATORY IMPLICATIONS. E. A. Carlson, C. H. Sutter, T. R. Sutter and J. B. Silworth. 1General Electric, Niskayuna, NY and 2University of Memphis, Memphis, TN.
#1962
Poster Board Number .....................................436
LOW DOSE RESPONSE RELATIONSHIPS FOR NON-CANCER ENDPOINTS: OZONE, MERCURY, AND XENOESTROGENS. L. Zeise², G. Ginsberg¹ and M. S. Sandy³; ¹Connecticut Department of Public Health, Hartford, CT and ²Cal EPA Office of Environmental Health Hazard Assessment, Oakland, CA.

#1963
Poster Board Number .....................................437
ANALYZING THE SAFETY OF GULF SEAFOOD AFTER THE OIL SPILL BASED ON POPULATION SPECIFIC EXPOSURE SCENARIOS AND INCORPORATION OF DISPERGANT AND HEAVY METAL TOXICITY PARAMETERS. J. M. Goehke; Environmental Health Sciences, University of Alabama at Birmingham, Birmingham, AL.

#1964
Poster Board Number .....................................438
CORN OIL AS A CAUSATIVE FACTOR FOR PROLIFERATIVE LESIONS OF THE FORESTOMACH IN B6C3F1 MICE EXPOSED BY Gavage. L. M. Plunkett¹, T. Starr², J. A. MacGregor³ and A. M. Jonya³; ¹Integrative Biostrategies LLC, Houston, TX, ²TBS Associates, Raleigh, NC, ³Toxicology Consulting Services, Arnold, MD and ³Amvac Chemical Corporation, Newport Beach, CA.

#1965
Poster Board Number .....................................439

#1966
Poster Board Number .....................................440
EVALUATING IN SILICO AND IN VITRO TECHNOLOGIES FOR PREDICTING HEPATOTOXICITY. W. J. Bailey¹, A. Bahli¹, E. Keough¹, K. R. Leander², C. Gretzula³, I. Pak⁴, M. C. Kuhls¹, C. Kreatsoulas¹, R. P. Sheridan¹, A. G. Aslamkhani², L. Kiss³, A. Bagchi² and B. J. Howell²; ¹Informatics IT, Merck & Co., Inc., West Point, PA, ²Informatics IT, Merck & Co., Inc., West Point, PA, ³Informatics IT, Merck & Co., Inc., West Point, PA and ⁴Chemistry Modeling & Informatics, Merck & Co., Inc., West Point, PA.

#1967
Poster Board Number .....................................441
CANCER HAZARD IDENTIFICATION UTILIZING STRUCTURE-ACTIVITY CONSIDERATIONS FOR 1,3-DICHLOROPROPANOL AND 3-MONOHLOROPROPANE-1, 2-DIOL. D. W. Morry, R. S. Tomar¹, C. F. Tsai, M. S. Sandy⁴ and L. Zeise; Office of Environmental Health Hazard Assessment, California EPA, Oakland, CA.

Abstract #
Wednesday Morning, March 9
9:00 AM to 12:30 PM
Exhibit Hall
Poster Session: Arsenic
Chairperson(s): Shawn Week, University of Arizona, Tucson, AZ, and Seema Somji, University of North Dakota, Grand Forks, ND.
Displayed: 9:00 AM–12:30 PM
Author Attended: 9:00 AM–11:00 AM

#1968
Poster Board Number .....................................501
ARSENIC INDUCES METABOLIC REGULATORS AND DIFFERENTIATION IN ADIPOSE TISSUE. L. R. Klei, Y. Garciafigueroa, R. T. Cattley and A. Barchowsky; Environmental and Occupational Health, University of Pittsburgh, Pittsburgh, PA.

#1969
Poster Board Number .....................................502
TRANSCRIPTIONAL REPRESSOR INVOLVED IN GLUCOSE METABOLISM PLAYS A KEY ROLE IN PROTECTION AGAINST ARSENITE TOXICITY. T. Takahashi, N. Miyanaga, T. Yano and A. Nagozuma; Graduate School of Pharmaceutical Sciences, Tohoku University, Sendai, Miyagi, Japan.

#1970
Poster Board Number .....................................503
CHRONIC EXPOSURE TO MODERATE DOSES OF ARSENIC INCREASES ATEROGENIC PHENOTYPE. M. Flores-Molina, M. Lemaire, C. A. Lemaire, S. Lehoux and K. K. Mann; ¹Oncology, McGill University, Montréal, QC, Canada and ²Medicine, McGill University, Montréal, QC, Canada.

#1971
Poster Board Number .....................................504
LOW DOSE ARSENIC EXPOSURE INCREASES MONOCYTE AND MACROPHAGE ADHESION AND PRO-ATHEROGENIC PHENOTYPE. M. Flores-Molina, M. Lemaire, C. A. Lemaire, S. Lehoux and K. K. Mann; ¹Oncology, McGill University, Montréal, QC, Canada.

#1972
Poster Board Number .....................................505
Biomarkers for the Early Detection of Atherosclerosis in a Children Population Environmentally Exposed to Inorganic Arsenic. C. Osorio-Yáñez¹, J. C. Ayllon-Vergara², L. Arreola-Mendoza³, E. Hernandez-Castellanos¹, M. A. Sanchez-Guerra¹, E. M. Melgar-Paniagua¹, A. De Vizcaya-Ruiz¹, G. Aguilar-Madrid¹ and L. M. Del Razo¹; ¹Toxicology, Cinvestav-Ipn, Mexico D.F., Mexico, ²Hospital Español, Mexico, Mexico, ³Biosciences and Engineering, Ciemad-Ipn, Mexico, Mexico and ¹Health and Work, IMSS, Mexico, Mexico.

#1973
Poster Board Number .....................................506
MITOGEN ACTIVATED PROTEIN KINASE PATHWAY IS INVOLVED IN THE UP-REGULATION OF KERATIN 6 IN ARSENITE AND CADMIUM TRANSFORMED UROTS A CELLS. S. Somji, L. Cao, S. H. Garrett, M. Sens and D. A. Sens; Pathology, University of North Dakota, Grand Forks, ND.
ABSTRACT

ASSUMPTIONS OF ARSENIC METABOLISM IS ASSOCIATED WITH BREAST CANCER RISK IN NORTHERN MEXICO. E. Cebrián1, A. Gandolfi2, R. U. Hernandez3, J. M. Ornelas4, L. Torres-Sanchez5 and L. Lopez-Carrillo5. 1Toxicology, University of Arizona, Tucson, AZ, 2Pharmacology and Toxicology, University of Arizona, Tucson, AZ, 3Epidemiology, Instituto Tecnologico de Durango State, Durango, Mexico and 4Pathology, IMSS, Ciudad Obregón, Sonora, Mexico.

Poster Board Number .....................................#1977

Assumption of Arsenic Metabolism is Associated with Breast Cancer Risk in Northern Mexico.

Poster Board Number .....................................#1978

P53 Response to Monomethylarsonous Acid Exposure in Human Bladder Epithelial Cells.

Poster Board Number .....................................#1979

Role of Continuous Low-Level Monomethylarsonous Acid Exposure in the Inhibition of PARP and Contribution to Increased Genotoxicity in the Malignant Transformation of UroTSC cells.

Poster Board Number .....................................#1980

Assumption of Arsenic Metabolism is a Risk Factor for Diabetes Associated with Chronic Exposure to Inorganic Arsenic.

Poster Board Number .....................................#1981

Differential Modulation of CYP1A1 by Arsenite In Vivo and In Vitro in C57BL/6 Mice.

Poster Board Number .....................................#1982

Gst-T1 and Gst-M1 Genotypes Modulate the Metabolism and Diabetogenic Effects of Inorganic Arsenic.

Poster Board Number .....................................#1983

P53 Response to Monomethylarsonous Acid Exposure in Human Bladder Epithelial Cells.

Poster Board Number .....................................#1984

In Vivo Consequences of Arsenic Methylation in a Drosophila Model.

Poster Board Number .....................................#1985

Assumption of Arsenic Metabolism in a Vietnamese Population.

Poster Board Number .....................................#1986

The Influence of Genetics, Nutrition, and Pregnancy on Arsenic Metabolism: A Longitudinal Cohort Study.

Poster Board Number .....................................#1987

Association of Arsenic Exposure and Genetic Polymorphisms with Arsenic Metabolism in a Vietnamese Population.

Poster Board Number .....................................#1988

Assumption of Arsenic Metabolism is Associated with Breast Cancer Risk in Northern Mexico.
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<td>#1986</td>
<td>DETECTION AND STABILITY OF METHYLATED TRINITRAMINE ARSENIC METABOLITES IN MOUSE LIVER</td>
<td>#519</td>
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<tr>
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<td>HOMOGENATES. J. Currier1, J. Saunders1, Z. Drobný2 and M. Styblo3. Curriculum in Toxicology, University of North Carolina at Chapel Hill, Chapel Hill, NC.</td>
<td>#1992</td>
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<td>#1987</td>
<td>THE EFFECT OF PRENATAL FOLATE SUPPLEMENTATION ON DNA METHYLATION AND GENE EXPRESSION IN MALE CD1 MOUSE FETUSES EXPOSED IN UTERO TO ARSENIC. V. Tsang1, R. Fry2, M. Niculescu1, J. Saunders1, M. Waalkes1, M. Styblo1, M. Styblo1, and Z. Drobný1. Nutrition, CB#7461, University of North Carolina at Chapel Hill, Chapel Hill, NC. Environmental Sciences and Engineering, University of North Carolina at Chapel Hill, Chapel Hill, NC. Nutrition Research Institute, Kannapolis, NC.</td>
<td>#1993</td>
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<td>#1988</td>
<td>AUTOPHAGY: A CELLULAR PROCESS STRONGLY ASSOCIATED WITH ARSENIC-INDUCED IMMUNOTOXICITY IN HUMAN LYMPHOBLASTOID CELL LINES. A. M. Bolt, R. M. Douglas and W. T. Klimecki. Pharmacology and Toxicology, University of Arizona, Tucson, AZ.</td>
<td>#520</td>
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<td>#1989</td>
<td>DEVELOPMENTAL IMMUNOTOXICITY OF LOW DOSE ARSENIC EXPOSURE. C. Kočal-Horváth4, J. W. Hamilton2 and R. Enelow1. Immunology, Dartmouth Medical School, Lebanon, NH. and Bay Paul Center for Comparative Molecular Biology &amp; Evolution, Marine Biological Laboratory, Woods Hole, MA.</td>
<td>#521</td>
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<td>#1990</td>
<td>ARSENIC ALTERS PURINERGIC TYPE 2 (P2) RECEPTOR Ca2+ SIGNALING ASSOCIATED WITH INNATE IMMUNITY IN HUMAN AIRWAY EPITHELIAL CELLS. C. L. Sherwood1,2, R. Lantz2,3, J. L. Burgess2 and S. Boitano4,5. Arizona Respiratory Center, Arizona Health Sciences Center, Tucson, AZ. Cell Biology and Anatomy, Arizona Health Sciences Center, Tucson, AZ. Physiology, Arizona Health Sciences Center, Tucson, AZ. SPEHSC, Arizona Health Sciences Center, Tucson, AZ. and College of Public Health, Arizona Health Sciences Center, Tucson, AZ.</td>
<td>#522</td>
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<td>#1991</td>
<td>SODIUM ARSENATE AND HYPERTERMIA ALTER EXPRESSION OF XPA, XPC, AND MSH2 IN RESPONSE TO CISPLATIN-INDUCED DNA DAMAGE AND INCREASE ACCUMULATION OF PLATINUM IN OVARIAN CANCER. C. S. Muenyi1, V. A. States1, J. H. Masters1, T. Fan1,2, W. Helm1,2 and J. States1. Pharmacology &amp; Toxicology, University of Louisville, Louisville, KY. Chemistry, University of Louisville, Louisville, KY and Obstetrics, Gynecology &amp; Women's Health, University of Louisville, Louisville, KY.</td>
<td>#523</td>
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<td>#1994</td>
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<td>#1995</td>
<td>EPITHELIUM MALIGNantly TRANSFORMED BY ARSENIC OR CADMIUM DRIVES NEARLY NORMAL STEM CELLS TOWARDS A MALIGNANT PHENOTYPE. Y. Xu, E. Tokar and M. Waalkes. National Toxicology Program, NIEHS, Research Triangle Park, NC.</td>
<td>#524</td>
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<td>#1996</td>
<td>OVERABUNDANCE OF PUTATIVE CANCER STEM CELLS IN HUMAN SKIN KERATINOCYTE CELLS MALIGNANTLY TRANSFORMED BY ARSENIC. Y. Sun, E. Tokar and M. Waalkes. National Toxicology Program, NIEHS, Research Triangle Park, NC.</td>
<td>#525</td>
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<td>#1997</td>
<td>TRANSFORMATION OF NORMAL HUMAN BREAST EPITHELIAL (MCF-10A) CELLS BY ARSENITE AND CADMIUM INDUCES THE OVER-EXPRESSION OF NEURAL SPECIFIC ENOLASE (ENOLASE-2). M. Soh, S. H. Garrett, C. Barthula, D. A. Sens, S. Somji and M. Sens. Pathology, University of North Dakota, Grand Forks, ND.</td>
<td>#526</td>
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<td>#1998</td>
<td>SPARC GENE EXPRESSION IS REPRRESSED IN HUMAN UROTHELIAL CELLS (UROTSA) EXPOSED TO OR MALIGNANTLY TRANSFORMED BY CADMIUM OR ARSENITE. J. L. Larson1, S. Somji2, D. A. Sens1, M. Sens2, S. H. Garrett1 and J. R. Dunlevy1. Anatomy and Cell Biology, University of North Dakota, Grand Forks, ND and Pathology, University of North Dakota, Grand Forks, ND.</td>
<td>#527</td>
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<td>#1999</td>
<td>DIFFERENCES IN THE EPIGENETIC REGULATION OF METALLOTHIONEINE-3 GENE EXPRESSION BETWEEN PARENTAL AND CADMIUM- OR ARSENITE-TRANSFORMED HUMAN UROTHELIAL CELLS. D. A. Sens, S. H. Garrett, A. Ajimaporn, M. Sens and S. Somji. Pathology, University of North Dakota, Grand Forks, ND.</td>
<td>#528</td>
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<td>#2000</td>
<td>IL-8 OVER-EXPRESSION AND AUTOCRINE CELL ACTIVATION ARE KEY FACTORS IN MONOMETHYLAEROSANEOUS ACID [MMA(II)]-INDUCED MALIGNANT TRANSFORMATION OF HUMAN UROTHELIAL CELLS. C. Escudero1,2, T. Wu1, J. M. Camarillo1 and A. Gandolfi1. Immunología y Biología Celular y Molecular/CIEP, Universidad Autónoma de San Luis Potosí, SLP, Mexico and Department of Pharmacology and Toxicology, University of Arizona, Tucson, AZ.</td>
<td>#529</td>
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INORGANIC ARSENIC CAUSES APOPTOSIS IN MOUSE CEREBRUM THROUGH AN OXIDATIVE STRESS-INDUCED MAPK AND ER STRESS PATHWAY. C. Huang1, M. Lee2, Y. Chen1, T. Ho1, C. Yen1 and C. Su1. 1School of Chinese Medicine, China Medical University, Taichung, Taiwan, 2Department of Surgery, Penghu Hospital, Department of Health, Executive Yuan, Penghu, Taiwan, 3Department of Physiology, China Medical University, Taichung, Taiwan, 4Department of Occupational Safety and Health, Chang Shan Medical University, Taichung, Taiwan and 5Department of Otorhinolaryngology, Head and Neck Surgery, Changhua Christian Hospital, Changhua, Taiwan.

ALTERED EXPRESSION PROFILE OF microRNAs UPON ARSENIC EXPOSURE OF HUMAN UMBILICAL VEIN ENDOTHELIAL CELLS. Y. Wei2, Y. Shi2, X. Ma2 and R. Li2. 1Department of Community Medicine, Mercer University School of Medicine, Macon, GA, 2Key Laboratory of Pathobiology, Jinlin University, Changchun, Jinlin, China and 3Department of Molecular and Cell Biology, Center for Systems Biology, University of Texas at Dallas, Richardson, TX.

INORGANIC ARSENITE IMPAIRS INSULIN-STIMULATED GLUCOSE UPTAKE IN 3T3-L1 ADIPOCYTES: INVOlVEMENT OF CELLULAR ADAPTATIVE RESPONSE TO OXIDATIVE STRESS. P. Xue1, Y. Hou1, J. Fu1, C. G. Woods1, H. Liu1, Q. Zhang1, G. Sun1, M. E. Andersen2 and J. P.1. 1The Hamner Institutes, Research Triangle Park, NC and 2China Medical University, Shenyang, China.

CHRONIC LOW-DOSE ARSENIC EXPOSURE ENHANCES HEPATIC INJURY INDUCED BY HIGH FAT DIET IN MICE. M. Tan1, R. H. Schmidt1, H. Zheng1, J. States1 and G. E. Ardeci1, 2. 1Pharmacology and Toxicology, University of Louisville, Louisville, KY and 2Alcohol Research Center, University of Louisville, Louisville, KY.

ARSENIC-IRON INTERACTIONS IN FERRITIN: A NEW MODEL FOR ARSENIC TOXICITY. T. R. Radabaugh, T. J. Monks and S. S. Lau. Southwest Environmental Health Sciences Center, Department of Pharmacology/Toxicology, College of Pharmacy, The University of Arizona, Tucson, AZ.

REALGAR-AND CINNABAR-CONTAINING AN-GONG-NI-HUAN-WAN (AGNH) IS MUCH LESS ACUTELY TOXIC THAN SODIUM ARSENITE AND MERCURIC CHLORIDE. Y. Liu1, J. Yan1, Q. Wu2, J. Shi1, J. Liu1 and J. Shi2. 1Pharmacology, Toxicology & Therapeutics, University of Kansas Medical Center, Kansas City, KS, 2Pharmacology, Zunyi Medical College, Zunyi, Guizhou, China and 3Pharmacology, Guiyang Traditional Medicine College, Guiyang, Guizhou, China.

REALGAR AND REALGAR-CONTAINING LIU-SHEN WAN ARE LESS ACUTELY TOXIC THAN ARSENITE AND ARSENALE. J. Liu2, S. Liang2, Y. Lu2, Q. Wu2, J. Mao2 and J. Shi2. 1Pharmacology, Toxicology & Therapeutics, University of Kansas Medical Center, Kansas City, KS, 2Pharmacology, Zunyi Medical College, Zunyi, Guizhou, China and 3Medicine, University of Louisville, Louisville, KY.

AQUAGLYCEROPORIN 3 IS AN ARSENIC TRANSPORTER IN THE ATLANTIC KILLIFISH (FUNDULUS HETEROCLITUS): EFFECTS OF SALINITY, D. Jung1, B. Jackson1, B. MacIver2, C. Chapline3, D. Sato3, J. R. Shaw4,2 and B. A. Stanton2, 1Dartmouth Medical School, Hanover, NH, 2Beth Israel Deaconess Medical Center and Havard Medical School, Boston, MA, 3Mt. Desert Island Biological Laboratory, Salisbury Cove, ME and 4Indiana University, Bloomington, IN.

LOW-LEVEL ARSENIC EXPOSURE THROUGH DRINKING WATER INCREASES BLOOD PRESSURE AND PROMOTES CONCENTRIC LEFT VENTRICULAR HYPERPROLIFICATION IN MICE. P. Sanchez Soria1, D. Broka1 and T. D. Camenisch1, 2, 3. 1Pharmacology and Toxicology, College of Pharmacy, University of Arizona, Tucson, AZ; 2S Steele Children’s Research Center, University of Arizona, Tucson, AZ; and 3Southwest Environmental Health Sciences Center, University of Arizona, Tucson, AZ. Sponsor: J. Gandolfi.

Program Description (Continued)

Wednesday Morning, March 9
9:00 AM to 12:30 PM
Exhibit Hall

Poster Session: Chemical and Biological Weapons

Chairperson(s): Neera Tewari-Singh, University of Colorado Denver, Aurora, CO.

Displayed: 9:00 AM–12:30 PM

Author Attended: 11:00 AM–12:30 PM

Poster Board Number .....................................601
#2010
Poster Board Number .....................................602
#2011
Poster Board Number .....................................603
#2012
Poster Board Number .....................................604
#2013
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#2015
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#2017
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#2018
Poster Board Number .....................................610
#2019
Poster Board Number .....................................611
#2020

Poster Board Number .........................601
#2010
EVOLUTION OF A COMBINATION OF AN ISOFLAVONE AND AN ACE INHIBITOR FOR PREVENTION OF RADIATION-INDUCED INJURY. M. R. Landauer1, T. A. Davis1 and R. M. Day1. 1Armed Forces Radiobiology Research Institute, Bethesda, MD; 2Department of Regenerative Medicine, Naval Medical Research Center, Silver Spring, MD; and 3Department of Pharmacology, Uniformed Services University of the Health Sciences, Bethesda, MD.

Poster Board Number .........................602
#2011
IDENTIFICATION OF A NOVEL TV METABOLITE FROM MINIPIG LIVER MICROSONOMES VIA LC-Q-TOF MASS SPECTROMETRY. J. M. McGuire1, M. E. Parrish2, E. M. Jakubowski2 and S. A. Thomson1. 1U.S. Army Edgewood CB Center, Aberdeen Proving Ground, MD; and 2SAIC, Gunpowder, MD.

Poster Board Number .........................603
#2012
COMPARISON OF THE EFFECT UPON AND RECOVERY OF ACETYLCHOLINESTERASE (ACHE) ACTIVITY IN VARIOUS TISSUES AND BLOOD AFTER SUB-LETHAL INHALATION AND SUBCUTANEOUS CYCLOSARIN (GF) EXPOSURES. C. E. Whalley1, L. A. Lumley1, J. O’Donnell1, D. Miller1, W. Muse1 and T. Shih1. 1ECBC, Aberdeen Proving Ground, MD; and 2USAMRICD, Aberdeen Proving Ground, MD.

Poster Board Number .........................604
#2013
A DEEP DERMAL SKIN INJURY FOLLOWING EXPOSURE OF HAIRLESS GUINEA PIGS TO SULFUR MUSTARD VAPOR. S. Dachir1, M. Cohen1, L. Tverya1, R. Sahar1, H. Gutman1, R. Gez1, R. Brandeis1, V. Horwitz1 and T. Kadar1. Pharmacology, Israel Institute for Biological Research, Ness Ziona, Israel. Sponsor: J. Graham.

Poster Board Number .........................605
#2014
REACTIVATION OF ORGANOPHOSPHATE INHIBITED ACETYLCHOLINESTERASE (ACHE) BY NOVEL PYRIDINIUM OXIMES IN THE CENTRAL NERVOUS SYSTEM OF RATS. E. C. Meek1, H. W. Chambers1, J. Gearhart1, R. B. Pringle1 and J. E. Chambers1. 1Center for Environmental Health Sciences, Mississippi State University, Mississippi State, MS and 2AFRL, Wright-Patterson AFB, OH.

Poster Board Number .........................606

Poster Board Number .........................607

Poster Board Number .........................608
RICIN TOXICITY IN BALB/C 3T3 CELLS: DOSE-DEPENDENT PROTEIN EXPRESSION DETERMINED BY MASS SPECTROMETRY BASED PROTEOMICS. V. H. Bevilacqua1, S. Deshpande1, J. S. Madren-Whalley2, R. Jabbour2, K. Jones2, L. M. Reilly2 and J. S. Rice2. 1Point Detection Branch, Edgewood Chemical Biological Center, Aberdeen Proving Ground, MD; 2STC, Edgewood, MD; 3Biotechnology Branch, Edgewood Chemical Biological Center, Aberdeen Proving Ground, MD; 4SAIC, Gunpowder, MD; 5NuSep, Bogart, GA; 6Physical Science Department, Bethany College, Bethany, WV and 7Elona Biotechnologies, Inc., Greenwood, IN. Sponsor: J. Sekowski.

Poster Board Number .........................609
ASSESSMENT OF PRO-2-PRAMIDOXIME (PRO-2-PAM) THERAPY FOR EXPOSURE TO ORGANOPHOSPHATE AGENTS IN GUINEA PIGS. J. C. DeMar1, S. M. Somerville1, R. H. Ratchiffe1, T. C. Ku1, N. M. Nur1, B. M. Ursic2, S. M. Schuler2, K. H. Smith2, E. D. Clarkson2 and R. K. Gordon1. 1Regulated Laboratories, Walter Reed Army Institute of Research, Silver Spring, MD and 2Medical Toxicology Branch, U.S. Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, MD.

Poster Board Number .........................610
SULFUR MUSTARD-INDUCED RESPONSES OF AIRWAY AND SKIN IN VITRO. J. Seagrave1, W. Weber2 and G. Grotendorst. Lovelace Respiratory Research Institute, Albuquerque, NM.

Poster Board Number .........................611
PREGABALIN REDUCES THE DURATION OF ACUTE SEIZURES INDUCED BY SOMAN EXPOSURE. M. Furtado1, F. Rossetti1, L. Lumbey2, M. Addis3, M. Moffeti4, B. Robertson5, K. Bailey6, S. Chanda6, N. Kelley6, M. Stone6, T. Pak7, S. Lichtenstein7 and D. Yourick7. 1Walter Reed Army Institute of Research, Silver Spring, MD and 2U.S. Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, Edgewood, MD.

Poster Board Number .........................612

Program Description (Continued)

Abstract #  Poster Board Number .....................................612
#2021 CLOT & CLEAN: IV VIVO DEMONSTRATION OF A NOVEL DECONTAMINATION ROLE FOR A HAEMOSTATIC DRESSING. H. Lydon1,2, C. A. Hall1,2, J. K. Chimpan3, R. P. Chilcott4 and J. S. Graham4, CBRN & Chemical Toxicology Group, Health Protection Agency, Salisbury, United Kingdom, 2School of Biosciences, University of Birmingham, Birmingham, United Kingdom and 3Medical Toxicology Branch, USAMRICD, Aberdeen Proving Ground, MD.

#2022 POSTER BOARD NUMBER .................................616

#2023 POSTER BOARD NUMBER .................................614
#2028 ROLE OF ENDOGENOUS CANNABINOIDS IN VESICANT-INDUCED SKIN INJURY. I. M. Wohlfman1, D. E. Heck1, N. D. Heindel1, M. Huang2, D. R. Gerecke2, P. J. Sinko3, C. J. Lacey4, D. L. Laskin5 and D. L. Laskin5, Pharmacology & Toxicology, Rutgers University, Picataway, NJ, 2Environmental Health Science, New York Medical College, Valhalla, NY, 3Chemical Biology, Rutgers University, Picataway, NJ, 4Pharmaceutics, Rutgers University, Picataway, NJ and 5Environmental & Occupational Medicine, UMDNJ-Robert Wood Johnson Medical School, Picataway, NJ.

#2024 POSTER BOARD NUMBER .................................615
#2029 EFFICACY OF ENDOTRACHEAL ADMINISTRATION OF ADENOSINE RECEPTOR A1 ANTISENSE OLIGONUCLEOTIDE (EPI 2010) IN COMBINATION WITH ATROPINE METHYL BROMIDE AGAINST RESPIRATORY TOXICITY FOLLOWING MICROINSTILLATION INHALATION EXPOSURE TO SARDIN. J. Song1, P. Rezk2, M. Perkins2, P. Sabnekar4, S. Oguntayo4, A. M. Scuito5, B. P. Doctor4 and M. P. Nambiar5, Closed Head Injury Branch, Center For Military Psychiatry and Neuroscience, Walter Reed Army Institute of Research, Silver Spring, MD, 2Medical/Analytical Toxicology, USAMRICD, Aberdeen Proving Ground, MD and 3Department of Medicine, Uniform Services University of Health Sciences, Bethesda, MD.

#2025 POSTER BOARD NUMBER .................................616
#2030 CELL SURVIVAL AND APOPTOSIS MARKERS IN SULFUR MUSTARD EXPOSED MOUSE SKIN. Y. Chang1, J. D. Wang2, R. P. Casillas3, M. K. Gordon1 and D. R. Gerecke2. 1Department of Pharm and Toxicology, Ernest Mario School of Pharmacy, Rutgers University, Picataway, NJ, 2Air Force Research Laboratory, Wright-Patterson AFB, Dayton, OH, 3Pharmacology, Mount Sinai School of Medicine, New York, NY and 4Battelle Biomedical Research Center, West Jefferson, OH.

#2026 POSTER BOARD NUMBER .................................617
#2031 SULFUR MUSTARD EXPOSURE OF THE CORNEA INDUCES AUTOPHAGY. L. Ramani1, R. A. Hahn1, J. S. Schlager2, R. Gordon3, D. R. Gerecke2, M. C. Babin1 and M. K. Gordon1. 1Pharmacology and Toxicology, Rutgers University, Picataway, NJ, 2Institutional Toxicology, Ernest Mario School of Pharmacy, Joint Graduate Program in Toxicology, Rutgers University, EOHSI, Picataway, NJ and 3Battelle Biomedical Research Center, Columbus, OH.

Poster Board Number .................................618
#2032 THE HAIRLESS MOUSE BACK MODEL AND THE MEVM HAVE SIMILAR MOLECULAR PROFILES. J. D. Wang2, M. Soriano3, N. Singer4, R. P. Casillas5, D. R. Gerecke2 and Y. Chang2. 1Pharmacology & Toxicology, Ernest Mario School of Pharmacy, Rutgers University, EOHSI, Picataway, NJ, 2Pharmacology & Toxicology, Ernest Mario School of Pharmacy, Joint Graduate Program in Toxicology, Rutgers University, EOHSI, Picataway, NJ and 3Battelle Biomedical Research Center, Columbus, OH.
Program Description (Continued)

Abstract #

#2032  
Poster Board Number .....................................623  
NITROGEN MUSTARD-INDUCED CORNEAL INJURY IS AMELIORATED BY ADAM17/TACE INHIBITORS. A. S. De Santis1, R. A. Hahn1, N. D. Heinde1, K. K. Svoboda1, D. R. Gerecke2 and M. K. Gordon3. 1Ernest Mario School of Pharmacy, Rutgers University, Piscataway, NJ, 2Chemistry, Lehigh University, Bethlehem, PA and 3Biomedical Sciences, Baylor College of Dentistry, Texas A&M Health Science Center, Dallas, TX.

#2033  
Poster Board Number .....................................624  
COMPARISON OF CORNEAL WOUND HEALING AFTER ULTRAVIOLET AND NITROGEN MUSTARD INJURY. I. P. Po1, A. S. De Santis1, R. A. Hahn1, D. R. Gerecke2, J. D. Laskin1 and M. K. Gordon3. 1Ernest Mario School of Pharmacy, Rutgers University, Piscataway, NJ and 2Environmental and Occupational Medicine, UMDNJ-Robert Wood Johnson Medical School, Piscataway, NJ.

#2034  
Poster Board Number .....................................625  
SIGNALING MECHANISMS THAT CAN CONTRIBUTE TO THE NEUROPROTECTION AFFORDED BY GALANTAMINE IN GUINEA PIGS EXPOSED TO THE NERVE AGENT SOMAN. G. Kulkarni1, M. Akkerman1, Y. Aracava1, E. X. Albuquerque2 and E. R. Pereira2,1. 1Department of Pharmacology and Public Health, University of Maryland School of Medicine, Baltimore, MD and 2Department of Pharmacology and Experimental Therapeutics, University of Maryland School of Medicine, Baltimore, MD.

#2035  
Poster Board Number .....................................626  
GALANTAMINE COUNTERACTS COGNITIVE DEFICITS IN GUINEA PIGS CHALLENGED WITH THE NERVE AGENT SARIN. J. Manczarek1, Y. Aracava1, E. R. Pereira2,1 and E. X. Albuquerque2,1. 1Department of Pharmacology and Public Health, University of Maryland School of Medicine, Baltimore, MD and 2Department of Pharmacology and Experimental Therapeutics, University of Maryland School of Medicine, Baltimore, MD.

#2036  
Poster Board Number .....................................627  
ANALYSIS OF MAP KINASE SIGNALING IN SULFUR MUSTARD TOXICITY USING PHARMACOLOGICAL INHIBITORS AND GENE EXPRESSION PROFILING. C. C. Rothwell1, C. M. Crum, P. A. Everley and J. F. Ditllman. Cell and Molecular Biology, USAMRICD, Aberdeen Proving Ground, MD.

#2037  
Poster Board Number .....................................628  
THE NEUROPROTECTANT EFFECTS OF DIAZEPAM ALONE AND COMBINATION WITH HISTONES DEACETILASES INHIBITORS IN A RAT MODEL OF STATUS EPILEPTICUS INDUCED BY ORGANOPHOSPHOROUS EXPOSURE. F. Rossetti1, M. Furtado1, M. Addis1, B. Robertson1, M. Moffett1, L. Lumley1 and D. Yourick1. 1Walter Reed Army Institute of Research, Silver Spring, MD and 2U.S. Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, MD.
Program Description (Continued)

Abstract #   Poster Board Number .....................................637
#2046       NOVEL SULFUR DONOR FORMULATIONS
                FOR CYANIDE ANTAGONISM: P. K. Jayanna1,
                I. Petrikovics1, J. C. Yu2, M. Zottola3, M. Ancha4
                and G. A. Rockwood5. 'Chemistry, Sam Houston
                State University, Huntsville, TX; ‘Forensic Science,
                Sam Houston State University, Huntsville, TX and
                ‘Analytical Toxicology, USAMRICD, Aberdeen
                Proving Ground, MD.

#2047       Poster Board Number .....................................638
ESTERASE ACTIVITIES AND HEMOSTASIS
OF RAT BLOOD AT DIFFERENT STAGES
AFTER ACUTE INTOXICATION WITH
WARFARE ORGANOPHOSPHATES. N
Goncharov, V. Shmurak, V. Ganyuk, I. Kyryukov,
A. Nadeev, N. Voitenko, D. Prokoffieva, Y.
Pechenevskii, A. Radilov and V. Rembovskiy.
RIHOPHE, Saint Petersburg, Russian Federation.
Sponsor: R. Gupta.

#2048       Poster Board Number .....................................639
PROTECTION AGAINST ACH-E
INHIBITION. I. Petrikovics1, R. J. Kern1, J.
R. Wild4, G. Kuzmitcheva4 and M. E. Wales5.
‘Chemistry, Sam Houston State University,
Huntsville, TX and ‘Biochemistry, Biophysics, Texas
A&M University, College Station, TX.

#2049       Poster Board Number .....................................640
REACTIVATION OF PHOSPHORYLATED
ACETYLCHOLINESTERASE AND NEURAL
PROTECTION IN THE CENTRAL NERVOUS
SYSTEM USING NOVEL PYRIDINIUM
OXIMES. R. Pringle1, E. Meek1, H. Chambers1,
J. Gearhart1 and J. Chambers1. ‘Mississippi State
University, Mississippi State, MS and ‘AFRL,
Wright-Patterson AFB, OH.

#2050       Poster Board Number .....................................641
IMPROVED DECORPORATION OF
THE ACTINIDE RADIOELEMENT23Am
WITH A NOVEL ORALLY AVAILABLE
FORMULATION OF DTPA. G. N. Shankar1, W.
Weber2, M. Doyle-Eisele1, N. Bejum1, S. Mutyal3
and R. A. Guilmette4. ‘Pharmaceutical Sciences,
SRI International, Menlo Park, CA and ‘Center
for Countermeasures Against Radiation, Lovelace
Respiratory Research Institute, Albuquerque, NM.

Wednesday Morning, March 9
9:00 AM to 12:30 PM
Exhibit Hall

Poster Session: Nanotoxicology: Metal Oxides, Silver, Gold,
and Silica Nanoparticle Toxicity

Chairperson(s): Kevin Dreher, U.S. EPA, NC.
Displayed: 9:00 AM–12:30 PM

Author Attended: 9:00 AM–11:00 AM

#2051       Poster Board Number .....................................701
EFFECTS OF COPPER DOPED TITANIUM
DIOXIDE NANOPARTICLES IN VIVO:
ROLE OF SOLUBLE METAL. B. L. Serke1, N.
Corson1, P. Merzec2, R. Gelnin1, M. Sabu1, P. Biswas3,4,
G. Oberdörster2 and A. Elden1. ‘Environmental
Medicine, University of Rochester, Rochester,
NY and ‘Energy, Environmental, and Chemical
Engineering, Washington University, St. Louis, St.
Louis, MO.

#2052       Poster Board Number .....................................702
GENE EXPRESSION PROFILING OF
IMMUNE-COMPETENT CELLS EXPOSED
TO METAL OXIDE NANOPARTICLES. B.
Fadeel1, S. Tuomela2, R. Autio1, A. Kunzmann1, B.
Andersson1, J. Shi1, T. Bürki-Thumere2, P. Wick3,
O. Arslan4, S. Mathur5, A. Scheynius5, H. Krug5
and R. Lahtesmaa6. ‘Institute of Environmental
Medicine, Karolinska Institutet, Stockholm,
Sweden, ‘University of Turku and Åbo Akademi
University, Turku Centre for Biotechnology,
Turku, Finland, ‘Department of Signal Processing,
Tampere University of Technology, Tampere,
Finland, ‘Department of Medicine Solna, Karolinska
Institutet, Stockholm, Sweden, ‘Laboratory for
Materials-Biology Interactions, Swiss Federal
Laboratories for Material Science and Technology,
St. Gallen, Switzerland and ‘Inorganic and Materials
Chemistry, University of Cologne, Cologne,
Germany.

#2053       Poster Board Number .....................................703
UPTAKE OF SILICA NANOPARTICLES AND
QUANTUM DOTS IN DIFFERENTIATED
AND UNDIFFERENTIATED THP-1 CELLS:
AN ILLUSTRATION OF CHALLENGES IN
MEASURING NANOPARTICLE UPTAKE BY
CELLS. G. K. Hinkley1, D. Barber1, P. Sharma1,
Powers2 and S. Roberts1. ‘Center for Environmental
and Human Toxicology, University of Florida,
Gainesville, FL and ‘Particle Engineering Research
Center, University of Florida, Gainesville, FL.

#2054       Poster Board Number .....................................704
THE TOXIC EFFECTS OF MESOPOROUS
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MAMMOPHAGES. S. Lee1, H. Yun1 and S. Kim2.
‘Pharmacology, Kyungpook National University,
Daegu, Republic of Korea and ‘Engineering
Ceramics Research Group, Functional Materials
Division, Korea Institute of Materials Science
(KIMS), Changwon, Republic of Korea.

#2055       Poster Board Number .....................................705
ZNO NANOPARTICLE NEUROTOXICITY
REQUIRES CELLULAR INFLUX OF
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Cobbett1. ‘Pharmacology and Toxicology, Michigan
State University, East Lansing, MI and ‘Pediatrics
and Human Development, Michigan State University,
East Lansing, MI.

#2056       Poster Board Number .....................................706
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NANOPARTICLES IN VIVO. M. A. Malfatti1,2,
E. Kuhn1, W. Wang1, S. Retterer1 and K.
Turteltaub1,2. ‘Lawrence Livermore National
Laboratory, Livermore, CA, ‘Oak Ridge National
Laboratory, Oak Ridge, TN and ‘Battelle Center
for Fundamental and Applied Systems Toxicology
(B-FAST), Battelle Memorial Institute, Columbus,
OH.

#2057       Poster Board Number .....................................707
INHALED CADMIUM OXIDE (CDO)
NANOPARTICLES CAUSES LUNG INJURY
IN ADULT MALE MICE. L. K. Rosenblum, J. L.
Blum, J. Q. Xiang and J. F. Zelikoff. Environmental
Medicine, New York University School of Medicine,
Tuxedo, NY.
| #2058 | Poster Board Number .....................................708 | INHALED NICKEL NANOPARTICLES AND MURINE ENDOTHELIAL PROGENITOR CELLS. E. N. Liberda, A. K. Cuevas, Q. Qu and C. Lung Chi. Environmental Medicine, New York University, Tuxedo, NY. |
| #2059 | Poster Board Number .....................................709 | GOLD NANOSPHERES CAUSE SIZE-DEPENDENT CELLULAR ALTERATIONS IN HUMAN KERATINOCYTES. C. M. Garrett1, A. M. Schrand2 and S. M. Hussain3. ‘Air Force Research Laboratory, Henry M. Jackson, Wright-Patterson AFB, OH and ‘Appli.ed Biotechnology Branch, 71th Human Performance Wing, Wright-Patterson AFB, Dayton, OH. |
| #2061 | Poster Board Number .....................................711 | MACROPHAGE ACTIVATION AND MIGRATION ON TRANSPARENT TITANIUM NANOSTRUCTURE. D. Khang1, S. Lee1 and S. Kim1. ‘Pharmacology, Kyungpook National University, Daegu, Republic of Korea and ‘Center for Nano-Morphic Biological Energy and School of Nano and Advanced Materials Science and Engineering, Gyeongsang National University, Jinju, Republic of Korea. |
| #2067 | Poster Board Number .....................................716 | BIOAVAILABILITY AND TISSUE DISTRIBUTION OF SILVER NANOPARTICLES IN SPRAGUE-DAWLEY RATS. M. D. Boudreau1, C. R. Coutar1, P. H. Sisoten1, M. V. Pogribna1 and N. J. Walker2. ‘Division of Biochemical Toxicology, National Center for Toxicological Research, U.S. FDA, Jefferson, AR and ‘National Toxicology Program, National Institute of Environmental Health Sciences, Research Triangle Park, NC. |
| #2068 | Poster Board Number .....................................717 | CELLULAR ANTIOXIDANTS AND PREDISPOSITION TO DAMAGE BY METAL OXIDE NANOPARTICLES: A TOXICOLOGICAL COMPARISON BETWEEN HUMAN PULMONARY EPITHELIAL AND MESOTHELIAL CELL LINES. D. E. Figueroa1, J. Berg1, A. Romoser1 and C. M. Sayes2. ‘Biomedical Engineering, Texas A&M University, College Station, TX and ‘Veterinary Physiology & Pharmacology, Texas A&M University, College Station, TX. |
| #2069 | Poster Board Number .....................................718 | BUILDING MATHEMATICAL MODELS FOR NANOPARTICLE-INDUCED REACTIVE OXYGEN SPECIES PRODUCTION: A STUDY COMPARING SILVER, ZINC, COPPER, NICKEL, AND IRON NANOPARTICLES. P. A. Smith1, I. I. Vavlo2 and C. M. Sayes2. ‘Biomedical Engineering, Texas A&M University, College Station, TX and ‘Veterinary Physiology & Pharmacology, Texas A&M University, College Station, TX. |
| #2070 | Poster Board Number .....................................719 | THE TOXICITY OF SILVER AND SILICA NANOPARTICLES IN COMPARABLE HUMAN AND MOUSE CELL LINES. R. Foldbjerg1, C. Beer1, D. S. Sutherland1 and H. Astrup1. ‘Environmental and Occupational Medicine, Aarhus University, Aarhus, Denmark and ‘Interdisciplinary Nanoscience Center (iNANO), Aarhus University, Aarhus, Denmark. |
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<td>A TOXICOGENOMIC ANALYSIS OF GENE EXPRESSION CHANGES IN TIO2 NANOPARTICLE-TREATED MICE. S. Liu, Y. Yao, W. Yang, X. Dang and J. G. Wadsworth Center, New York State Department of Health, and School of Public Health, State University of New York at Albany, Albany, NY.</td>
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<td>GOLD NANOPARTICLES INCREASE THE LIVER TOXICITY OF ACETAMINOPHEN. A. M. Keene, A. Knapton, N. R. Hartman, D. Peters, G. Tobin, L. Zhang, S. Stewart, L. Xu, R. Rouse and K. M. Tyner. Center for Drug Evaluation and Research, U.S. FDA, Laurel, MD.</td>
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<td>SILVER NANOPARTICLES-INDUCED GENOTOXICITY IN BONE MARROW CELLS OF SPRAGUE-DAWLEY RATS. A. Patolli1 and D. Hackett1. 1Molecular Toxicology Research Laboratory, Jackson State University, Jackson, MS and 2Biology, Jackson State University, Jackson, MS.</td>
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M. Naya1, N. Kobayashi1, S. Endoh1, K. Mizuno1, R. Nagasaka1, M. Ema2 and J. Nakashima. 1Research Institute of Science for Safety and Sustainability, National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan, 2Research Institute for Environmental Management Technology, National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan and 3Metrology Institute of Japan, National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan.

#2083
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SIZE-DEPENDENT IMMUNE-MODULATING EFFECT OF AMORPHOUS NANOSILICA. T. Hirai2, T. Yoshioka2,1, T. Yoshiida1,2, H. Nabeshi2, S. Tochigi1, M. Uji2,3, K. Nagano1,2, Y. Abe1, H. Kamada2,3, S. Tsunoda1,2,3, N. Itoh2,3, Y. Yoshioka1,2,3 and Y. Tsutsui1,2,3. 1Department of Toxicology and Safety Science, Graduate School of Pharmaceutical Sciences, Osaka University, Osaka, Japan, 2Laboratory of Biopharmaceutical Research, National Institute of Biomedical Innovation, Osaka, Japan, 3The Center for Advanced Medical Engineering and Informatics, Osaka University, Osaka, Japan and 4Department of Biomedical Innovation, Graduate School of Pharmaceutical Sciences, Osaka University, Osaka, Japan.

#2084
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DISTRIBUTION IN THE TESTIS AND REPRODUCTIVE EFFECTS OF NANOSILICA. Y. Morishita1,2, Y. Yoshioka2,1, K. Yamashita1, K. Higashisaka2,3, M. Fujimura1,2, H. Pan2, T. Ogura2, K. Nagano1, Y. Abe1, H. Kamada2,3, S. Tsunoda1,2,3, H. Nabeshi1, N. Itoh1, T. Yoshioka2,1,2 and Y. Tsutsui1,2,3. 1Department of Toxicology and Safety Science, Graduate School of Pharmaceutical Sciences, Osaka University, Suita, Osaka, Japan, 2Laboratory of Biopharmaceutical Research, National Institute of Biomedical Innovation, Ibaraki, Osaka, Japan, 3The Center for Advanced Medical Engineering and Informatics, Osaka University, Osaka, Japan, 4Department of Biomedical Innovation, Graduate School of Pharmaceutical Sciences, Osaka University, Osaka, Japan.

#2085
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Abstract #

Poster Session: Pesticides: General

Chairperson(s): Diane Hardej, St. Johns University, Jamaica, NY, and Virginia Moser, U.S. EPA, Research Triangle Park, NC.

Displayed: 9:00 AM – 12:30 PM

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#2086
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INACTIVATION OF ENDOCANNABINOID METABOLISM IN HUMAN THP1 MACROPHAGES FOLLOWING EXPOSURE TO ACTIVATED ORGANOPHOSPHOTHIONATES. M. K. Ross1, A. Borzaji2 and P. M. Potter2. 1Mississippi State University, Mississippi State, MS and 2St. Jude Children’s Hospital, Memphis, TN.

#2087
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ETHYLENE BISDITHOCARBAMATE PESTICIDES MANEB AND MANCOZEB CAUSE TOXICITY IN NORMAL AND TRANSFORMED COLON CELLS. H. M. Lisa1 and D. Hardej. Department of Pharmaceutical Sciences, St. John’s University, Queens, NY.

#2088
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RETINOIC ACID AND TESTOSTERONE LEVELS IN TESTIS AFTER MOLINATE: IN VITRO AND IN VIVO STUDIES. F. G. Zuno, B. S. Winder, D. Holstege and M. G. Miller, Environmental Toxicology, University of California, Davis, CA.

#2089
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CHARACTERIZATION OF CHLORPYRIFOS TOXICITY ON THE PANCREATIC BETA CELL LINE RIN1MSF. Z. Yan and D. R. Cool, Pharmacology/Toxicology, Wright State University, Dayton, OH. Sponsor: C. Sulentic.

#2090
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EARLY DEVELOPMENTAL EXPOSURE TO THE HERBICIDE ATRAZINE RESULTS IN ENRICHMENT OF GENE EXPRESSION ALTERATIONS ASSOCIATED WITH NEUROENDOCRINE DEVELOPMENT AND CARCINOGENESIS. G. J. Weber1, S. S. Lewis1, S. M. Peterson1, M. S. Sepulveda1 and J. L. Freeman. 1Health Sciences, Purdue University, West Lafayette, IN and 2Forestry and Natural Resources, Purdue University, West Lafayette, IN.

#2091
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2096 | #2096 | 811 | #2103
| | MICROARRAY ANALYSIS OF GENE EXPRESSION CHANGES IN HUMAN HEPATOCYTES AFTER CHLORPYRIFOS EXPOSURE. A. D. Wallace1, R. Shah2, K. Cho1, H. Joo1 and E. Hodgson1. 1Environmental and Molecular Toxicology, North Carolina State University, Raleigh, NC and 2Scitec LLC, Research Triangle Park, NC. | METABOLISM OF CHLORPYRIFOS BY ALCERIC ISOFORMS OF CYP2B6, A KEY BIOACTIVATING ENZYME. A. L. Crane, B. P. McGarrigle and J. R. Olson, Pharmacology and Toxicology, University at Buffalo, Buffalo, NY.

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| | STUDY OF THE INHIBITION OF RECOMBINANT HUMAN CARBOXYLESTERASE 1 AND 2 BY CHLORPYRIFOS OXON, PARAOXON, AND METHYL PARAOXON. J. A. Crow1, V. Bittles1, K. Herring1, A. Borazjani1, P. M. Potter2 and M. K. Ross3. 1Mississippi State University, Mississippi State, MS and 2St. Jude Children’s Hospital, Memphis, TN. | ACUTE INHALATION OF AEROSOLIZED CHLORPYRIFOS BY ADULT SPRAGUE-DAWLEY RATS: ABSORPTION, METABOLISM, AND KINETICS OF CHOLINESTERASE INHIBITION IN RED BLOOD CELLS, PLASMA, BRAIN, AND LUNG. J. A. Hotchkiss1, S. M. Krieger2, D. L. Rick3, M. J. Bartels4, E. P. Selman5 and D. R. Jaberg6.1The Dow Chemical Company, Midland, MI and 2Dow AgroSciences, LLC, Indianapolis, IN.
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#2106  
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CONSTRUCTION AND VALIDATION OF A HUMAN PBPK/PD MODEL FOR DERMAL CHLORPYRIFOS EXPOSURE UTILIZING HUMAN BIOMARKER DATA. C. A. Ellison¹, J. B. Knaak², R. McDougall², P. J. Lein³, F. M. Farahat⁴, K. Anger⁵ and J. R. Olson⁶. ¹University at Buffalo, Buffalo, NY, ²University of Ontario Institute of Technology, Oshawa, ON, Canada, ³Oregon Health & Science University, Portland, OR, ⁴University of California Davis School of Veterinary Medicine, Davis, CA and ⁵Menoufi University, Shbin el Kom, Egypt.

#2107  
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#2108  
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TOXICOKINETIC-EPA DERMAL TOXICODYNAMIC RELATIONSHIPS IN CASES OF GLYPHOSATE HERBICIDE EXPOSITION. A. Anadon, M. A. Martínez, I. Ares, E. Ramos, V. Castellano, M. Martínez and M. R. Martínez-Larrañaga. Department of Toxicology and Pharmacology, Faculty of Veterinary Medicine, Universidad Complutense, Madrid, Spain.

#2109  
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Poster Board Number .....................................826  
CYTOCHROME P450 3A5 GENOTYPE IS CORRELATED WITH ACETYLCHolinesterase INHIBITION LEVELS AFTER EXPOSURE TO ORGANOPHOSPHATE PESTICIDES. Z. Guerrette¹, E. G. Moreira¹, W. C. Griffith¹, G. D. Coronado², E. M. Vigoren³, X. Yu⁴, B. Thompson⁴ and E. M. Faustman¹. Environmental and Occupational Health Sciences, University of Washington, Seattle, WA, ¹Fred Hutchinson Cancer Research Center, Seattle, WA and ²State University of Londrina, Londrina, PR, Brazil.

#2112  
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#2113  
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HYDROLYSIS OF ORGANOPHOSPHATE AND MODEL SUBSTRATES IN AFRICAN AMERICAN AND CAUCASIAN SOUTHERNERS BY SERUM PARAOXONASE-1 (PON1) AND RELATIONSHIP TO ATHEROSCLEROSIS. H. Coombs, A. Crow, M. Dail, H. Chambers, R. Wills, E. Meek and J. Chambers. Mississippi State University, Mississippi State, MS.

#2114  
Poster Board Number .....................................829  
INTRAVENTRICULAR CONDUCTION DELAY AFTER GLYPHOSATE-SURFACTANT HERBICIDES INTOXICATION. Y. Tseng¹, C. Chen¹, C. Huang¹, W. Chen¹ and D. Hong¹. ¹Department of Emergency, China Medical University Hospital, Taichung, Taiwan, ²Toxicology Center, China Medical University Hospital, Taichung, Taiwan, ³Graduate Institute of Drug Safety, College of Pharmacy, China Medical University, Taichung, Taiwan and ⁴School of Chinese Medicine, College of Chinese Medicine, China Medical University, Taichung, Taiwan.

#2115  
Poster Board Number .....................................830  
GENETIC DAMAGE AND GENE EXPRESSION IN PESTICIDE RETAILERS FROM NAYARIT, MEXICO. E. Rojas¹, S. Lara-Montoya¹, P. Ostrosky², M. Sordo³, M. Medina-Díaz⁴, L. Robledo-Mareco¹, A. Benítez-Trinidad¹, B. Quintanilla-Vega¹ and M. Bermúdez de León¹. ¹Laboratorio de Contaminación y Toxicología Ambiental, Universidad Autónoma de Nayarit, Tepic, Nayarit, Mexico, ²Instituto de Investigaciones Biomédicas, Universidad Nacional Autónoma de México, Mexico, D.F., ³Department of Emergency, China Medical University Hospital, Taichung, Taiwan and ⁴Laboratorio de Biología Molecular, Centro de Investigación Biomédica del Noreste-IMSS, Monterrey, Nuevo León, Mexico.
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**#2116**

Poster Board Number .....................................831

**ACETYLCHOLINESTERASE ACTIVITY AND GENE EXPRESSION IN URBAN SPRAYERS FROM NAYARIT, MEXICO.**

M. Fuentes-Reyes1, E. Rojas2, P. Ostrosky2, M. Sordo3, M. Medina-Díaz2, L. Robledo-Marengo3, S. Lara-Montoya1, A. Benítez-Trinidad1, B. Quintanilla-Vega1, M. Bermúdez de León1, R. Barrón-Vivanco1, I. Girón-Pérez2, C. González-Arias1 and F. Herrera-Moreno1. 1Laboratorio de Contaminación y Toxcolgia Ambiental, Universidad Autónoma de Nayarit, Tepic, Nayarit, Mexico, 2Instituto de Investigaciones Biomédicas, Universidad Nacional Autónoma de México, D.F., Mexico, D.F., Mexico, 3Departamento de Toxicología, Centro de Investigación y de Estudios Avanzados del IPN, D.F., Mexico, D.F., Mexico and 1Laboratorio de Biología Molecular, Centro de Investigación Biomédica del Noreste-IMSS, Monterrey, Nuevo León, Mexico.

**#2117**

Poster Board Number .....................................832

**ESTIMATING EGYPTIAN COTTON FIELD WORKER EXPOSURE TO THE ORGANOPHOSPHORUS PESTICIDE PROFENOFOX.**

O. A. Adson1, C. A. Ellison1, S. T. Singleton1, L. Chi3, F. M. Farahat2 and J. R. Olson2. 1University at Buffalo, Buffalo, NY and 2Menoufia University, Shbin el Kom, Egypt.

**#2118**

Poster Board Number .....................................833

**THE CONTRIBUTION OF HANDS TO THE DERMAL PESTICIDE EXPOSURE OF STRAWBERRY HARVESTERS.**

G. Sankaran2, L. Chen2, Z. Chen1, T. Lopez2, H. Vega2 and R. I. Krieger4. 1Environmental Toxicology Graduate Program, University of California, Riverside, CA and 2Personal Chemical Exposure Program, Department of Entomology, University of California, Riverside, CA.

**#2119**

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**PRELIMINARY RESEARCH FOR A MONITORING PROGRAM FOR PESTICIDE RESIDUES ON MARKET VEGETABLES IN MEXICO.**

M. L. Aldana-Madrid1, M. I. Silveira-Gramont1, A. I. Valenzuela-Quintana2, G. Rodríguez-Olibarria3, P. Grajeda-Cota1, F. G. Zuno2 and M. G. Miller2. 1Departamento de Investigación y Posgrado en Alimentos, Universidad de Sonora, Hermosillo, Sonora, Mexico, 2Environmental Toxicology, University of California, Davis, CA and 3Centro de Investigación en Alimentación y Desarrollo, Hermosillo, Sonora, Mexico.

**#2120**

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**IMPLICATIONS OF ORGANOPHOSPHATE (OP) PESTICIDES IN FOOD GRAIN.**

R. Dufault1 and S. Gilbert1. 1INND, Seattle, WA and 2Food Ingredient and Health Research Institute (FIHRI), Honolulu, HI.

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**#2121**

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**HIGH-THROUGHPUT ASSESSMENT OF CELLULAR MANGANESE (MN) IDENTIFIES NOVEL MECHANISM UNDERLYING A MN DEFICIT OF HUNTINGTON’S DISEASE MODEL.**

G. Kwakye1, D. Li1, O. Kabobel1, M. Wegorzynowicz1, K. M. Erikson2, M. Aschner2 and A. B. Bowman1. 1Neuroscience, Vanderbilt University Medical Center, Nashville, TN and Nutrition, University of North Carolina, Greensboro, NC.

**#2122**

Poster Board Number .....................................902

**CTR1, BUT LESS LIKELY DMT1, PLAYS A CRITICAL ROLE IN MANGANESE (MN)-INDUCED COPPER (CU) ACCUMULATION IN THE BLOOD-CSF BARRIER.**

G. Zheng and W. Zheng. School of Health Sciences, Purdue University, West Lafayette, IN.

**#2123**

Poster Board Number .....................................903

**EXAMINING A POTENTIAL GENE-ENVIRONMENT INTERACTION BETWEEN THE PD-ASSOCIATED GENE PARKIN AND MANGANESE IN A C. ELEGANS MODEL.**

S. Chakrabarty1 and M. Aschner2,3. 1Neuroscience Graduate Program, Vanderbilt University, Nashville, TN, 2Pediatrics, Vanderbilt University, Nashville, TN and 3Vanderbilt Kennedy Center, Vanderbilt University, Nashville, TN.

**#2124**

Poster Board Number .....................................904

**HSPS ARE IMPORTANT MEDIATORS OF MN-INDUCED TOXICITY IN C. ELEGANS.**

D. Avila and M. Aschner. Pediatrics/Toxicology, Vanderbilt University, Nashville, TN.

**#2125**

Poster Board Number .....................................905

**THE EFFECTS OF MANGANESE ON MITOCHONDRIAL ACOINITASE AND CYTOCHROME C OXIDASE IN THE GILL OF THE BIVALVE CRASSOSTREA VIRGINICA.**


**#2126**

Poster Board Number .....................................906

**MN2+ INHIBITION OF OXIDATIVE PHOSPHORYLATION IN LIVER, BRAIN, AND HEART MITOCHONDRIA.**

E. T. Gunter1, B. Gerstner2, C. Guvendik1 and K. Gunter1. 1Biochemistry and Biophysics, University of Rochester School of Medicine, Rochester, NY and 2Pfizer, Groton, CT.
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#2127 | #907 | #2134 | #914
#2128 | #908 | #2135 | #915
#2129 | #909 | #2136 | #916
#2130 | #910 | #2137 | #917
#2131 | #911 | #2138 | #918
#2132 | #912 | #2139 | #919
#2133 | #913 | #2140 | #920

**MECHANISM OF ENHANCED HEME OXYGENASE-1 (HO-1) ACTIVITY AND THE ROLE OF HO-1 IN CONTROLLING INFLAMMATORY CYTOKINE OUTPUT IN LPS-STIMULATED MICROGLIA.** C. A. Dodd, I. I. Georgieva and N. M. Filipov. Physiology and Pharmacology, University of Georgia, Athens, GA.

**OXIDATIVE INJURY AND EP2 SIGNALING IN MANGANESE NEUROTOXICITY.** D. Milatovic1, Y. Yu1, S. Zaja-Milatovic2 and M. Aschner3. 1Pediatrics, Vanderbilt University, Nashville, TN and 2Medicine, Vanderbilt University, Nashville, TN.

**PROTEIN KINASE C IS INVOLVED IN GLUTAMINE TURNOVER IN ASTROCYTES.** M. Sidoruy-Wegrzynowicz1, E. Lee2 and M. Aschner3. 1Department of Pediatrics, Vanderbilt University Medical Center, Nashville, TN and 2Department of Physiology, Meharry Medical College, Nashville, TN.

**INCREASES ARGINASE ACTIVITY IN MOUSE STRIATUM, BUT DECREASES ITS SUSCEPTIBILITY TO MANGANESE EXPOSURE.** M. Wegrzynowicz1, H. K. Holt1 and A. B. Bowman1,2,3. 1Department of Neurology, Vanderbilt University Medical Center, Nashville, TN and 2Vanderbilt Kennedy Center, Vanderbilt University Medical Center, Nashville, TN and 3Center for Molecular Toxicology, Vanderbilt University Medical Center, Nashville, TN.

**NEUROTOXIC EFFECTS OF INTRANASAL MANGANESE EXPOSURE AND INTERACTION WITH CADM.** A. H. Mobery, J. Pottakall, L. Czarnecki, T. Rubinstein, D. J. Turkel and J. P. McGann. Psychology Department, Rutgers University, Piscataway, NJ.

**MANGANESE AND VANADIUM EXPOSURE INDUCES SEVERE NEUROTOXIC RESPONSE IN OLFACTORY SYSTEM OF AN ANIMAL MODEL: POTENTIAL RELEVANCE TO OLFACTORY DYSFUNCTION AND PARKINSON’S DISEASE (PD).** H. Afseh Ngwa, A. Kanthasamy, V. Anantharam and A. G. Kanthasamy. Iowa State University, Ames, IA.

**CHRONIC MANGANESE ALTERS THYROID AND ESTROGEN LEVELS IN RATS BLOOD.** O. Soldin1 and M. Aschner2. 1Departments of Oncology, Medicine, Physiology and Biophysics, Obstetrics and Gynecology, Georgetown University, Washington, D.C. and 2Departments of Pediatrics and Pharmacology, Vanderbilt University, Nashville, TN.

**GLIAL INTERACTIONS AND NEUROINFLAMMATION IN MANGANESE NEUROTOXICITY.** K. Sullivan1 and R. Tjilkens1,2. 1Environmental and Radiological Health Sciences, Colorado State University, Fort Collins, CO and 2Molecular and Cellular Biology, Colorado State University, Fort Collins, CO.

**REDUCED COPPER CLEARANCE BY THE BLOOD-CSF BARRIER FOLLOWING IN VIVO MANGANESE AND THE ROLE OF CU TRANSPORTER APTP.** X. Fu, Y. Zhang, W. Jiang, A. D. Monnot and W. Zheng. School of Health Sciences, Purdue University, West Lafayette, IN.

**INCREASED BETA-AMYLOID DEPOSITION IN TRANSGENIC APP MICE FOLLOWING CHRONIC LEAD (PB) EXPOSURE.** W. Zheng1, H. Gu2, X. Wei1, A. D. Monnot2 and Y. Du3,2, 1School of Health Sciences, Purdue University, West Lafayette, IN and 2Neurology, Indiana University School of Medicine, Indianapolis, IN.

**NEUROIMAGING OF MANGANESE TOXICITY: EFFECT OF EXPOSURE TIME ON ACCUMULATION IN HUMAN BRAIN.** J. Xu1, X. Li1, S. Streitmatter1, L. Long1, W. Zheng1, Y. Jiang1 and U. Dydak1,2. 1School of Health Sciences, Purdue University, West Lafayette, IN, 2Indiana University School of Medicine, Indianapolis, IN and 3Guangxi Medical University, Nanning, China.

**NEUROIMAGING OF MANGANESE TOXICITY: GABA AND METABOLIC CHANGES IN THE HUMAN BRAIN.** Z. Long1,2, Y. Jiang1, X. Li1, J. Xu1,2, L. Long1, W. Zheng1 and U. Dydak1,2. 1School of Health Sciences, Purdue University, West Lafayette, IN, 2Indiana University School of Medicine, Indianapolis, IN and 3Guangxi Medical University, Nanning, China.
Abstract # Poster Board Number .....................................921 THE DEVELOPMENT OF A HUMAN MULTI-ROUTE PHYSIOLOGICALLY-BASED PHARMACOKINETIC MODEL FOR MANGANESE. M. D. Taylor1, J. D. Schroeter1, A. Nong3, M. Voorn2, D. C. Dorman1, M. E. Andersen2 and H. J. Clewell2. 1Alton Chemical Corporation, Richmond, VA, 2The Hamner Institutes for Health Sciences, Research Triangle Park, NC and 3College of Veterinary Medicine, North Carolina State University, Raleigh, NC.

Poster Board Number .....................................922 DEVELOPMENTAL LEAD EXPOSURE CAUSES TIME POINT SPECIFIC ALTERATIONS IN NERVOUS SYSTEM RELATED GENE AND PROTEIN EXPRESSION LEVELS. S. Peterson, J. Zhang, G. J. Weber and J. L. Freeman. Purdue University, West Lafayette, IN.

Poster Board Number .....................................923 LOW-LEVEL DEVELOPMENTAL LEAD (PB2+) EXPOSURES ALTERS C-START RESPONSE IN LARVAL ZEBRAFISH. D. Weber1 and C. Rice2. 1Children’s Environmental Health Sciences Center, University of Wisconsin-Milwaukee, Milwaukee, WI and 2American University, Washington, D.C.

Poster Board Number .....................................924 NEURODEVELOPMENTAL TOXICITY OF LEAD (PB): A MORPHOLOGIC STUDY IN THE EMBRYONIC ZEBRAFISH BRAIN. J. Zhang, S. M. Peterson, W. Zheng and J. L. Freeman. School of Health Sciences, Purdue University, West Lafayette, IN.


Poster Board Number .....................................927 CATALASE MANIPULATIONS MODIFY VOLUNTARY ETHANOL INTAKE IN DEVELOPMENTALLY LOW-LEVEL LEAD EXPOSED RATS. M. Virgolini, M. S. Mattalloni and L. M. Canela. IFEC CONICET Department de Farmacologia, Fac. de Ciencias Quimicas. Universidad Nacional de Cordoba, Cordoba, Argentina.

Poster Board Number .....................................928 WATERBORNE MANGANESE EXPOSURE ALTERS STEREOTYPIC BEHAVIORS AND PLASMA METABOLITES IN DEVELOPING RATS. S. C. Fordahl1, P. Cooney1, Y. Qui2, G. Xie2, W. Jia2 and K. Erikson1. Nutrition, University of North Carolina at Greensboro, Greensboro, NC and 2Nutrition, University of North Carolina at Greensboro, North Carolina Research Campus, Kannapolis, NC.

Poster Board Number .....................................929 PRE-WEANING MN EXPOSURE LEADS TO PROLONGED ASTROCYTE ACTIVATION AND LASTING EFFECTS ON THE DOPAMINERGIC SYSTEM IN ADULT RATS. C. Kern and D. R. Smith. Environmental Toxicology, University of California, Santa Cruz, CA.


Poster Board Number .....................................931 A MOUSE MODEL OF Ph-STRESS INTERACTIONS AT BLOOD Pb < 10 g/dl. K. Merchant-Borna, S. Liu, D. Weston and D. A. Cory-Stevich. Department of Environmental Medicine, University of Rochester School of Medicine, Rochester, NY.

Research Funding Resource Room
Chairperson(s): Joel G. Pounds, Pacific Northwest National Laboratory, Richland, WA, and Nancy Kerkvliet, Oregon State University, Corvallis, OR.

Sponsor: Research Funding Committee
Representatives from federal agencies that fund research will be available in the Research Funding Room. Individual conversations can occur in a quiet, informal space whether you want to discuss research plans, a current grant application, or previous reviews. Representatives from NIH, including program officers and Center for Scientific Review staff, NIEHS, NHLBI, and other institutes, as well as U.S. EPA ORD, DOE, and other agencies will be available at various times.

Make an appointment with your program officer in advance or at their exhibit booth, or check the posted schedule to meet with the staff member of your choice. New investigators are especially encouraged to meet with program staff. Handouts will be available.
Program Description (Continued)

Wednesday Morning, March 9
9:15 AM to 10:15 AM
Room 156
Exhibitor Hosted Session: Developing Local and Systemic Biologies to Treat Inflammation of the Lung
Presented by: Huntingdon Life Sciences
Pharmaceutical companies have investigated the respiratory route as a potential to deliver large molecular weight drugs systemically. Many companies are continuing to explore the respiratory route for the treatment of local inflammation. Equally a number of companies are using systemically delivered drugs to treat inflammation of the lung. Session highlights issues and assess how the safety might be addressed.

Wednesday Morning, March 9
9:15 AM to 10:15 AM
Room 140B
Exhibitor Hosted Session: Key Six Sigma Methods Applied to Surgical Services for Operational Excellence
Presented by: Harlan Laboratories, Inc.
Harlan Laboratories removed non-value added steps and reduced sources of variation within our rodent surgical services processes using Lean Six Sigma methods. This was key to achieving operational excellence as toxicologists and others increased demand for our outsourced surgical services.

Wednesday Morning, March 9
9:15 AM to 10:15 AM
Room 140A
Exhibitor Hosted Session: Reproductive and Developmental Toxicity Testing of Vaccines and Biologics
Presented by: Charles River
The regulatory-required testing of large molecules (vaccines and biologics) prior to marketing for effects on reproduction and development of the fetus presents unique problems in the selection of appropriate species, the timing of treatment, the evaluation of the response to treatment and the relevance of any findings to humans.

Wednesday Morning, March 9
9:30 AM to 10:30 AM
Room 201
Meet the Director: NIEHS Director
Chairperson(s): Jon C. Cook, Pfizer, Groton, CT.
Lecturer: Linda Birnbaum, NIEHS, Research Park Triangle, NC.
The National Institute of Environmental Health Sciences (NIEHS) seeks to understand how the environment influences the development and progression of human disease. This session will be a particularly valuable opportunity to update SOT members on the future directions of the NIEHS and the National Toxicology Program (NTP). Dr. Birnbaum will talk about her plans for leading NIEHS and NTP in promoting the environmental public health of the United States and the world through research directed at preventing and treating disease.

Wednesday Morning, March 9
10:30 AM to 11:30 AM
Room 156
Exhibitor Hosted Session: Challenges of Assessing Biologics for Efficacy and Safety
Presented by: MPI Research
Biologics present an ongoing challenge to both PK/PD assessment and safety/immunotoxic effects. This session will discuss issues around assay development, impact of immunogenicity on PK/efficacy, and risk-based approach to determine what, if any, additional safety immune-based endpoints should be assessed.

Wednesday Morning, March 9
10:30 AM to 11:30 AM
Room 140A
Exhibitor Hosted Session: Drug Testing Using 3D Microtissues
Presented by: InSphero AG
More physiological in vitro cell models will foster the efficiency of the drug development process. InSphero provides an in-depth review of different 3D-cell-culture technologies used to create microtissue models. Applications in oncology and toxicology as well as examples of the successful use of 3D models up to the regulatory level for skin applications are presented.

Wednesday Morning, March 9
10:30 AM to 11:30 AM
Room 140B
Exhibitor Hosted Session: Overview, Design, and Review of Transgenic Carcinogenicity Studies
Presented by: BioReliance® Corporation
Experience and design of Transgenic Carcinogenicity studies; as well as, date, statistics and histopathology from the largest database of spontaneous tumors from these studies will be presented. Discussion will include an overview of the history of specific models, validations and the efficacy for use in regulatory submissions.
The National Institute for Occupational Safety and Health (NIOSH) is a component of the Centers for Disease Control and Prevention in the U.S. Department of Health and Human Services. NIOSH’s mission is to generate new knowledge in the field of occupational safety and health and transfer that knowledge globally. NIOSH was established along with the Occupational Safety and Health Administration (OSHA) by the Occupational Safety and Health Act of 1970. NIOSH is a founding member of the National Toxicology Program (NTP) along with the Food and Drug Administration and the National Institute for Environmental Health Sciences.

Highlights of NIOSH’s current activities in the area of toxicology include two major programs. First, the National Occupational Research Agenda (NORA) is a partnership program to stimulate innovative research and improved workplace practices. NORA has become a research framework for NIOSH and the nation. Diverse parties collaborate to identify the most critical issues in workplace safety and health. Partners then work together to develop goals and objectives for addressing these needs. Participation in NORA is broad, including stakeholders from universities, large and small businesses, professional societies, government agencies, and worker organizations. The program entered its second decade with a new sector based structure to better move research to practice within workplaces. The national agenda will be developed and implemented through the NORA Sector Councils. NIOSH is the steward of NORA and facilitates the work of the Sector Councils, which develop and implement research agendas for the occupational safety and health community.

Second, the Nanotechnology Research Center (NRC) developed a Strategic Plan, published Progress Reports, provided guidance of good handling practices for nanomaterials, and produced CIBs for nano TiO2 and carbon nanotubes. Currently, there are 52 projects in the NTRC. Projects are in the areas of toxicology and internal dose, measurement methods, exposure assessment, epidemiology and surveillance, risk assessment, engineering controls and PPE, fire and explosivity, recommendations and guidance, communication and information, and applications.

Finally, during the Deepwater Horizon Response—Gulf of Mexico Oil Cleanup NIOSH was involved in several activities including rostering efforts, exposure assessments using health hazard evaluations (HHEs), toxicity testing, and worker health surveillance. NIOSH’s efforts in assessing the toxicity of the oil spill have focused on the dispersant designed to break up the oil. There has been a lot of concern about the chemicals within the dispersant, as well as the mixture of the crude and the dispersant together. The toxicity studies are currently ongoing and are looking at pulmonary, cardiovascular, and central nervous system effects after inhalation of dispersant or oil as well as dermal and immune effects after topical exposure to dispersant or oil. Also, on May 28, 2010, BP requested a health hazard evaluation of Deepwater Horizon Response workers. The sixth in a series of interim reports from this health hazard evaluation was issued September 13, 2010. These reports can be found by clicking on the NIOSH Web site. In addition, you will also find at this site current spreadsheets containing quantitative industrial hygiene sampling data available to date from NIOSH’s health hazard evaluation of the Deepwater Horizon Response.
The mission of the Eunice Kennedy Shriver National Institute of Child Health & Human Development (NICHD) is to ensure that every person is born healthy and wanted, that women suffer no harmful effects from reproductive processes, and that all children have the chance to achieve their full potential for healthy and productive lives, free from disease or disability, and to ensure the health, productivity, independence, and well-being of all people through optimal rehabilitation.

Dr. Yvonne Maddox is the deputy director of the NICHD at the National Institutes of Health (NIH), a position that she has held since January 1995. Dr. Maddox guides the organizations and programs of the NICHD, advises the director on matters regarding the internal affairs of the institute budget, and oversees the extramural program that supports research on child development, developmental biology, nutrition, AIDS, mental retardation, population issues, reproductive biology, contraception, pregnancy, and medical rehabilitation. From January 2000, to June 2002, Dr. Maddox also served as the acting deputy director of the NIH.

Roundtable Session: ‘Omics in Toxic Tort

Chairperson(s): Angela Harris, Center for Toxicology and Environmental Health, North Little Rock, AR, and Anne Chapelle, Chapelle Toxicology Consulting, Chaluds Ford, PA.

Sponsor: Ethical, Legal & Social Issues Specialty Section

Endorsed by: Occupational and Public Health Specialty Section

In the past few years, there has been a growing influx of ‘omics data into the courtroom. Transcriptomic and proteomic data have already been submitted in toxic tort litigation as evidence of exposure to a chemical or toxic effect due to chemical exposure, as have data regarding the genetic polymorphisms of plaintiffs alleging toxic effects. Submission of ‘omics data will likely increase exponentially over the next decade, however, there has been little discussion in the scientific community about how appropriate these data currently are in proving exposure and effect in any individual or group of individuals. Issues regarding specificity, interindividual and intra-individual variation, and validation are addressed in the scientific community as the data are projected for use in making regulatory decisions, but there is a serious gap in gauging the sometimes limited datasets submitted as evidence on which to base causal decisions in a court of law. We will introduce topics related to ‘omics in toxic tort to open a dialogue among toxicologists interested in the transition of these data from research tools to causative tools in litigation.

#2152 12:00 ‘OMICS IN TOXIC TORT. A. J. Harris, CTEH, North Little Rock, AR.

#2153 12:00 ENTRY OF ‘OMICS DATA INTO THE COURTROOM: AN INTRODUCTION. Angela J. Harris

Abstract #

12:05 DO ‘OMICS DATA REQUIRE STRINGENT VALIDATION AND ARE THE DATA PREDICTIVE OF TOXICOLOGIC OUTCOME IN HUMANS? Dan Casciano

12:25 POTENTIAL EFFECTS OF GENETIC PROFILING AND INDIVIDUAL SUSCEPTIBILITY TO REGULATION IN THE CHEMICAL AND PETROLEUM INDUSTRIES. Anne Chapelle

12:45 THE USE OF DNA EVIDENCE IN TOXIC EXPOSURE LITIGATION. Anthony G. Hopp

Panel Discussion

Wednesday Afternoon, March 9
12:00 NOON to 1:20 PM
Room 145

Informational Session: Current and Changing Perspectives on Mycotoxins and Their Potential Health Risks Worldwide

Chairperson(s): Kenneth Voss, U.S. Department of Agriculture, Athens, GA, and Michael Bolger, U.S. FDA, College Park, MD.

Sponsor: Food Safety Specialty Section

Endorsed by: Occupational and Public Health Specialty Section

Regulatory and Safety Evaluation Specialty Section

Risk Assessment Specialty Section

Mycotoxins are ubiquitous contaminants of cereals and other commodities. Interventions at the agricultural, commodity processing, or food preparation stages of the field to plate sequence have significantly contributed to reducing human exposures. However, establishment of tolerable intakes and regulatory policies limiting the levels of aflatoxins, fumonisins, ochratoxin A, deoxynivalenol, and other mycotoxins known or suspected to cause human disease continues as a first line of defense for protecting consumer health. Contrasting approaches to safety and risk assessment can lead to the establishment of different tolerable intakes or regulatory standards as, for example, between the U.S. and the E.U. Improved commodity sampling and monitoring procedures and additional toxicology data reduce uncertainty in risk assessment and allow refinement of regulations for mycotoxins, as illustrated by changes in limits for aflatoxins in tree nuts which have facilitated international trade without compromising public health. However, regulatory approaches are not globally consistent and may not effectively protect public health if enforcement is less stringent. Inconsistent standards can in some cases lead to exportation of the best quality commodities. Therefore, implementation of multifaceted bottom up approaches involving better pre-harvest and post-harvest practices, improved nutrition, and clinical interventions is also needed to effectively reduce exposures to aflatoxins and other mycotoxins. Recent research increases our understanding of how mycotoxins interact with commodity and food matrix constituents, describes improved biomarkers for exposure assessments, and provides new findings on the toxicology and mechanisms of action that are essential for both regulatory and bottom up approaches to reduce mycotoxin exposure and maintain safe food supplies worldwide.

#2153 12:00 CURRENT AND CHANGING PERSPECTIVES ON MYCOTOXINS AND THEIR POTENTIAL HEALTH RISKS WORLDWIDE. K. A. Voss1, M. Bolger2, S. H. Henry3, J. G. Adams1 and F. Wu1. ‘Toxicology & Mycotoxin Research Unit, USDA-ARS, Athens, GA, 1Center for Food Safety and Applied Nutrition, U.S. FDA, College Park, MD, 2Almond Board of California, Modesto, CA and 3Environmental and Occupational Health, University of Pittsburgh, Pittsburgh, PA.
Program Description (Continued)

Abstract #

12:00 Michael Bolger. Introduction

12:05 IMPROVING OUR UNDERSTANDING OF MYCOTOXINS: EMERGING ISSUES RELEVANT TO FOOD SAFETY AND PUBLIC HEALTH. Kenneth A. Voss

12:20 MYCOTOXINS: U.S. AND EUROPEAN REGULATORY STRATEGIES. Sara H. Henry

12:35 AFLATOXIN LIMITS: A CASE STUDY OF RISK MANAGEMENT APPROACHES IN THE COMMERCIAL ENVIRONMENT. Julie G. Adams

12:50 RISKS IN LESS DEVELOPED COUNTRIES: FOCUS ON PUBLIC HEALTH INTERVENTIONS, NOT REGULATIONS. Felicia Wu

1:05 PANEL DISCUSSION/Q&A.

Poster Board Number: 119

Skin pH Effects on the Penetration of Quantum Dot Nanoparticles in Porcine Skin. A. O. Inman, N. A. Monteiro-Riviere and J. E. Riviere. Center for Chemical Toxicology Research and Pharmacokinetics, North Carolina State University, Raleigh, NC.

Poster Board Number: 120

INFORMING SELECTION OF NANOMATERIAL CONCENTRATIONS FOR TOXCAST IN VITRO TESTING USING THE MULTIPLE-PATH PARTICLE DOSIMETRY MODEL. S. Gangwal1, J. S. Brown1, A. Wang1, K. A. Houck1, D. J. Dix1, R. J. Kavlock1 and E. A. Cohen Hubal1. National Center for Computational Toxicology (NCCT), U.S. EPA, Research Triangle Park, NC and National Center for Environmental Assessment (NCEA), U.S. EPA, Research Triangle Park, NC.

Poster Board Number: 121


Poster Board Number: 122

A NOVEL COMPREHENSIVE EVALUATION PLATFORM TO ASSESS NANOPARTICLE TOXICITY IN VITRO. C. Hirsch1, P. Wessling1, K. Fischer1, M. Roesslein1, P. Wick1, H. Hofmann1 and H. F. Krug1. Materials-Biology Interactions, Empa, Swiss Federal Laboratories for Materials Science and Technology, St. Gallen, Switzerland and Powder Technology Laboratory, EPL, Lausanne, Switzerland. Sponsor: B. Fadel.

Poster Board Number: 123


Poster Board Number: 124

SWCNT EXPOSURE OF ALVEOLAR EPITHELIAL CELLS AND MACROPHAGES INDUCED OXIDATION AND TGF-β1 RESPONSE. M. J. Watz1, A. R. Murray1, E. Kisin1 and A. A. Sladeová2. iWest Virginia University, Morgantown, WV and NIOSH, Morgantown, WV.

Poster Board Number: 125

MEMBRANE-MEDIATED MODES OF ENTRY OF C60 INTO CULTURED IMMORTALIZED MACROPHAGES. K. A. Russ1, J. C. Spears1, P. Elvati1, J. A. Fernandez1, A. Viol1 and M. A. Philbert1. Department of EHS, Toxicology, University of Michigan, Ann Arbor, MI and Department of Mechanical Engineering, University of Michigan, Ann Arbor, MI.

Poster Board Number: 126

IN VITRO TESTING STRATEGIES FOR ASSESSING PARTICLE-INDUCED GENETIC DAMAGE USING ALVEOLAR CELL LINES. K. P. Glower, A. Myhyre, M. Laskowski, K. L. Reed, E. Donner and D. B. Warheit. DuPont Haskell Global Centers for Health and Environmental Sciences, Newark, DE.
#2163  Poster Board Number ..................................... 127

#2164  Poster Board Number ..................................... 128
CYTOTOXICITY AND GENOTOXICITY OF ACUTE AND CHRONIC EXPOSURE TO SILVER NANOPIERCICLES IN HUMAN LUNG CELLS. H. Xie1,2,3, D. McGovern1,2, A. Sample1,2, S. Abramson1,2, A. Perez1,2, M. D. Mason1, G. Craig1 and J. P. Wise1,2,3. 1Wise Laboratory of Environmental and Genetic Toxicology, University of Southern Maine, Portland, ME; 2Maine Center for Toxicology and Environmental Health, University of Southern Maine, Portland, ME; 3Department of Applied Medical Science, University of Southern Maine, Portland, ME and 4Department of Chemical and Biological Engineering, University of Maine, Orono, ME.

#2165  Poster Board Number ..................................... 129
INFLUENCE OF SURFACE FUNCTIONALIZATION ON PROTEIN ADSORPTION AND NANOPIERCICLE UPTAKE BY INTESTINAL EPITHELIAL CELLS. P. N. Wicinski1,2, K. M. Louis1, R. M. Albrecht3 and J. A. Pedersen4,5. 1Molecular and Environmental Toxicology, University of Wisconsin Madison, Madison, WI; 2Chemistry, University of Wisconsin Madison, Madison, WI; 3Annun Science, University of Wisconsin Madison, Madison, WI and 4Soil Science, University of Wisconsin Madison, Madison, WI. Sponsor: R. Peterson.

#2166  Poster Board Number ..................................... 130
INTERNALIZATION OF CARBON BLACK AND IRON OXIDE NANOPIERCICLES MIXTURES LEADS TO OXIDANT PRODUCTION. J. Berg and C. M. Sayes. Texas A&M University, Bryan, TX.

#2167  Poster Board Number ..................................... 131

#2168  Poster Board Number ..................................... 132
GENE EXPRESSION OF METAL UPTAKE GENES. USING CINC沢NS QUANTUM DOTS IN ZEBRAFISH LIVER CELLS. V. Allagadda, S. Tang and G. D. Mayer. The Institute of Environmental & Human Health, Texas Tech University, Lubbock, TX.

#2169  Poster Board Number ..................................... 133
ACCUMULATION AND TRANSLLOCATION OF NANOPIERCICLES ACROSS THE HUMAN PLACENTA. P. Wick1,2, A. Malek3, P. Diener1, A. Zisch1, H. F. Krug1 and U. von Mandach1. 1Laboratory for Materials-Biology Interaction, Empa Swiss Federal Laboratories for Materials Science and Technology, St. Gallen, Switzerland; 2Department of Obstetrics, University Hospital Zurich, Zurich, Switzerland and 3Institute of Pathology, Kantonspital St. Gallen, St. Gallen, Switzerland. Sponsor: B. Fadeel.

#2170  Poster Board Number ..................................... 134
CYTOTOXICITY AND BIOKINETICS OF POLYMERIC MAGHEMITE NANOPIERCICLES IN VITRO. V. Sorribas1, L. Mohamed-Ahmed-Ali2,3, R. Villa-Bellostas1, A. Millan1, L. Gabilondo4, R. Piñol5 and F. Palacio6. 1Laboratory of Molecular Toxicology, University of Zaragoza, Zaragoza, Spain and 2Institute of Materials Science, CSIC, Zaragoza, Spain. Sponsor: A. Anadon.

#2171  Poster Board Number ..................................... 135

#2172  Poster Board Number ..................................... 136

#2173  Poster Board Number ..................................... 137
TOXICITY AND GENOMIC PROFILING OF ENGINEERED NANOMATERIALS WITH DISTINCT GEOMETRY AND SURFACE FUNCTIONALIZATION IN HUMAN AORTIC ENDOTHELIAL CELLS. P. J. Moos, A. Mikkelsen, H. Herd, G. Thiagarajan and H. Ghandehari. University of Utah, Salt Lake City, UT.

#2174  Poster Board Number ..................................... 138
SUBCELLULAR DISTRIBUTION OF GOLD NANOPIERCICLES AND LACK OF CYTOTOXICITY IN PRIMARY HEPATOCYTE CELL CULTURE MODEL. Y. Zhang1, W. Salminen2, Q. Shi1, X. Yang3, Y. Jones3, S. Linder4, T. Mualdige5, B. Miller6, C. Wei7 and P. Howard8. 1Office of Scientific Coordination, NCTR /U.S. FDA, Jefferson, AR; 2Division of Systems Biology, NCTR/U.S. FDA, Jefferson, AR and 3Arkansas Regional Laboratory, ORA/U.S. FDA, Jefferson, AR.

#2175  Poster Board Number ..................................... 139
THE ROLE OF SURFACE CHEMISTRY ON INTRACELLULAR OXIDANT GENERATION. S. H. Ho1,2, J. M. Berg1,2, B. Guo3 and C. M. Sayes1,2. 1Department of Biomedical Engineering, Texas A&M University, College Station, TX; 2Toxicology Program, Texas A&M University, College Station, TX and 3Department of Mechanical Engineering, Texas A&M University, College Station, TX.

#2176  Poster Board Number ..................................... 140
NICKEL NANOPIERCICLES AND PLATELET-DERIVED GROWTH FACTOR (PDGF) ACT COORDINATELY TO INCREASE PRO- AND ANTI-ANGIOGENIC FACTORS IN RAT PLEURAL MESOTHELIAL CELLS. E. Glista, B. C. Sayers, A. J. Taylor and J. C. Bonner. Environmental and Molecular Toxicology, North Carolina State University, Raleigh, NC.
Abstract #

#2177
Poster Board Number .....................................141
CONTRIBUTION OF PHYSICOCHEMICAL PROPERTIES OF 4TH PERIOD METAL OXIDE NANOPARTICLES TO THEIR CYTOTOXICITY IN CULTURED HUMAN LUNG CELLS. Y. Huang1, C. C. Chusuei2, S. Mallavarapu, C. Wu1 and R. S. Aronstam1,1 Biological Sciences, Missouri University of Science and Technology, Rolla, MO and 2Department of Chemistry, Middle Tennessee State University, Murfreesboro, TN.

#2178
Poster Board Number .....................................142
SURFACE MODIFICATION OF MULTIVALVED CARBON NANOTUBES ENHANCES PDGF-INDUCED CHEMOKINE & GROWTH FACTOR PRODUCTION BY RAT PLEURAL MESOTHELIAL CELLS. A. J. Taylor1, C. K. Devine2, E. E. Glista1, B. C. Sayers1, G. N. Parsons3 and J. C. Bonner1,1 Environmental and Molecular Toxicology, North Carolina State University, Raleigh, NC and 2Chemical and Biomolecular Engineering, North Carolina State University, Raleigh, NC.

#2179
Poster Board Number .....................................143
A COMPARISON BETWEEN ZINC OXIDE NANOPARTICLES AND ORGANIC UV FILTERS IN UV-IRRADIATED HUMAN SKIN AND IMMUNE CELLS. P. F. Wright1, G. J. D’Costa1,2, S. J. O’Keefe1,2, B. N. Feltis1,2, V. Muthusamy1,2, J. T. Piva1,2 and T. W. Turney1,2, School of Medical Science, RMIT University, Bundoora, VIC, Australia, 2Center for Green Chemistry, Monash University, Clayton, VIC, Australia and 3Nanosafe Australia, Melbourne, VIC, Australia. Sponsor: J. Ahokas.

#2180
Poster Board Number .....................................144
TITANIUM NANOPARTICLES INDUCE EXPRESSION OF ADHESION MOLECULES IN VASCULAR ENDOTHELIAL CELLS. S. Han, M. Toborek and B. Hennig, Superfund Research Program, University of Kentucky, Lexington, KY.

#2181
Poster Board Number .....................................145
SILVER NANOWIRES INDUCED INFLAMMATION IN AN IN VITRO HUMAN ALVEOLAR LUNG MODEL. N. M. Schaebelin1, C. A. Estep2, J. R. Roberts2 and S. M. Hussain1,1,711 HPW, RHPB, Air Force Research Labs, Wright Patterson, OH and 2CDC/NIOSH, Morgantown, WV.

#2182
Poster Board Number .....................................146
EVALUATING THE TOXICITY OF NANOATERIALS USING A 3D NEURONAL CO-CULTURE MODEL. L. K. Breadich-Stolle and S. Hussain, He’ll be back. RHPB, Wright-Patterson AFB, OH.

#2183
Poster Board Number .....................................147
CYTOTOXICOLOGICAL AND PATHWAY-FOCUSED PERTURBATIONS IN DERMAL CELLS EXPOSED TO QUANTUM DOT SYSTEMS. A. A. Romoser and C. M. Soves, VTTP-Toxicology, Texas A&M, College Station, TX.

Abstract #

#2184
Poster Board Number .....................................148
IN VITRO DNA DAMAGE, MUTATION, AND CYTOTOXICITY AND SUBCHRONIC CELL GROWTH STUDIES OF QUANTUM DOT NANOPARTICLES. J. Bartel1, J. Treadway2, J. Schatz2 and S. Kim1,1 Design-for-Environment, Life Technologies, Foster City, CA, 2Life Technologies, Eugene, OR and 3Design-for-Environment, Life Technologies, Madison, WI.

Wednesday Afternoon, March 9
1:00 PM to 4:30 PM
Exhibit Hall

Poster Session: Developmental Basis of Adult Disease
Chairperson(s): Lynette Rogers, University of Southern California, Los Angeles, CA.

Displayed: 1:00 PM–4:30 PM

Author Attended: 2:45 PM–4:30 PM

#2185
Poster Board Number .....................................230
GLOBAL GENE EXPRESSION PROFILING ANALYSIS OF FOOD DEPRIVED MATERNAL AND FETAL MICE LIVERS. T. Ogawa1, R. Rakwal2, J. Shibato3, C. Sawa1, T. Saito4, M. Murayama1, M. Kuwaga2 and S. Shiodal1, Anti-aging Medicine, Showa University, Tokyo, Japan, 2Anatomy, Showa University, Tokyo, Japan and 3Laboratory of Pathology, Food and Drug Safety Center, Kanagawa, Japan.

#2186
Poster Board Number .....................................231
MATERNAL-CORD BLOOD LEVELS OF BISPHENOL-A (BPA) IN HUMAN AND FOLLOWING BPA ADMINISTRATION IN PREGNANT SHEEP. V. Padminabhan1, S. H. Halubai1, V. Almunen1, C. Liao2, S. E. Domino2 and K. Kurunthachalam1, University of Michigan, Ann Arbor, MI and 2Wadsworth Center, Albany, NY.

#2187
Poster Board Number .....................................232
ALZHEIMER’S DISEASE: EPIGENETIC INTERMEDIATES AND EARLY LIFE EXPOSURE TO PB IN PRIMATES. S. W. Bihaqi1,2, H. Huang3 and N. H. Zawia4,5, Biomedical and Pharmaceutical Science, University of Rhode Island, Kingston, RI and 5School of Public Health, Zhengzhou University, Zhengzhou, Henan, China.

#2188
Poster Board Number .....................................233

#2189
Poster Board Number .....................................234
**Abstract #**

**#2190**

**Poster Board Number..........................235**

**EARLY LIFE PARTICLE AND OZONE INHALATION SENSITIZES THE LUNG AND BRAIN TO LATER LIFE CHALLENGES.**

C. J. Johnston2, J. Allen3, R. Gelein2, J. N. Finkelstein2, G. Oberdörster* and D. A. Corry-Slentz*. Pediatrics, University of Rochester Medical Center, Rochester, NY and Environmental Medicine, University of Rochester Medical Center, Rochester, NY.

**Poster Board Number..........................236**

**#2191**

**INTERSPECIES APPROACH TO THE ASSESSMENT OF HUMAN SUSCEPTIBILITY TO PHTHALATE-INDUCED ENDOCRINE DISRUPTION.**

E. Carney, R. J. Rasoulpour, M. J. LeBaron, J. Murray, R. Sura, J. Passage, R. Ellis-Hutchings and B. Gollapudi. The Dow Chemical Company, Midland, MI.

**Poster Board Number..........................237**

**LACK OF TRANSGENERATIONAL EFFECT FOR VAGINAL PATENCY AND UTERINE WEIGHT IN CD-1 MICE EXPOSED TO DIEHYDROSTILBESTROL OR 17BETA-ESTRADIOL.**

E. Carney, R. J. Rasoulpour, M. J. LeBaron, J. Murray, R. Sura, J. Passage, R. Ellis-Hutchings and B. Gollapudi. The Dow Chemical Company, Midland, MI.

**Poster Board Number..........................238**

**MATERNAL DHA SUPPLEMENTATION ATTENUATES HYPEROXIA-INDUCED LUNG DEVELOPMENTAL DEFICITS IN ADULT MICE.**

K. K. Rogers1, C. Cunningham2, S. J. Hall3, M. A. Sandrof4, E. V. McDonnell5, J. B. Hensley6, K. J. Johnson7, E. Houseman8, K. W. Gaido9 and K. Boekelheide10. Pathology and Laboratory Medicine, Brown University, Providence, RI; Department of Pediatrics, The Ohio State University, Columbus, OH and 3Department of Pediatrics, The Ohio State University, Columbus, OH.

**Poster Board Number..........................239**

**PRENATAL AND POSTNATAL CIGARETTE SMOKE EXPOSURE INCREASES SUSCEPTIBILITY TO ADULT ONSET DISEASE.**

J. L. Lyon and T. Gordon. Environmental Medicine, New York University School of Medicine, Tuxedo, NY.

**Poster Board Number..........................240**

**A DIRECT LC/MS/MS METHOD FOR DETERMINATION OF β-ALANINE IN HUMAN PLASMA.**


**Poster Board Number..........................241**

**DIFFERENTIAL EFFECTS OF ADULT VERSUS PRENATAL HG EXPOSURE ON THE INNATE IMMUNE RESPONSE TO CVB3 INFECTION.**

K. L. Speiran, D. L. Shirley, E. K. Silbergefl and J. F. Nyland. Pathology, Microbiology & Immunology, University of South Carolina School of Medicine, Columbia, SC and 3Environmental Health Sciences, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD.

**Poster Board Number..........................242**

**NEONATAL GENISTEIN EXPOSURE CAUSES IMPLANTATION FAILURE, BECAUSE OF PERMANENT ALTERATIONS IN UTERINE MORPHOLOGY AND STEROID HORMONE RESPONSES.**

W. Jefferson, S. M. Wagner, E. Padilla-Banks and C. J. Williams. NIEHS, Research Triangle Park, NC.

**Poster Board Number..........................243**

**NEONATAL GENISTEIN EXPOSURE PERMANENTLY DISRUPTS OVIDUCT GENE EXPRESSION AND TISSUE ARCHITECTURE DURING PREGNANCY.**

E. Padilla-Banks, W. Jefferson, S. M. Wagner and C. J. Williams. NIEHS, Research Triangle Park, NC.

**Poster Board Number..........................244**

**DELAYED TEMPORAL INCREASE OF HEPATIC HSPI IN APOE-/- MICE WITH ACCELERATED Atherosclerosis INDUCED BY IN UTERO ARSENIC EXPOSURE.**

N. N. Ngalame, M. E. Feil, A. F. Mcciche and J. States. Pharmacology/Toxicology, University of Louisville, Louisville, KY.

**Poster Board Number..........................245**

**CORRELATION BETWEEN POLYBROMINATED DIPHENYL ETHERS (PBDES) AND PERSISTENT ORGANIC POLLUTANTS (POPS) OR HEAVY METALS DETECTED IN UBIMILICAL CORDS.**

Y. Igoshi1, S. Ochiai1, E. Todaka2, Y. Matsumoto3, S. Suzuki4, N. Shimoojo5, Y. Kohno6 and C. Mori7. 1Bioenvironmental Medicine, Chiba University, Chiba City, Chiba, Japan, 2Preventive Medical Science, Chiba University, Chiba, Japan, 3Pediatrics, Chiba University, Chiba, Japan and 4Pediatrics, Shimoshiza National Hospital, Yotsukaicho, Japan.

**Poster Board Number..........................246**

**IN UTERO AND POSTNATAL EXPOSURE TO FLUORIDE PRODUCES HYPERINSULINEMIA AND IMPAIRED GLUCOSE TOLERANCE IN RAT.**

L. M. Del Razo, J. G. Garcia-Lopez, A. Barrera-Hernandez and B. Olivier. Toxicology, Cinvestav-Ipm, Mexico, Distrito Federal, Mexico.

**Poster Board Number..........................247**

**METABOLICS: INVESTIGATING THE IMPACT OF GESTATIONAL EXPOSURE TO A PHTHALATE ON THE BRAIN AND REPRODUCTIVE ORGANS OF THE DAM AND PREPUBERTAL PUPS.**

R. Banerjee, R. Snyder2, W. Pathmasingh* and S. J. Summer2. 1University of North Carolina Chapel Hill, Chapel Hill, NC and 2RTI International, Research Triangle Park, NC.

**Poster Board Number..........................248**

**IN UTERO BAP-EXPOSURE LEADS TO DYSREGULATION OF THE CARDIOVASCULAR SYSTEM OF LEH RAT OFFSPRING IN LATE LIFE.**

Program Description (Continued)

Abstract #

#2204

Poster Board Number ..................................... 304

Modulation of oxidative DNA damage biomarker in postmenopausal women by green tea polyphenols and tai chi.

F. Wang, L. Tong, G. Qian, S. Xue, C. L. Shen and J. Wang.

Environmental Health Science, University of Georgia, Athens, GA and Texas Tech University Health Science Center, Lubbock, TX.

#2205

Poster Board Number ..................................... 302


The Hebrew University, Jerusalem, Israel and Department of Pediatrics, Vanderbilt University Medical Center, Nashville, TN.

#2206

Poster Board Number ..................................... 303


Research, Aida4 Medical Consultants, Abuja, FCT, Nigeria.

#2207

Poster Board Number ..................................... 304

Platycodon grandiflorum root-derived saponins suppresses DNFB-induced atopic dermatitis in mice.

B. Park, J. Choi, E. Han, Y. Hwang, Y. Chung and H. Jeong.

Pharmacy, Chungnam National University, Daejeon, Republic of Korea and Food Science, Korea International University, Jinju, Republic of Korea.

#2208

Poster Board Number ..................................... 305

Suppression of PMI-induced tumor cell invasion by Piperine via inhibition of PKC/ERK and NF-kB/AP-1-dependent mechanisms.

H. Yun, Y. Hwang, J. Choi and H. Jeong.

Pharmacy, Chungnam National University, Daejeon, Republic of Korea.

#2209

Poster Board Number ..................................... 306

Inhibition of development of atopic dermatitis by saponin from the roots of Platycodon grandiflorum.

E. Han, J. Choi, J. Im, J. Yang, Y. Chung and H. Jeong.

Pharmacy, Chungnam National University, Daejeon, Republic of Korea and Food Science, Korea International University, Jinju, Republic of Korea.

#2210

Poster Board Number ..................................... 307

Capsaicin suppresses fibrosarcoma cell migration and invasion via EGFR-ERK and P38 MAPK-AP-1 signaling.


Pharmacy, Chungnam National University, Daejeon, Republic of Korea.

#2211

Poster Board Number ..................................... 308

Platycodon grandiflorum root-derived saponins suppresses Acrolein-induced MUC5AC production in A549 cells.

C. Ho, B. Park, E. Han, H. Kim, Y. Hwang, Y. Chung and H. Jeong.

Pharmacy, Chungnam National University, Daejeon, Republic of Korea and Food Science, Korea International University, Jinju, Republic of Korea.

#2212

Poster Board Number ..................................... 309

Anthocyanin isolated from the purple-fleshed sweet potato prevents hepatic fibrosis by DMN and hepatic stellate cells proliferation by PDGF-BB.

J. Choi, Y. Hwang, C. Choi, Y. Chung and H. Jeong.

Pharmacy, Chungnam National University, Daejeon, Republic of Korea and Food Science, Korea International University, Jinju, Republic of Korea.

#2213

Poster Board Number ..................................... 310

Platycodon grandiflorum root-derived saponins suppresses high fat diet-induced steatosis and fibrosis in rats.


Pharmacy, Chungnam National University, Daejeon, Republic of Korea.

#2214

Poster Board Number ..................................... 311


Y. Hwang, J. Choi, E. Han, H. Kim, B. Park and H. Jeong.

Pharmacy, Chungnam National University, Daejeon, Republic of Korea.

#2215

Poster Board Number ..................................... 312

AMP-activated protein kinase is required for the lipid-lowering effect of anthocyanins-rich purple sweet potato in insulin-resistant human HepG2 cells.

J. Kim, Y. Hwang, J. Choi and H. Jeong.

Pharmacy, Chungnam National University, Daejeon, Republic of Korea.
Program Description (Continued)

Abstract #  
Poster Board Number .....................................313 #2216  
ANTHOCYANINS FROM PURPLE SWEET POTATO PROTECT AGAINST TERT-BUTYL HYDROPEROXIDE-INDUCED OXIDATIVE STRESS BY INCREASING EXPRESSION OF HEME OXYGENASE-1 IN A PK3 AND ERK/NRF2-DEPENDENT MANNER.  H. Pii1, J. Choi1, J. Seo1, Y. Chung2 and H. Jeong1. 1Pharmacy, Chungnam National University, Daejeon, Republic of Korea and 2Food Science, Korea International University, Jinju, Republic of Korea.

Poster Board Number .....................................314 #2217  
SAPONINS FROM THE ROOTS OF PLATYCODON GRANDIFLORUM STIMULATE OSTEOBLAST DIFFERENTIATION VIA RUNX2 ACTIVATION IN MENSENCHYMAL STEM CELL.  H. Jeong2, J. Kim1, E. Han1, B. Park1, Y. Chung1, K. Lee1 and H. Jeong2. 1Pharmacy, Chungnam National University, Daejeon, Republic of Korea, 2Pharmacy, Chonnam National University, Gwangju, Republic of Korea and 3Food Science, Korea International University, Jinju, Republic of Korea.

Poster Board Number .....................................315 #2218  
PSIDIUM GUAJAVA INHIBITS IGE-MEDIATED ALLERGIC RESPONSES BY BLOCKING FCER1 SIGNALLING IN MAST CELLS.  J. Im1, E. Han1, J. Park1, J. Yang1, J. Seo2, Y. Chung2 and H. Jeong1. 1Pharmacy, Chungnam National University, Daejeon, Republic of Korea and 3Food Science, Korea International University, Jinju, Republic of Korea.

Poster Board Number .....................................316 #2219  
NOVEL PHARMACOLOGICAL ACTIONS OF NATURAL ANTAGONISTS DERIVED FROM K. BREVIS (RED TIDE).  W. M. Abraham1 and D. G. Baden2. 1Research, Mount Sinai Medical Center, Miami Beach, FL and 2Marine Science, University of North Carolina Wilmington, Wilmington, NC.

Poster Board Number .....................................317 #2220  

Poster Board Number .....................................318 #2221  
CYTOTOXIC EFFECTS OF ARBUTIN IN MAMMALIAN CELLS AFTER ACTIVATION BY HUMAN INFECTIOUS BACTERIA.  H. Kim1, T. Khanal1, H. Ha2, T. Jeong2 and H. Jeong2. 1Pharmacy, Chungnam National University, Daejeon, Republic of Korea and 2Pharmacy, Yeungnam University, Daejeon, Republic of Korea.

Poster Board Number .....................................319 #2222  
PREVENTION OF ADRIAMYCIN HEPATIC AND RENAL TOXICITY IN MALE BALB/C MICE BY A NUTRIENT MIXTURE.  M. Roomi, N. W. Roomi, M. Rath and A. Niedzwiecki.  Dr. Rath Research Institute, Santa Clara, CA.

Poster Board Number .....................................320 #2223  
ISOLATION AND DETECTION OF RICIN IN CASTOR BEANS USING A DUAL-FRACTIONATION TECHNIQUE AND MATRIX-ASSISTED LASER DESORPTION IONIZATION/TIME-OF-FLIGHT MASS SPECTROMETRY.  C. Wilson, K. Meyerholtz and S. Hooser.  Indiana Animal Disease Diagnostic Laboratory, Purdue University, West Lafayette, IN.

Poster Board Number .....................................321 #2224  
PROTECTIVE EFFECT OF HOVENIA DULCIS EXTRACT ON THE TUNICAMYCIN INDUCED ER STRESS IN HEPG2 CELLS.  M. Dong1, J. Choi1, C. Na2, D. Na3 and Y. Park4. 1School Lifesciences and Biotechnology, Korea University, Seoul, Republic of Korea and 3Pharmacy, Chungnam National University, College Station, TX and 4Soil and Crop Sciences, Texas A&M University, College Station, TX.

Poster Board Number .....................................322 #2225  
EFFECTS OF THE MARINE ALGAL TOXIN PECTENOTOXIN ON THE ACTIVITY OF VARIOUS ACTIN ISOFORMS.  S. Butler1, C. O. Miles1, A. Karim1 and M. Twiner1. 1Natural Sciences, University of Michigan, Dearborn, MI and 2Section for Chemistry, National Veterinary Institute, Oslo, Norway.

Poster Board Number .....................................323 #2226  
COMPARATIVE CYTOTOXICITY OF VARIOUS ANALOGS OF THE MARINE ALGAL TOXIN AZASPIRICID.  R. El-Ladki1, G. Doucette2 and M. Twins1. 1Natural Sciences, University of Michigan, Dearborn, MI and 2Marine Biotoxins Program, NOAA/National Ocean Service, Charleston, SC.

Poster Board Number .....................................324 #2227  
ANALYSIS OF RESVERATROL AND ITS METABOLITES IN PREGNANT RATS, FETUSES, AND PUPS.  B. L. Fletcher1, M. A. Silinski1, T. R. Fennell2, F. K. Thomas1, J. C. Blake2, S. D. Cooper3, R. A. Fernando1 and B. J. Collins2. 1RTI International, Research Triangle Park, NC and 2NIH/NTD, Research Triangle Park, NC.

Poster Board Number .....................................325 #2228  
ABF1 BINDING CAPACITIES OF EXCELERITE CLAY SAMPLES FROM PANACA, NEVADA.  K. Zychowski1, A. Marroquin-Cardona1, Y. Deng2 and T. D. Phillips1. 1College of Veterinary Medicine, Texas A&M University, College Station, TX and 2Soil and Crop Sciences, Texas A&M University, College Station, TX.

Poster Board Number .....................................326 #2229  
Program Description (Continued)

Abstract #  Poster Board Number .....................................327

#2230 TOXICOLOGICAL ASSESSMENT OF METHANOLIC ROOT EXTRACT OF CNESTIS FERRUGINEA:

#2231 POMEGRANATE EXTRACT EXERTED CHEMOPREVENTIVE EFFECTS IN COLON CANCER CELLS AND TARGETED MICRORNA-21A AND MICRORNA-126. N. Banerjee 1, G. Noratto, L. Xiangrong 1 and S. M. Talcott 2,3. 1Nutrition and Food Science, Texas A&M University, College Station, TX and 2Veterinary Physiology and Pharmacology, Texas A&M University, College Station, TX.


#2233 CURCUMIN DECREASES INFLAMMATION IN NORMAL CELLS AND EXERTS CHEMOPREVENTIVE EFFECT ON COLON CANCER CELLS THROUGH REGULATION OF KEY MICRORNAS. G. D. Noratto 1,2 and S. U. Mertens-Talcott 1,2,3. 1Veterinary Physiology and Pharmacology, Texas A&M University, College Station, TX, 2Nutrition and Food Science, Texas A&M University, College Station, TX and 3Institute for Obesity Research and Program Evaluation, Texas A&M University, College Station, TX.

#2234 13-WEEK GAVAGE EXPOSURE TO GUM GUGGUL EXTRACT (GGE) MODULATES ACTIVITY OF HEPATIC CYP2B1 AND CYP3A IN HARLAN SPRAGUE-DAWLEY RATS AND B6C3F1 MICE. C. A. Granville 1, M. K. Valliant 1, M. Hejtmancik 1, D. K. Gerken 1 and M. E. Wyde 2. 1Batelle Memorial Institute, Columbus, OH and 2NTP/NIEHS, Research Triangle Park, NC.

#2235 CURCUMIN REGULATES CELL CYCLE PROGRESSION IN RESPONSE TO BPDE-INDUCED DNA DAMAGE. E. N. Rogers and J. States. Pharmacology and Toxicology, University of Louisville, Louisville, KY.

#2236 ACUTE TOXICITY (LC50) AGAINST ARTEMIA FRANCISCANA OF ESSENTIAL OILS FROM LANTANA ARMATA SCHAUER, XYLOPIA AROMATICA LAMARCK, AND SATIREJA BROWNEI BRIG. COLLECTED IN COLOMBIA. B. E. Jaramillo 2, J. Olivero 2, K. Caballero 2 and E. Stashenko 1. 1Agrochemical Research Group, Chemical Program, Faculty of Sciences, University of Cartagena, Cartagena, Bolivar, Colombia, 2Environmental and Computational Chemistry Group (GQAC). Faculty of Pharmaceutical Sciences, University of Cartagena, Cartagena, Bolivar, Colombia and ‘National Center of Research for the Agro-industrialization of Aromatic Plant Species and Tropical Medicines-CENIVAM, Industrial University of Santander, Bucaramanga, Santander, Colombia.

Wednesday Afternoon, March 9
1:00 PM to 4:30 PM
Exhibit Hall

Poster Session: Persistent Organic Compounds (POPs)

Chairperson(s): Senthilkumar Pk, The University of Iowa, Iowa City, IA, and David Szabo, University of North Carolina at Chapel Hill, Morrisville, NC.

Displayed: 1:00 PM–4:30 PM

Author Attended: 2:45 PM–4:30 PM


#2238 EFFECTS OF BIOREMEDIATION ON TOXICITY AND GENOTOXICITY OF PAH-CONTAMINATED SOIL USING GENETIC ENGINEERED CELL LINES. J. Hu, J. Nakamura and M. D. Attkin. Department of Environmental Sciences & Engineering, Gillings School of Global Public Health, University of North Carolina at Chapel Hill, Chapel Hill, NC.

Program Description (Continued)

Abstract #

#2240
Poster Board Number .....................................344

#2241
Poster Board Number .....................................345
DDA, A BIOMARKER FOR ENVIRONMENTAL DDT EXPOSURE, Z. Chen1, H. H. Vega2, S. M. Patrick1, M. S. Bornman2 and R. J. Krieger1. 1Personal Chemical Exposure Program, Department of Entomology, Environmental Toxicology Graduate Program, University of California Riverside, Riverside, CA and 2Department of Urology, University of Pretoria, Steve Biko Academic Hospital, South Africa.

#2242
Poster Board Number .....................................346
STRUCTURE-ACTIVITY RELATIONSHIP FOR INDUCTION OF CYTOCHROMES P450 BY NON-DIOXINLIKE POLYCHLORINATED BIPHENYLS IN CULTURED RAT HEPATOCYTES. M. Gährs, R. Roos and D. Schrenk. Food Chemistry and Toxicology, University of Kaiserslautern, Kaiserslautern, Germany.

#2243
Poster Board Number .....................................347
STRUCTURAL AND FUNCTIONAL INJURY INDUCED BY FLUORINATED ORGANIC COMPOUNDS IN PREFRONTAL CORTEX OF MALE RAT. A. Lafuente1, A. Caride1, N. Pereiro1, V. Franco1, R. Moyano2 and A. Anadón3. 1Laboratory of Toxicology, Faculty of Sciences, Universidad de Vigo, Orense, Spain, 2Department of Pharmacology, Toxicology, Legal Medicine and Forensic Sciences, Universidad de Córdoba, Cordoba, Spain and 3Department of Toxicology and Pharmacology, Faculty of Veterinary Medicine, Universidad Complutense, Madrid, Spain.

#2244
Poster Board Number .....................................348
GENDER SPECIFIC DIFFERENCES IN LEVELS OF PERSISTENT ORGANIC POLLUTANTS IN AN ELDERLY POPULATION IN SWEDEN – PROSPECTIVE INVESTIGATION OF THE VASCULATURE IN UPPSALA SENIORS (PIVUS), S. Salihovic1, L. Mattioli1, G. Lindström2, P. Lind3 and B. van Bavel4. 1School of Science and Technology, Örebro University, MTM Research Centre, Örebro, Sweden, 2Department of Medical Sciences, University Hospital, Occupational and Environmental Medicine, Uppsala, Sweden and 3Department of Medical Sciences, University Hospital, Acute and Internal Medicine, Uppsala, Sweden.

#2245
Poster Board Number .....................................349
POLYCHLORINATED BIPHENYL 153 WORSENS DIET-INDUCED OBESITY AND NON-ALCOHOLIC FATTY LIVER DISEASE IN C57/BL6 MICE. M. Cave1,2, B. Gregory1, R. McCallister1, K. Fallon1, D. Conklin1, D. Young2, C. McClain2 and A. Bhatnagar1. 1Department of Medicine/GI, University of Louisville, Louisville, KY and 2Robley Rex Veterans Administration Medical Center, Louisville, KY.

#2246
Poster Board Number .....................................350
TETRABROMOBISPHENOLA, BUT NOT BISPHENOLA, IS A POTENT MODULATOR OF THE TYPE 1 RYANODINE RECEPTOR. R. Zhang and I. N. Pessah. Department of Molecular Biosciences, School of Veterinary Medicine, University of California Davis, Davis, CA.

#2247
Poster Board Number .....................................351
HUMAN ORGAN ANION TRANSPORTING POLYPEPTIDES (OATPS) 1B1, 1B3 AND 2B1 TRANSPORT PERFLUOROCARBOXYLIC ACIDS. B. Hagenbuch1, M. Boisserie1, Y. M. Weaver2, D. J. Ehresmann3, S. Chang2 and J. L. Butenhoff1. 1Pharmacology, The University of Kansas Medical Center, Kansas City, KS and 2Medical Department, 3M Center, St. Paul, MN.

#2248
Poster Board Number .....................................352
METABOLIC ANALYSIS OF SERUM AFTER TREATMENT WITH THE EMERGING POP FLAME RETARDANT HEXABROMOCYCLODODECANE (HBCD): COMMERCIAL MIXTURE, ALPHA AND GAMMA STEROISOMERS ELICIT DIFFERENTIAL EFFECTS IN INFANTILE MICE. D. T. Szabo1,2, W. Pathmasiri3, J. J. Diliberto2, A. A. Anadón1, A. Caride1, N. Pereiro1, V. Franco1, R. Moyano2 and A. Anadón3. 1Laboratory of Toxicology, Faculty of Sciences, Universidad de Vigo, Orense, Spain, 2Department of Pharmacology, Toxicology, Legal Medicine and Forensic Sciences, Universidad de Córdoba, Cordoba, Spain and 3Department of Toxicology and Pharmacology, Faculty of Veterinary Medicine, Universidad Complutense, Madrid, Spain.

#2249
Poster Board Number .....................................353
INTERACTION BETWEEN DIETARY SELENIUM LEVELS AND PCB126 EXPOSURE ON PONI GENE EXPRESSION AND ACTIVITY IN RATS. H. Shen1, B. Wang1, I. Lai1, L. W. Robertson1,2 and G. Ludewig1,2. 1Interdisciplinary Graduate Program in Human Toxicology, University of Iowa, Iowa City, IA and 2Occupational and Environmental Health, University of Iowa, Iowa City, IA.

#2250
Poster Board Number .....................................354
Program Description (Continued)

Abstract #

#2251 Poster Board Number .....................................355
TELOMERE DYSFUNCTION AND TELOMERASE REACTIVATION IN HUMAN SKIN KERATINOCYTES: A POSSIBLE NEW MECHANISM OF PCB CARCINOGENESIS.
P. Senthilkumar, A. Klingelhutz, L. Robertson and G. Ludewig, Human Toxicology, The University of Iowa, Iowa City, IA.

#2252 Poster Board Number .....................................356
GLOBAL ASSESSMENT OF POLYBROMINATED DIPHENYL ETHERS IN SPERM WHALE (PHYSETER MACROCEPHALUS) SKIN.
L. Savery, S. Eagle, H. M. Stapleton, I. Kerr, W. Thompson and J. P. Wise, 3Wis e Laboratory of Environmental and Genetic Toxicology, University of Southern Maine, Portland, ME, 2Maine Center for Toxicology and Environmental Health, University of Southern Maine, Portland, ME, 1Department of Applied Medical Sciences, University of Southern Maine, Portland, ME, 4Nicholas School of the Environment, Duke University, Durham, NC and 5Ocean Alliance, Lincoln, MA.

#2253 Poster Board Number .....................................357
UNDERSTANDING THE TOXICITY OF BROMKAL 70-SDE, A PBDE FLAME RETARDANT MIXTURE, USING A YEAST MODEL.
B. Gaytan, C. Monroy, A. Loguinov and C. Vulpe, University of California at Berkeley, Berkeley, CA.

#2254 Poster Board Number .....................................358
THE GENDER DIFFERENCE IN SENSITIVITY TO ACUTE TOXICITY OF TCDD IS REVERSED IN MICE COMARED WITH RATS.
R. Pohjanvirta, H. Miettinen, S. Sankari and J. Lindén, 1Department of Food Hygiene and Environmental Health, University of Helsinki, University of Helsinki, Finland, 2Department of Environmental Health, National Institute for Health and Welfare, Kuopio, Finland, 3Central Laboratory of the Department of Equine and Small Animal Medicine, University of Helsinki, Helsinki, Finland and 4Department of Veterinary Biosciences, University of Helsinki, Helsinki, Finland. Sponsor: M. Viluksela.

#2255 Poster Board Number .....................................359
REVERSE CAUSATION OF DIOXIN DOSE-RESPONSE TRENDS FOR RISK OF DIABETES MELLITUS TYPE 2 AMONG OPERATION RANCH HAND VIETNAM VETERANS.

#2256 Poster Board Number .....................................360
UNUSUALLY HIGH LEVELS OF BISPHENOL-A IN CASH RECEIPTS.
R. C. Achuthan, S. Babu, S. N. Upuru, K. Smith, N. L. Parinandi and R. M. Upuru, 1Environmental Toxicology, Southern University, Baton Rouge, LA, 2DHLRI, The Ohio State University Medical Center, Columbus, OH and 3Prairieville Middle, Prairieville, LA.

Abstract #

#2257 Poster Board Number .....................................401
PHARMACOKINETICS, TISSUE DISTRIBUTION, EXCRETION BALANCE, AND METABOLITE PROFILING FOLLOWING A SINGLE INTRAVENOUS OR ORAL DOSE OF [14C]-FORODESINE IN RATS.

#2258 Poster Board Number .....................................402
PHARMACOKINETICS, EXCRETION BALANCE, AND METABOLITE PROFILING FOLLOWING A SINGLE INTRAVENOUS OR ORAL DOSE OF [14C]-FORODESINE IN CYMONOLGUS MONKEYS.
B. S. Levine, D. Sved, L. Harman and D. Dragano n, 1Levine & Associates, LLC, Chicago, IL, 2Metabolism, WIL Research Laboratories, LLC, Ashland, OH and 3BioCryst Pharmaceuticals, Inc., Durham, NC.

#2259 Poster Board Number .....................................403
INHALATION KINETICS OF 1,1-DIFLUOROTHANE IN HUMANS.
L. Ernstgård, W. Dekant, S. Juran, B. Lind, B. Spiguz and G. Johansson, 1Institute of Environmental Medicine, Karolinska Institutet, Stockholm, Sweden and 2University of Wuerzburg, Wuerzburg, Germany.

#2260 Poster Board Number .....................................404
TOXICOKINETICS OF FOLPET BIOMARKERS IN ORALLY AND DERMALLY EXPOSED VOLUNTEERS.
A. Berthelot, M. Bouchard and B. Danuser, 1Department Environmental & Occupational Health, University of Montréal, Montréal, QC, Canada and 2Institute for Work and Health, Lausanne, Switzerland.

#2261 Poster Board Number .....................................405
TISSUE DISTRIBUTION AND EXCRETION OF SR13668 IN RATS.
J. M. Gow, K. O’Loughlin, A. Ta, L. Jong, J. M. Kapetanovic and C. E. Green, 1Biosciences Division, SRI International, Menlo Park, CA and 2National Cancer Institute, Bethesda, MD.

#2262 Poster Board Number .....................................406
PHARMACOKINETICS OF A PYRETHROID INSECTICIDE MIXTURE IN THE RAT.

Display: 1:00 PM–4:30 PM

Author Attended: 1:00PM–2:45 PM
Society of Toxicology 2011

Program Description (Continued)

Abstract # Poster Board Number .....................................407
#2263 Evaluating Pharmacokinetics and Bioavailability of Levofloxacin in Rats. A. Banerjee1, K. Kabirov4, T. Martin-Jimenez2 and A. Lyubimov1. 1Toxicology Research Laboratory, University of Illinois at Chicago, Chicago, IL; and 2College of Veterinary Medicine, University of Tennessee, Knoxville, TN.

Abstract # Poster Board Number .....................................408

Abstract # Poster Board Number .....................................409
#2265 Paraquat Disposition: A Potential Role for P-Glycoprotein. S. Lucher, F. Cardozo-Pelaez and E. L. Woodahl. University of Montana, Missoula, MT.

Abstract # Poster Board Number .....................................410
#2266 The Importance of Efflux Transporters in CNS Exposure to Avermectin Insecticides. A. M. Dalzell1, F. M. Williams2, P. Mistry3, J. Wright4 and C. D. Brown5. 1Cell & Molecular Biosciences, University of Newcastle, Newcastle-Upon-Tyne, United Kingdom; 2Medical Toxicology Centre, University of Newcastle, Newcastle-Upon-Tyne, United Kingdom; and 5Syngenta, Bracknell, United Kingdom. Sponsor: K. Pfeffer.

Abstract # Poster Board Number .....................................411

Abstract # Poster Board Number .....................................412
#2268 Oat12 Represents an Initial Step in the Renal Tubular Secretion of Guanine-Containing Antiviral Drugs. Y. Cheng and R. Pelis. DMK-DPI, Novartis Institutes for BioMedical Research, East Hanover, NJ.

Abstract # Poster Board Number .....................................413
#2269 Comparison of Transporter Expression in Brain, Eye, Testis, and Placenta. F. Selwyn, J. Liu and C. Klausen. Pharmacology and Toxicology, University of Kansas Medical Center, Kansas City, KS.

Abstract # Poster Board Number .....................................414
#2270 Differential Hepatic and Intestinal Phase-II Biotransformation Enzyme/Transporter Expression and Serum Bisphenol A (BPA) Levels in Mouse Models of Obesity and Diabetes. O. DiPrete1, V. R. More1, J. Xu1, D. Doerge2 and A. Slitr3. 1Biomedical and Pharmaceutical Sciences, University of Rhode Island, Kingston, RI; and 2Division of Biochemical Toxicology, National Center for Toxicological Research, U.S. FDA, Jefferson, AR.

Abstract # Poster Board Number .....................................415
#2271 Toxicokinetics of Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS) After a Single Intravenous or Gavage Administration to Harlan Sprague-Dawley Rats. S. Hong1, V. Robinison2, S. Gibbs3, W. W. Graves4, B. Burback5, M. Elfrid6 and C. Smith7. Battelle Memorial, Columbus, OH and NIH, Research Triangle Park, NC.

Abstract # Poster Board Number .....................................416
#2272 Toxicokinetics of Perfluorohexanoic Acid (PFHxA) and Perfluorohexane-1-sulphonic Acid Potassium Salt (PFHKSIL) After a Single Intravenous or Gavage Administration to Harlan Sprague-Dawley Rats. S. Gibbs1, V. Robinison2, S. Hong1, W. W. Graves4, B. Burback5, C. Granville1, M. Elfrid6 and C. Smith7. Battelle Memorial, Columbus, OH and NIH, Research Triangle Park, NC.

Abstract # Poster Board Number .....................................417

Abstract # Poster Board Number .....................................418
#2274 Species-Specific Factors When Predicting Systemic Clearance of ENB-0040 in Rabbits Via an Alometric Scaling Approach. C. Jomphe1, J. Lemire2, P. Leonard3, M. Reimer4 and M. Beliveau5. 1RAS, Pharsight Corporation, Montréal, QC, Canada; 2Enobia Pharmacology Montréal, QC, Canada; and 3USDA, FSIS, Office of Public Health Science, Fort Collins, CO.

Abstract # Poster Board Number .....................................419
#2275 Metabolism and Disposition of 2-Methoxy-4-nitroaniline in Male and Female Sprague-Dawley Rats and B6C3F1 Mice. S. W. Graves1, B. Burgess2 and J. Mathews2. 1National Institute of Environmental Health Sciences, Research Triangle Park, NC and 2RTI International, Research Triangle Park, NC.

Abstract # Poster Board Number .....................................420

Abstract # Poster Board Number .....................................421
#2277 Dimethylthanolamine Increased Serum Choline, But Did Not Alter [14C]-Choline Tissue Distribution in Wistar Han Rats. J. M. Sanders1, C. J. Wegerski1, M. Doyle-Eisele2 and J. D. McDonald3. 1LRRI, Albuquerque, NM and 2NTP/NIH, Research Triangle Park, NC.
WeDneSDAY

Poster Board Number .....................................422

#2285
A SENSITIVE LC-MS/MS ASSAY FOR DETERMINATION OF BENAZEPRIL AND BENAZEPRILAT IN DOG PLASMA. C. Chung, M. Luna, Y. Liu, G. Ray and D. Dadgar. KCAS, Shawnee, KS. Sponsor: D. Dandekar.

#2284
DETERMINATION OF TACROLIMUS IN RAT WHOLE BLOOD USING DRIED BLOOD SPOT ANALYSES BY LC-MS/MS. M. Kim4, G. Ray1, Y. Liu1, B. Losson1 and G. Bricker2. KCAS, Shawnee, KS. Sponsor: D. Dandekar.

#2283
PYRIDAZINE REDUCES TRICHLOROACETIC ACID (TCA) BIOAVAILABILITY BY ENHANCING ITS URINARY ELIMINATION. J. Brueckner, S. Lee, C. A. White, S. Muralidhara and R. Govindaarajan. PBS, University of Georgia, Athens, GA.

#2282
GENETIC VARIATION IN ISGENIC STRAINS OF LABORATORY MICE ALTERS DISPOSITION IN KIDNEYS AND LIVERS AFTER ACUTE EXPOSURE TO [14C]BENZENE. R. Kuester4, D. A. Colvin1,2, M. L. Cumming2 and G. Sipes1. Department of Pharmacology, University of Arizona, Tucson, AZ and NTI NIEHS, Montréal, QC, Canada.

#2281

#2279
IMPACT OF NON-LINEAR PHARMACOKINETICS AND METABOLISM OF CHLORPYRIFOS ON BIOLOGICAL RESPONSE IN THE RAT. M. Bartels1, M. S. Marty2, J. A. Hotchkiss2 and D. R. Juheberg3. 1Toxicology, Dow Chemical, Midland, MI and 2Toxicology, Dow AgroSciences, Indianapolis, IN.

#2278
TOXICOKINETICS OF CAPTAN BIOMARKERS IN ORALLY AND DERMALLY EXPOSED VOLUNTEERS. M. Boucho1, A. Berthel2 and D. Vernez3. Department Environmental & Occupational Health, University of Montréal, Montréal, QC, Canada and 3Institute for Work and Health, Lausanne, Switzerland.

Poster Session: Risk Assessment: Models and Approaches for Inhaled Agents

Chairperson(s): Annie Jarabek, U.S. EPA, Research Triangle Park, NC, and Richard Corley, Pacific Northwest National Laboratory, Richland, WA.

Displayed: 1:00 PM–4:30 PM

Author Attended: 2:45 PM–4:30 PM

Abstract #

#2286
EVALUATION OF ADVERSE EFFECTS ON HUMAN LUNG FUNCTION CAUSED BY OZONE. R. L. Pruett1 and J. E. Goodman2. ‘Gradient, Seattle, WA and ‘Gradient, Cambridge, MA.

#2287

#2288
COMBINED CFD/PBPK MODELS FOR DETERMINING SITE-SPECIFIC UPTAKE AND TISSUE CONCENTRATIONS OF REACTIVE GASES IN THE RESPIRATORY TRACT OF RATS AND HUMANS. R. A. Corley1, S. Kablani2, J. E. Carson1, R. Jacob3, K. R. Minard1, R. W. Glenny2, S. Pipovath2, M. Fanucchi1 and D. R. Einstein1. Pacific Northwest National Laboratory, Richland, WA, University of Washington, Seattle, WA and University of Alabama at Birmingham, Birmingham, AL.

#2289

#2290
Program Description (Continued)

Abstract #

#2291  MODELS FOR EVALUATION OF THERAPEUTIC INTERVENTION OF INTERNALLY DEPOSITED AMERICIUM. R. A. Guilmotet, W. M. Weber1, M. Doyle-Eisele1, G. Miller2, L. Bertelli1 and J. D. McDonald1. 1Lovelace Respiratory Research Institute, Albuquerque, NM and 2Los Alamos National Laboratories, Los Alamos, NM.


#2294  DEVELOPMENT OF A PHYSIOLOGICALLY BASED PHARMACOKINETIC (PBPK) MODEL FOR THE DISPOSITION OF PROPYL SERIES COMPOUNDS (PROPYL ACETATE, PROPA NOL, PROPONALDEHYDE, AND PROPONIC ACID) IN RATS. L. M. Sweeney1,2 and T. S. Poet1. 1Naval Medical Research Unit-Dayton, Wright-Patterson Air Force Base, Wright-Patterson Air Force Base, OH, 2Toxicology Excellence for Risk Assessment, Cincinnati, OH and 3Battelle Pacific Northwest National Laboratory, Richland, WA.

#2295  USING MARGINS OF EXPOSURE AS A SEGREGATION TOOL FOR RISK ASSESSMENT OF TOBACCO SMOKE TOXICANTS. S. Fiebelkorn, F. H. Cunningham and C. Meredith. Group R&D, British American Tobacco, Southampton, United Kingdom.

#2296  USE OF CONTROL BANDING AND SENSORY IRRITATION (RD50) DATA TO ASSESS OCCUPATIONAL EXPOSURE VALUES FOR N-PROPYL, N-BUTYL, AND N-PENTYL PROPIONATE. S. M. Krieger1, D. R. Geter1, J. T. Cawley1, M. Osterloh-Quiroz' and J. A. Hotchkiss1. 1The Dow Chemical Company, Midland, MI and 2Dow Europe GmbH, Horgen, Switzerland.


#2298  STRUCTURE-ACTIVITY MODELS FOR CHEMICAL INHALATION HEALTH GUIDANCE VALUES. C. J. Collar1, T. Miller2, R. M. Garrett2 and E. Demchuk1. 1Division of Toxicology and Environmental Medicine, ATSDR/CDC, Atlanta, GA and 2Department of Defense, Washington, D.C. Sponsor: B. Fowler.


#2300  FRONT-CELLULAR LOCALIZATION OF PROTEINS WHOSE STATES ARE DEPENDENT ON THAT OF CDKN2A. G. Acquah-Mensah. Massachusetts College of Pharmacy & Health Sciences, Worcester, MA.


#2302  DNA DAMAGE AND OXIDATIVE STRESS IN RATS INTRATRACHEALLY EXPOSED TO LOW-LEVEL COMBINED COBALT AND CHROMIUM. N. Yoshioka1, K. Hosoda1, H. Nakashima1, T. Michikawa1, M. Nakano1 and K. Omae1. 1Department of Preventive Medicine and Public Health, Keio University School of Medicine, Tokyo, Japan and 2Department of Preventive Medicine and Public Health, National Defense Medical College, Tokorozawa, Saitama, Japan.

Wednesday Afternoon, March 9
1:00 PM to 4:30 PM
Exhibit Hall

Poster Session: Mechanistic Assessment of Chemical Mixtures

Chairperson(s): Rory B. Conolly, U.S. EPA, Research Triangle Park, NC.

Displayed: 1:00 PM–4:30 PM

Author Attended: 1:00 PM–2:45 PM

#2303  MODELING MIXTURES OF ENVIRONMENTAL ESTROGENS DETECTED IN U.S. SURFACE WATERS WITH AN IN VITRO ESTROGEN MEDIATED TRANSCRIPTIONAL ACTIVATION ASSAY (T47D-KBLUC). D. S. Bermudez1, L. Gray2 and V. S. Wilson3. 1Molecular Biomedical Sciences, North Carolina State University, Raleigh, NC and 2Reproductive Toxicology Branch, U.S. EPA, Research Triangle Park, NC.


**Program Description (Continued)**

**Abstract #**

**#2304**

**Poster Board Number** .......................... 503

**IN VITRO EXPOSURE AND EVALUATION OF MILITARY FUELS AND BIOFUELS.** K. L. Muñoz, T. L. Doyle, M. R. Okolica, R. P. Adkins and G. T. Eldridge. Naval Medical Research Unit - Dayton, Wright-Patterson AFB, OH and Naval Air Warfare Center Division, Patuxent River, MD.

**#2305**

**Poster Board Number** .......................... 504


**#2306**

**Poster Board Number** .......................... 505


**#2307**

**Poster Board Number** .......................... 506


**#2308**

**Poster Board Number** .......................... 507


**Abstract #**

**#2309**

**A FOUR-STEP APPROACH FOR EVALUATION OF DOSE-ADDITIVITY.** R. C. Hertzberg, Y. Pan, R. Li, L. T. Haber, R. Lyles, V. C. Moser, D. W. Herr and J. Simmons. Biomathematics Consulting, Atlanta, GA; Department of Statistics, Emory University, Atlanta, GA; Toxicology Excellence for Risk Assessment, Atlanta, GA and NHEERL, U.S. EPA, Research Triangle Park, NC.

**#2310**

**Poster Board Number** .......................... 508

**TOXICITY OF TUNGSTEN AND COBALT MIXTURES IN EMBRYONIC ZEBRAFISH.** J. L. Freeman, J. M. Schullithes, D. R. Robbins and S. M. Peterson. Health Sciences, Purdue University, West Lafayette, IN.

**#2311**

**Poster Board Number** .......................... 509

**SIMULTANEOUS EXTRACTION AND DETECTION OF BISPHENOL A AND GENISTEIN.** J. Coughlin and B. Buckley. Toxicology, Rutgers University, Piscataway, NJ; JGPT, Rutgers University, Piscataway, NJ and Environmental and Occupational Health Sciences Institute, Rutgers University, Piscataway, NJ.

**#2312**

**Poster Board Number** .......................... 510


**#2313**

**Poster Board Number** .......................... 511


**#2314**

**Poster Board Number** .......................... 512

**CELL SIGNAL TRANSDUCTION TO PREDICT MIXTURE INTERACTIONS.** J. Boyd, X. Gao, H. Williams, C. Kinzer and J. Vrana. Bennett Department of Chemistry, West Virginia University, Morgantown, WV.

**#2315**

**Poster Board Number** .......................... 513

**PIFTIFIRIN-α INCREASES IGF-1R INHIBITOR MEDIATED HEPG2 HEPATOCARCINOMA DEATH.** X. Gao, H. Williams, C. Kinzer, J. Vrana and J. Boyd. Bennett Department of Chemistry, West Virginia University, Morgantown, WV.

**#2316**

**Poster Board Number** .......................... 514

**PBPK MODELING OF THE AGGREGATE AND CUMULATIVE EXPOSURES OF RATS TO TOLUENE, N-HExANE, CYCLOHEXANE, AND ISOOCTANE.** N. Kaveh, M. Gagné, G. Charest-Tardif, R. Tardif and K. Krishnan. Université de Montréal, Montréal, QC, Canada.

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**Program Highlights**

- **Featured Sessions**
- **Exhibitor Hosted Sessions**
- **Education-Career Development Sessions**
- **Historical Highlights**
- **Informational Sessions**
- **Platform Sessions**

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**320**

**WEDNESDAY**
Program Description (Continued)

Abstract #

Wednesday Afternoon, March 9
1:00 PM to 4:30 PM
Exhibit Hall

Poster Session: Mechanisms of Aspiration Injury and Airway Disease

Chairperson(s): Deepak Bhalla, Wayne State University, Detroit, MI.

Displayed: 1:00 PM–4:30 PM

Author Attended: 2:45 PM–4:30 PM

#2317 Poster Board Number .....................................516 NAIL MANGANESE AS A BIOMARKER OF WELDING FUME EXPOSURE. J. M. Antonini, J. R. Roberts and K. Sriram. NIOSH, Morgantown, WV.


#2319 Poster Board Number .....................................518 BIOACTIVATION OF THE NASAL TOXICANT 2, 6-DICHLOROBENZONITRILE: AN ASSESSMENT OF METABOLIC ACTIVITY IN HUMAN NASAL MUCOSA AND IDENTIFICATION OF BIOMARKERS OF EXPOSURE AND POTENTIAL TOXICITY. F. Xie1,2, X. Zhou1, J. D’Agostino1, D. Spink1 and X. Ding. 1Wadsworth Center, New York State Department of Health, Albany, NY and 2School of Public Health, State University of New York at Albany, Albany, NY.

#2320 Poster Board Number .....................................519 SYSTEMIC UPTAKE OF 14C 2, 3-BUTANEDIONE ADMINISTERED BY INTRACRANAL INSTALLATION IN MALE SPRAGUE-DAWLEY RATS AND OROPHARYNGEAL ASPIRATION IN MALE B6CF1 MICE. T. Fennell1, D. Morgan2, S. Watson1 and S. Waidyanatha2. RTI International, Research Triangle Park, NC and 2National Toxicology Program, National Institute of Environmental Health Sciences, Research Triangle Park, NC.

#2321 Poster Board Number .....................................520 RESVERATROL, AN AHR LIGAND, ALLEVIATES BACTERIAL ENTEROTOXIN-INDUCED ACUTE LUNG INJURY VIA UPREGULATION OF MiRNA 155 AND SUBSEQUENT INCREASE IN MYELOID-DERIVED SUPPRESSOR CELLS. S. A. Rieder, P. Nagarkatti and M. Nagarkatti. Pathology Microbiology and Immunology, University of South Carolina, Columbia, SC.

#2322 Poster Board Number .....................................521 MOLECULAR PATHWAYS OF PULMONARY INFLAMMATION FOLLOWING ASPIRATION AND INHALATION OF STAINLESS STEEL WELDING FUME IN MICE. P. C. Zeidler-Erdely, A. Erdely, M. Kashon, S. Li and J. Antonini. HELD, NIOSH, Morgantown, WV.

#2323 Poster Board Number .....................................522 EFFECTS OF PARTICULATE AIR POLLUTION DURING OLYMPIC GAMES IN A MOUSE MODEL. K. Tzan1, X. Xu1, S. Jiang1, J. Aronovsky1, A. Wang2, S. Rajagopal2 and Q. Sun1,2,3. Public Health, The Ohio State University, Columbus, OH, 1Davis Heart and Lung Research Institute, The Ohio State University, Columbus, OH and 2Cardiology, The Ohio State University, Columbus, OH.

#2324 Poster Board Number .....................................523 OVER-EXPRESSION OF THE NF-kB MEMBER RELB DAMPENS THE PRO-INFLAMMATORY EFFECTS OF LONG-TERM CIGARETTE SMOKE EXPOSURE. D. McMillan1,2, T. H. Thatcher1,2, S. Maggirwar2, P. J. Sim1,2,3,4 and R. P. Phipps1,2. 1Environmental Medicine, University of Rochester, Rochester, NY, 2Microbiology and Immunology, University of Rochester, Rochester, NY, 3Lung Biology and Disease, University of Rochester, Rochester, NY and 4Pulmonary and Critical Care Medicine, University of Rochester, Rochester, NY.

#2325 Poster Board Number .....................................524 ADJUVANT EFFECT OF 1Ç3-B-GLUCAN (ZYMOSAN) EXPOSURE IN A MOUSE OVALBUMIN ALLERGY MODEL. S. Young, M. Wolfarth, J. R. Roberts, M. L. Kashon and J. M. Antonini. NIOSH, Morgantown, WV.

#2326 Poster Board Number .....................................525 ROLE OF SURFACTANT PROTEIN-D (SP-D) IN REGULATING MACROPHAGE PHENOTYPE, INFLAMMATION, AND LUNG FUNCTION IN ELDERLY MICE FOLLOWING OZONE (O3) INHALATION. A. M. Groves1, J. D. Laskin2, A. J. Gowl2 and D. L. Laskin1. Rutgers University, Piscataway, NJ and 2UMDNJ-RWJ Medical School, Piscataway, NJ.

#2327 Poster Board Number .....................................526 GLUTATHIONE DEPLETION POTENTIATES CIGARETTE SMOKE INDUCED AIRWAY INFLAMMATION. B. J. Day1,2,3, E. Min1 and N. S. Gould1,2. 1Medicine, National Jewish Health, Denver, CO, 2Pharmaceutical Sciences, University of Colorado AMC, Aurora, CO and 3Medicine, University of Colorado AMC, Aurora, CO.

#2328 Poster Board Number .....................................527 THE GLUTATHIONE SYNTHESIS GENE GCLM MODULATES PULMONARY INFLAMMATION FOLLOWING INTRANASAL INSTALLATION OF DIESEL EXHAUST PARTICULATE. C. Weidy1, C. C. White2, D. P. Cox1, H. Wilkerson1, S. Gill2, W. Parks3 and T. J. Kavanagh1. 1Environmental and Occupational Health Sciences, University of Washington, Seattle, WA and 2Pulmonary and Critical Care Medicine, University of Washington, Seattle, WA.
WeDneSDAY

Poster Board Number .....................................533
#2334

Poster Board Number .....................................531
#2330

Poster Board Number .....................................529
#2331

Poster Board Number .....................................528
#2332

Poster Board Number .....................................535
#2333

Poster Board Number .....................................534
#2335

Program Description (Continued)

Abstract #

#2329  Poster Board Number ..................528
AIRBORNE ORGANIC PARTICULATE MATTER AS A LUNG INFLAMMATION INDUCER: ROLE OF PHOSPHOLIPASE A2. S. R. Kotha1, M. G. Piper1, B. P. Caristopho1,
N. Patric1, R. M. Uppu2, M. B. Clay1 and N. L. Parinandi1. 1Division of Pulmonary, Allergy, Critical Care, and Sleep Medicine, The Ohio State University College of Medicine, Columbus, OH and 2Department of Environmental Toxicology, Southern University and A&M College, Baton Rouge, LA.

#2330  Poster Board Number ..................529
THE ROLE OF TRANSFORMING GROWTH FACTOR BETA 1 (TGF-β1) IN TOBACCO-SMOKE-INDUCED LUNG INJURIES. L. L. Hoang and K. E. Pinkerton. Center for Health and the Environment, University of California Davis, Davis, CA.

#2331  Poster Board Number ..................530
RESPIRATORY AND SYSTEMIC RESPONSES TO URBAN SUMMER AND WINTER SUB-MICRON FINE AND ULTRAFINE PARTICULATE MATTER. L. E. Plummer1, C. M. Carosino1, K. J. Bein2, A. S. Wexler1 and K. E. Pinkerton3. Center for Health and the Environment, University of California, Davis, CA and 3Civil and Environmental Engineering, University of California, Davis, CA.

#2332  Poster Board Number ..................531
PARTICLE UPTAKE OF GASEOUS AIR TOXICS MODIFIES OBSERVED TOXICITY OF PM. S. M. Ebersviller1, K. Lichtveld1, J. Zaval1, Y. Lin2, K. G. Sexton1, J. Aaspers3 and H. Jeffries4. 1Environment Sciences and Engineering, University of North Carolina at Chapel Hill, Chapel Hill, NC and 3CEMALB, University of North Carolina at Chapel Hill, Chapel Hill, NC.

#2333  Poster Board Number ..................532
CONTRIBUTIONS OF TRPV1 AND TRPM8 TO LUNG INJURY BY COAL FLY ASH. C. A. Reilly, C. E. Deering-Rice, M. E. Johansen, J. K. Roberts, E. G. Romero, J. M. Veranth and G. S. Yost. Pharmacology and Toxicology, University of Utah, Salt Lake City, UT.

#2334  Poster Board Number ..................533
ACTIVATION OF HUMAN TRPA1 BY DECEASED EXHAUST PARTICLES (DEP); ASSOCIATION WITH LUNG INJURY. C. Deering-Rice, E. G. Romero, J. M. Veranth, G. S. Yost and C. A. Reilly. Pharmacology/Toxicology, University of Utah, Salt Lake City, UT.

#2335  Poster Board Number ..................534
MECHANISMS OF CHLORINE HYPERSENSITIVITY IN ASTHMA. S. Balakrishna1, B. F. Bessac1, W. Song2, A. I. Caceres1, T. Nicola1, S. F. Doran3, A. Yadav1, N. Ambalavanan1, S. Matson1 and S. E. Jordi1. 1Pharmacology, Yale School of Medicine, New Haven, CT, 2Anesthesiology, University of Alabama at Birmingham, Birmingham, AL and 3Pediatrics, University of Alabama at Birmingham, Birmingham, AL.

#2336  Poster Board Number ..................535
BLEOMYCIN-INDUCED LUNG ENDOTHELIAL CYTOSKELETAL REARRANGEMENT IS REGULATED BY THIOL-REDOX. R. B. Patel1, L. Saulers1, R. M. Uppu2 and N. L. Parinandi1. 1Division of Pulmonary, Allergy, Critical Care, and Sleep Medicine, The Ohio State University College of Medicine, Columbus, OH and 2Department of Environmental Toxicology, Southern University and A&M College, Baton Rouge, LA.

#2337  Poster Board Number ..................536
HMGB1 IN HYPEROXIA-COMPROMISED HOSTABILITY TO CLEAR PSEUDOMONAS AERUGINOSA PNEUMONIA. V. S. Patel1, R. Sitapara1, B. Phan1, A. Gore1, R. Malla1 and L. L. Mantell2. 1Department of Pharmaceutical Sciences, St John’s University, Jamaica, NY and 2The Feinstein Institute for Medical Research, North Shore-LIJ Health Science, Manhasset, NY.

Wednesday Afternoon, March 9
1:00 PM to 4:30 PM
Exhibit Hall

Poster Session: Toxicology of the Gulf Oil Spill
Chairperson(s): John Wise, University of Southern Maine, Portland, ME.
Displayed: 1:00 PM–4:30 PM

Author Attended: 1:00 PM–2:45 PM

#2338  Poster Board Number ..................601

#2339  Poster Board Number ..................602

#2340  Poster Board Number ..................603
**Program Description (Continued)**

**Abstract #** #2341 **Poster Board Number** .........................604 CHEMICAL DISPERSONS USED IN THE GULF OF MEXICO ARE CYTOTOXIC AND GENOTOXIC TO HUMAN SKIN FIBROBLASTS. J. Wise1,2, S. Wise1,2,3, H. Xie2,3 and J. P. Wise2,3, 1Wise Laboratory of Environmental and Genetic Toxicology, University of Southern Maine, Portland, ME; 2Maine Center for Toxicology and Environmental Health, University of Southern Maine, Portland, ME, and 3Department of Applied Medical Science, University of Southern Maine, Portland, ME.

**Abstract #** #2342 **Poster Board Number** .........................605 DEVELOPING A WHALE CELL LINE AT SEA TO EVALUATE THE CYTOTOXICITY AND GENOTOXICITY OF CHEMICAL DISPERSONS USED IN THE GULF OF MEXICO OIL CRISIS. C. F. Wise1,2,3, M. Braun1,2,3, J. P. Wise1,2,3, S. S. Wise1,2,3, I. Kerr1,2,3, H. Xie1,2,3, and J. P. Wise1,2,3, 1Wise Laboratory of Environmental and Genetic Toxicology, University of Southern Maine, Portland, ME, 2Maine Center for Toxicology and Environmental Health, University of Southern Maine, Portland, ME, and 3Department of Applied Medical Science, University of Southern Maine, Portland, ME, and 3Ocean Alliance, Lincoln, MA.

**Wednesday Afternoon, March 9**
1:00 PM to 4:30 PM
**Poster Session: Endocrine Toxicology**

**Chairperson(s):** Tammy Stoker, U.S. EPA, Research Triangle Park, NC.

**Displayed:** 1:00 PM–4:30 PM

**Author Attended:** 2:45 PM–4:30 PM

**Poster Board Number** .........................614 BONE HOMEOSTASIS IS NOT ALTERED IN MCXRI-DEFICIENT MICE. B. Genczki1, E. A. Tamasi1, J. J. Devenny2, B. J. Murphy3, W. N. Washburn2, and B. D. Car1. 1Discovery Toxicology, Bristol-Myers Squibb Company, Princeton, NJ, 2Department of Toxicology, University of Southern Maine, Portland, ME, and 3Maine Center for Toxicology and Environmental Health, University of Southern Maine, Portland, ME.

**Poster Board Number** .........................615 A NOVEL SENSITIVE AND SELECTIVE REAL-TIME CELLULAR ASSAY FOR DETECTION OF ENDOCRINE DISRUPTORS USING NATIVE ENDOCRINE SIGNALING PATHWAYS. C. Jin1, Y. Abassi1, X. Xu1, X. Wang1, W. Zhang2, and S. Gabos3. 1Acea Biosciences, San Diego, CA, and 2Alberta Health and Wellness, Edmonton, AB, Canada. Sponsor: M. Lo.

**Poster Board Number** .........................616 THE IMPACT OF EPIDERMAL GROWTH FACTOR RECEPTOR INHIBITION ON ENERGY HOMEOSTASIS. M. Biggs1, D. Threadgill2, T. Ghoshghaie3, and T. Lee4. 1Toxicology, University of North Carolina at Chapel Hill, Chapel Hill, NC; 2Genetics, North Carolina State University, Raleigh, NC; 3Department of Molecular and Biomedical Sciences, North Carolina State University, Raleigh, NC; and 4Department of Toxicology, University of North Carolina at Chapel Hill, Chapel Hill, NC.

**Poster Board Number** .........................617 SCIENTIFICALLY RELEVANT INFORMATION TO EVALUATE THE ENDOCRINE DISRUPTING POTENTIAL OF ISOPHORONE. N. M. Berdasco and D. R. Geter. 1Toxicology and Environmental Research and Consulting, The Dow Chemical Company, Midland, MI.

**Poster Board Number** .........................618 EXENATIDE AND SITAGLIPTIN: THEIR ROLE IN AUTOPHAGOSOME REGULATED TOXICITY IN PANCREATITIS. R. Rouse, L. Zhang and D. A. Volpe. U.S. FDA, Silver Spring, MD.

**Poster Board Number** .........................619 IMPROVING THE IN VIVO PREDICTIVE VALUE OF THE ER-CALUX BIOASSAY BY COMBINING IN VITRO ESTROGENICITY RESULTS WITH KINETIC CHARACTERISTICS OF ESTROGENIC COMPOUNDS. W. Brand1, A. Punt2, A. J. Murk2, M. Schrinks2, A. P. van Wezel2, and M. B. Hering2. 1KWR Watercycle Research Institute, Nieuwegein, Netherlands and 2Division of Toxicology, Wageningen University, Wageningen, Netherlands.

**Poster Board Number** .........................620 PCB-153 AND BDE-47 INCREASE THYROXINE (T4) CATABOLISM IN RAT AND HUMAN HEPATOCYTES. V. M. Richardson2 and M. J. DeVito1, 2ORD/NHEERL/ISTD, U.S. EPA, Research Triangle Park, NC, and 3Department of Toxicochemistry, University of North Carolina at Chapel Hill, Chapel Hill, NC, and 4Toxicology Branch, NIEHS/NTP, Research Triangle Park, NC.

**Poster Board Number** .........................621 TRICLOSAN DECREASES RAT THYROXINE: MODE-OF-ACTION, DEVELOPMENTAL SUSCEPTIBILITY AND HUMAN RELEVANCE. K. B. Paul1,2, J. M. Hedge2, S. O. Simmons2, M. J. DeVito1, and K. M. Crofton2. 1Toxicology, University of North Carolina at Chapel Hill, Chapel Hill, NC, 2Integrated Systems Toxicology Division, NIEERL, ORD, U.S. EPA, Research Triangle Park, NC, and 3NTP, NIEHS, Research Triangle Park, NC.

**Poster Board Number** .........................622 EVALUATION OF SUBSTANCES ROUTINELY TAKEN IN EVERYDAY LIFE IN THE H295R STEROIDOGENESIS ASSAY. H. Timwell, S. Colombel and R. Bars. Research Toxicology, Bayer SAS, Sophia Antipolis Cedex, France.

**Poster Board Number** .........................623 BISPHENOL A COMBINING STEROIDOGENIC PATHWAYS AND ADRENAL AND SEX HORMONE SECRETION IN THE HUMAN ADRENECORTICAL H295R CELL LINE. A. Oskarsson1, O. Ohlsson1, C. Jansson2, and E. Ullerås2. 1Department of Biomedical Sciences and Veterinary Public Health, Swedish University of Agricultural Sciences, Uppsala, Sweden and 2Department of Aquatic Sciences and Assessment, Swedish University of Agricultural Sciences, Uppsala, Sweden.
Program Description (Continued)

Abstract #  Poster Board Number .....................................624
#2353  METABOLITE PATTERNS TO DIFFERENTIATE DIRECT FROM INDIRECT HYPOTHYROID EFFECTS. V. Strauss\textsuperscript{1}, E. Fabian\textsuperscript{1}, M. Herold\textsuperscript{1}, H. Kamp\textsuperscript{1}, M. Kapp\textsuperscript{1}, G. Krennrich\textsuperscript{1}, R. Looser\textsuperscript{1}, W. Mellert\textsuperscript{1}, A. Prokoudine\textsuperscript{2}, T. Walk\textsuperscript{1}, J. Wiemer\textsuperscript{1} and B. van Ravenzwaay\textsuperscript{1}. 1BASF SE, Ludwigshafen, Germany and 2Metanomics, Berlin, Germany. Sponsor: R. Parod.

#2354  POSTER BOARD NUMBER .....................................625
TCDD, PCB126, AND PCB153 AFFECT HYPOTHALAMIC GNRH AND KISS-1 SIGNALING IN VITRO, BUT NOT IN VIVO. K. Solak, F. Wijnolts, M. van den Berg and M. van Duursen. Toxilog, IRAS, Utrecht University, Utrecht, Netherlands.

#2355  POSTER BOARD NUMBER .....................................626

#2356  POSTER BOARD NUMBER .....................................627
ACTIVITY OF LARGE-MOUTH BASS ESTROGEN RECEPTORS IN RESPONSE TO MODEL COMPOUNDS. R. E. Welf\textsuperscript{2}, D. S. Barber\textsuperscript{2} and N. D. Dennis\textsuperscript{2}. 1Pharmacology, University of Florida, Gainesville, FL and 2Physiological Sciences, University of Florida, Gainesville, FL.

#2357  POSTER BOARD NUMBER .....................................628
IMPACT OF OSRI ON ANIMAL USE AND SCREENING BURDEN FOR TIER I EDSP COMPLIANCE. S. C. Gehn\textsuperscript{1} and W. R. Jones\textsuperscript{2}. 1Dow AgroSciences, LLC, Indianapolis, IN and 2CropLife America, Washington, D.C.

#2358  POSTER BOARD NUMBER .....................................629
ORAL EXPOSURE TO BISPHENOL A IMPACTS ELECTROCARDIOGRAPHIC PARAMETERS IN CD-1 MICE. C. B. Lo, T. B. McCutchan, E. L. Kendig and S. M. Belcher. Pharmacology, University of Cincinnati, Cincinnati, OH.

#2359  POSTER BOARD NUMBER .....................................630
INTEGRATING HUMAN AND TOXICOLOGICAL EVIDENCE TO UNDERSTAND PCB EFFECTS ON THE DEVELOPING BRAIN. F. Parham\textsuperscript{1}, A. Wise\textsuperscript{2}, D. A. Axelrad\textsuperscript{3}, K. Z. Goston\textsuperscript{1}, C. J. Portier\textsuperscript{4}, L. Zeise\textsuperscript{5}, R. T. Zoeller\textsuperscript{6} and T. J. Woodruff\textsuperscript{7}. 1National Institute for Environmental Health Science, Research Triangle Park, NC, 2University of California, San Francisco, CA, 3U.S. EPA, Washington, D.C., 4Centers for Disease Control and Prevention, Atlanta, GA, 5California EPA, Oakland, CA and 6University of Massachusetts, Amherst, MA.

#2360  POSTER BOARD NUMBER .....................................631
GENISTEIN NEGATES THE INHIBITORY EFFECTS OF LETROZOLE ON AROMATASE RELATED TO MALIGNANT, BUT NOT HEALTHY BREAST TISSUE. M. van Duersen\textsuperscript{1}, E. de Morro\textsuperscript{1}, S. Nijmeijer\textsuperscript{1}, P. de Jong\textsuperscript{2} and M. van den Berg\textsuperscript{1}. Institute for Risk Assessment Sciences, Utrecht University, Utrecht, Netherlands and 2Department of Internal Medicine, St. Antonius Hospital, Nieuwegein, Netherlands.

#2361  POSTER BOARD NUMBER .....................................632

#2362  POSTER BOARD NUMBER .....................................633

#2363  POSTER BOARD NUMBER .....................................634
LOW-DOSE BPA ALTERS CA CYCLING AND PROMOTES ARRHYTHMOGENESIS IN THE FEMALE HEART. S. M. Belcher, S. Yan, Y. Chen, M. Dong and H. Wang. Pharmacology, University of Cincinnati, Cincinnati, OH.

#2364  POSTER BOARD NUMBER .....................................635
ARSENIATE INHIBITS 3T3-L1 ADIPOGENESIS AND SUPPRESSES INDUCTION OF NUCLEAR RECEPTORS. F. J. Zandbergen\textsuperscript{1}, V. Chakravorti\textsuperscript{1}, C. D. Koziel-Horvath\textsuperscript{1} and J. W. Hamilton\textsuperscript{1}. 1Bay Paul Center, Marine Biological Laboratory, Woods Hole, MA and 2Department of Immunology, Dartmouth Medical School, Lebanon, NH.

#2365  POSTER BOARD NUMBER .....................................636
Program Description (Continued)

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#2368  Poster Board Number .....................................#2369  Poster Board Number .....................................#2370  Poster Board Number .....................................#2371  Poster Board Number .....................................#2372  Poster Board Number .....................................#2373  Poster Board Number .....................................#2374  Poster Board Number .....................................#2375  Poster Board Number .....................................#2376  Poster Board Number .....................................#2377  Poster Board Number .....................................


RETINOIC ACID MODULATES AHR-MEDIATED EFFECTS OF TCDD IN OSTEOBLASTIC CELLS. M. Herlin1, R. Heimeler2, M. Kotkalainen3, M. Vilukelci4 and H. Håkansson1. 1Institute of Environmental Medicine, Karolinska Institutet, Stockholm, Sweden and 2National Institute for Health and Welfare, Kuopio, Finland.


ISOLATION AND CHARACTERIZATION OF CHEMOPREVENTIVE ANALYSES FROM AN ACETONE EXTRACT OF KOLA ACUMINATA. J. Wynder1 and W. G. Gray1,2, 1Chemistry, Southern University A&M College, Baton Rouge, LA and 2Environmental Toxicology, Southern University Baton Rouge, Baton Rouge, LA.

EFFECT OF NOREPINEPHRINE, ENDOGENOUS DOPAMINE, AND EXOGENOUS DOPAMINE ON PROLACTIN RELEASE IN AN OVAIRECTOMIZED RAT MODEL. D. A. Broit1, P. Campbell1, P. Bentley1, H. Andersen2, J. Stewart1, R. Huby3 and L. Kinter4, 1Global Safety Assessment, R&D, AstraZeneca Pharmaceuticals, Wilmington, DE, 2Global Safety Assessment, R&D, AstraZeneca Pharmaceuticals, Södertälje, Sweden and 3Global Safety Assessment, R&D, AstraZeneca Pharmaceuticals, Alderley Park, United Kingdom.

IDENTIFICATION OF ENDOCRINE DISRUPTORS USING AN ORGANOTYPIC VAGINAL TISSUE MODEL. S. Ayehunie, K. LaRosa, T. Landry, J. E. Sheesgreen and M. Klausner. MatTek Corp, Ashland, MA. Sponsor: P. Hayden.

EVALUATION OF SUBCHRONIC TOXICITY AND ESTROGENIC ACTIVITY OF BLACK COBISH IN FEMALE WEANLING B6C3F1 MICE EXPOSED BY GAVAGE. M. Mercado-Feliciano1, M. D. Stodd2, C. A. Granville3, M. Hejmancki4, R. Newbold1, M. K. Vallant1 and P. M. Foster1. 1National Toxicology Program, NIEHS, Research Triangle Park, NC and 2Batelle Memorial Institute, Columbus, OH.

IMPLEMENTATION OF TIER I MAMMALIAN ASSAYS FOR THE U.S. EPA ENDOCRINE DISRUPTOR SCREENING PROGRAM (EDSP). S. Papineni1, A. Tobia2 and M. S. Marty3. 1Dow AgroSciences, Indianapolis, IN, 2Nutfarm Americas Inc., Cary, NC and 3The Dow Chemical Company, Midland, MI.

EFFECTS OF FASTING ON ENDOGENOUS PTH LEVELS IN CYNOMOLGUS MONKEYS. C. Ruh1, N. Doyle1, P. Bednarek2 and S. Y. Smith1. 1Charles River Laboratories, Senneville, QC, Canada and 2Cytochroma Inc., Markham, ON, Canada.

MIXTURES OF ANTI-ANDROGENS AT ENVIRONMENTALLY RELEVANT CONCENTRATIONS DISPLAY SIGNIFICANT ADVERSE EFFECTS ON HORMONES AND GENE EXPRESSION COMPARED TO SINGLE EXPOSURES AND THE CONTROL. J. P. Crago1 and R. Klaper2. 1Biological Sciences, University of Wisconsin Milwaukee, Milwaukee, WI and 2School of Freshwater Sciences, University of Wisconsin Milwaukee, Milwaukee, WI. Sponsor: R. Hutz.

COMPARATIVE EVALUATION OF THE EFFECTS OF POLYBROMINATED DIPHENYLETHYLETHER (DE-71) AND ETHYLENE-BIS-TETRABROMOPHTHALIMIDE (EBTBP) ON THYROID HORMONE-MEDIATED ANURAN METAMORPHOSIS. D. Fort1, R. Rogers1, P. Guinea2 and J. Weeks2. 1Fort Environmental Labs, Stillwater, OK and 2SC Johnson & Sons, Racine, WI.

Wednesday Afternoon, March 9
1:00 PM to 4:30 PM
Exhibit Hall

Poster Session: Aquatic and Ecotoxicology

Chairperson(s): Louis Trombetta, St Johns University, Jamaica, NY, and John Christopher, CH2M/Hill, Elk Grove, CA.

Displayed: 1:00 PM–4:30 PM

Author Attended: 1:00 PM–2:45 PM

MIXTURES OF ANTI-ANDROGENS AT ENVIRONMENTALLY RELEVANT CONCENTRATIONS DISPLAY SIGNIFICANT ADVERSE EFFECTS ON HORMONES AND GENE EXPRESSION COMPARED TO SINGLE EXPOSURES AND THE CONTROL.

J. P. Crago1 and R. Klaper2. 1Biological Sciences, University of Wisconsin Milwaukee, Milwaukee, WI and 2School of Freshwater Sciences, University of Wisconsin Milwaukee, Milwaukee, WI. Sponsor: R. Hutz.

COMPARATIVE EVALUATION OF THE EFFECTS OF POLYBROMINATED DIPHENYLETHYLETHER (DE-71) AND ETHYLENE-BIS-TETRABROMOPHTHALIMIDE (EBTBP) ON THYROID HORMONE-MEDIATED ANURAN METAMORPHOSIS. D. Fort1, R. Rogers1, P. Guinea2 and J. Weeks2. 1Fort Environmental Labs, Stillwater, OK and 2SC Johnson & Sons, Racine, WI.
50th Anniversary Annual Meeting and ToxExpo™

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Abstract #

#2380

Poster Board Number .....................................703


Abstract #

#2381

Poster Board Number .....................................704

HISTOPATHOLOGICAL AND ENZYME CHANGES IN CLARIAS GARIEPINUS (BURCHELL 1822) EXPOSED TO NITRITE AT DIFFERENT WATER TEMPERATURES. F. Ajani1, B. O. Emikpe2 and O. K. Adeyemo3. 1Animal Science & Fisheries Management, Bowen University, Iwo, Iwo, Osun, Nigeria, 2Department of Veterinary Pathology, University of Ibadan, Ibadan, Nigeria and 3Department of Veterinary Public Health and Preventive Medicine, University of Ibadan, Ibadan, Nigeria.

Abstract #

#2382

Poster Board Number .....................................705

CHEMICAL ACTIVATION OF THE NUCLEAR RECEPTOR HR96 IN DAPHNIA PULEX BY ENVIRONMENTAL CHEMICALS. E. Karimullina1,2, Y. Li3 and W. S. Baldwin1. 1Environmental Toxicology Program, Clemson University, Clemson, SC, 2Biological Sciences, Clemson University, Clemson, SC and 3Institute of Plant & Animal Ecology, Russian Academy of Sciences, Ural Branch, Yekaterinburg, Russian Federation.

Abstract #

#2383

Poster Board Number .....................................706

SIMULTANEOUS QUANTITATION OF TESTOSTERONE AND ESTRADIOL IN HUMAN CELL LINE (H295R) BY LIQUID CHROMATOGRAPHY-POSITIVE ATMOSPHERIC PRESSURE PHOTOIONIZATION TANDEM MASS SPECTROMETRY. F. Zhang, D. L. Rick, L. H. Lynn, A. W. Peralda, D. R. Geter and M. J. Bartels. The Dow Chemical Company, Midland, MI.

Abstract #

#2384

Poster Board Number .....................................707

EFFECTS OF PHARMACEUTICALS USED FOR BREAST CANCER TREATMENT ON REPRODUCTION AND AROMATASE ACTIVITY IN A MARINE FISH. L. J. Mills1, R. Gobell1, G. Zaragojian1, M. Simonneau1, D. Borsay Horowitz2, M. Hotchkiss3, N. Tinto4 and S. Laws5. 1NHERRL, Atlantic Ecology Division, U.S. EPA, Narragansett, RI and 2NHERRL, Toxicity Assessment Division, U.S. EPA, Research Triangle Park, NC.

Abstract #

#2385

Poster Board Number .....................................708

THE APPLICATION OF THERMOLUMINESCENCE IN ECOTOXICOLOGY. G. Repetto1, J. L. Zurita2, M. Roncalli1 and J. Ortega1. 1Biologia Molecular e Ing. Biocultural, University Pablo de Olavide, Sevilla, Spain, 2Fundación Progreso y Salud, Sevilla, Spain and 3Instituto de Bioquímica Vegetal y Fotosintesis. University of Sevilla-CSIC, Sevilla, Spain. Sponsor: M. Lanaspa.

Abstract #

#2386

Poster Board Number .....................................709

TISSUE DISTRIBUTION OF MERCURY IN ALASKA SCULPIN SPECIES. S. Bhoywani, C. Lieske and T. O Hara. University of Alaska Fairbanks, Fairbanks, AK.

Abstract #

#2387

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Abstract #

#2388

Poster Board Number .....................................711

TRIBUTYL Tin (TBT), AN OSTEODISSERTOR IN ZEBRAFISH. C. L. McGinnis and J. P. Crivello. Physiology and Neurobiology, University of Connecticut, Storrs, CT.

Abstract #

#2389

Poster Board Number .....................................712

THE EFFECTS OF COPPER PRYTHIONE ON DEVELOPING ZEBRAFISH EMBRYOS. K. M. Almond and L. D. Trombetta. Pharmaceutical Sciences, St. John’s University, Queens, NY.

Abstract #

#2390

Poster Board Number .....................................713

TISSUE SPECIFIC EXPRESSION OF ORGANIC ANION TRANSPORTING POLYPEPTIDES IN NATIVE FISH SPECIES. K. Steiner1, K. Shiigei2, A. Meyer2 and D. R. Dietrich3. 1Human & Environmental Toxicology, University of Konstanz, Konstanz, Germany and 2Zoology and Evolutionary Biology, University of Konstanz, Konstanz, BW, Germany.

Abstract #

#2391

Poster Board Number .....................................714

INTERACTIVE EFFECTS OF BENZO(a)PYRENE, BENZALKONIUM CHLORIDE, AND SEWAGE EFFLUENT ON MEDAKA EMBRYOS. A. McElroy and J. Gondek. School of Marine and Atmospheric Sciences, Stony Brook University, Stony Brook, NY. Sponsor: R. Di Giusto.

Abstract #

#2392

Poster Board Number .....................................715

THE GULF OIL CRISIS: IMPACT ON WHALES. S. S. Wise1,2,3, I. Kerr4, J. P. Wise4,2,3, C. F. Wise1,2,3, J. Wise1,2,3, C. Gianios1,2,3, M. Braun1,2,3, B. Wallace1, I. Glass1, R. Walker1, C. LaCerte2,3, 4, J. McKay1,2,3, T. Li Chen4,3, J. Maritono1,2,3, G. Chapman1,2,3, R. Duffy1,2,3, R. Leighton1,2,3, K. Joyce1,2,3,4, J. P. Wise1,2,3,4, Wise Laboratory of Environmental and Genetic Toxicology, University of Southern Maine, Portland, ME, Maine Center for Toxicology and Environmental Health, University of Southern Maine, Portland, ME, Department of Applied Medical Science, University of Southern Maine, Portland, ME and Ocean Alliance, Lincoln, MA.

Abstract #

#2393

Poster Board Number .....................................716

IMPOSEX IN PLUCOPURPURAPAUSA (MOLLUSCA: NEOGASTROPODA) AS A POTENTIAL MARINE POLLUTION BIOINDICATOR IN NAYARIT AND SINALOA, MEXICO. D. Domínguez1, A. Patrón1,2, L. Robledo1, J. Velazquez2 and B. Quintanilla1. Laboratorio de Toxicología, Universidad Autónoma de Nayarit, Tepic, Nayarit, Mexico, 2Fisiología, Universidad Autónoma de Mexico, DF, Mexico and 3Toxicología, Cinvestav, DF, Mexico.
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<th>Abstract #</th>
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<th>Authors and Affiliations</th>
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<tr>
<td>#2394</td>
<td></td>
<td>IN VITRO METABOLISM OF DIAZEPAM IN CHANNEL CATFISH (Ictalurus Puncticatus), C. Overturf and D. Huggett.</td>
<td>University of North Texas, Denton, TX.</td>
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<td>#2395</td>
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<td>QUEEN CONCH (STROMBUS GIGAS) REPRODUCTIVE DYSFUNCTION IN NEARSHORE AREAS OF THE FLORIDA KEYS – A POSSIBLE LINK TO CU AND ZN.</td>
<td>D. Spade1, A. Feswick2, R. A. Glazer1, D. S. Barber1 and N. D. Denslow1. Center for Environmental and Human Toxicology, University of Florida, Gainesville, FL and 1Fish and Wildlife Research Institute, Florida Fish and Wildlife Conservation Commission, Marathon, FL.</td>
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<td>#2396</td>
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<td>COAL MINING INDUCES OXIDATIVE STRESS, DNA DAMAGE, AND ALTERATIONS IN RED BLOOD CELL MORPHOLOGY IN WILD MICE.</td>
<td>A. Guerrero-Castilla1, J. Olivero-Velbel1, M. Cabarcas-Montalvo1, H. Corrales-Aldana1, M. Guerra-Hernandez2, L. Carranza-Lopez2 and M. Moreno-Contreras2. Environmental and Computational Chemistry Group, University of Cartagena, Cartagena, Colombia and 1Popular University of Cesar, Valledupar, Colombia.</td>
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<td>LEAD POISONING FROM INGESTED AMMUNITION IS PRELUDDLING RECOVERY OF THE ENDANGERED CALIFORNIA CONDOR.</td>
<td>M. Finkelstein1, D. Doak2, J. Grantham3, D. George4 and D. R. Smith1. University of California, Santa Cruz, CA, 2University of Wyoming, Laramie, WY, and 3NPS, Pinnacles National Monument, CA and 4U.S. Fish and Wildlife Service, Ventura, CA.</td>
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<td>OCCURRENCE OF SSRF'S IN PUGET SOUND STREAMS AND EFFECTS ON FISH: AN INTEGRATED FIELD AND LAB STUDY.</td>
<td>I. Schulte1, E. Walters2, M. Straw1 and J. Nagler1. 1Battelle PND, Sequim, WA, 2Battelle PND, Sequim, WA, and 3Battelle PND, Sequim, WA and 4Biological Sciences, University of Idaho, Moscow, ID.</td>
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<tr>
<td>#2400</td>
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<td>COMPARATIVE RESPONSES TO DIPHENHYDRAMINE IN TWO FISH MODELS.</td>
<td>J. Berninger, B. W. Brooks and B. Du. Baylor University, Waco, TX.</td>
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<td>#2401</td>
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<td>BEHAVIORAL, REPRODUCTIVE, AND GENOMIC RESPONSES TO NEUROPHARMACEUTICALS AT SUBCLINICAL CONCENTRATIONS FOUND IN THE ENVIRONMENT: FISH AS INDICATORS OF POTENTIAL HUMAN CONSEQUENCES OF LOW-DOSE EXPOSURES.</td>
<td>R. Klaper. School of Freshwater Sciences, University of Wisconsin Milwaukee, Milwaukee, WI. Sponsor: R. Hutz.</td>
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<td>#2402</td>
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<td>TOXICOLOGICAL MECHANISMS OF AZASPIRACID: AN EMERGING ALGAL TOXIN IN U.S. WATERS.</td>
<td>M. Twiner1, P. Hess2, R. El-Ladki2, S. Butler1 and G. Doucette1. Natural Sciences, University of Michigan, Dearborn, MI, 1Département Environnement, Microbiologie &amp; Phycotoxines, IFREMER, Nantes, France and 2Marine Biotoxins Program, NOAA/National Ocean Service, Charleston, SC.</td>
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<td>EFFECTS OF PCB CONTAMINATION ON ACTIVITIES OF OXIDATIVE STRESS ENZYMES IN S. ATROMACULATUS LIVERS.</td>
<td>K. Shortt1, D. Sparks2, D. Millsap3 and J. B. Watkins1. 1Indiana University, Bloomington, IN and 2U.S. Fish and Wildlife, Bloomington, IN.</td>
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<td>THE TOXIC EFFECTS OF CHROMIUM COMPOUNDS IN NORTH ATLANTIC RIGHT WHALE, AND SPERM WHALE CELLS.</td>
<td>T. Li Chen1,2, J. Martino3,4, S. S. Wise5,6, C. LaCerte3,4, F. Shaffiey1,2, A. L. Holmes2,3, K. McPherson1,2, I. Kerr1, R. Payne1, S. D. Kraus1 and J. P. Wise1,2,3. 1Wise Laboratory of Environmental and Genetic Toxicology, University of Southern Maine, Portland, ME, 2Maine Center for Toxicology and Environmental Health, University of Southern Maine, Portland, ME, 3Department of Applied Medical Science, University of Southern Maine, Portland, ME, 4Ocean Alliance, Lincoln, MA and 5Edgerton Research Laboratory, New England Aquarium, Boston, MA.</td>
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<td>THE TOXIC EFFECTS OF CHROMIUM COMPOUNDS IN NORTH ATLANTIC RIGHT WHALE, AND SPERM WHALE CELLS.</td>
<td>T. Li Chen1,2, J. Martino3,4, S. S. Wise5,6, C. LaCerte3,4, F. Shaffiey1,2, A. L. Holmes2,3, K. McPherson1,2, I. Kerr1, R. Payne1, S. D. Kraus1 and J. P. Wise1,2,3. 1Wise Laboratory of Environmental and Genetic Toxicology, University of Southern Maine, Portland, ME, 2Maine Center for Toxicology and Environmental Health, University of Southern Maine, Portland, ME, 3Department of Applied Medical Science, University of Southern Maine, Portland, ME, 4Ocean Alliance, Lincoln, MA and 5Edgerton Research Laboratory, New England Aquarium, Boston, MA.</td>
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<td>THE TOXIC EFFECTS OF CHROMIUM COMPOUNDS IN NORTH ATLANTIC RIGHT WHALE, AND SPERM WHALE CELLS.</td>
<td>T. Li Chen1,2, J. Martino3,4, S. S. Wise5,6, C. LaCerte3,4, F. Shaffiey1,2, A. L. Holmes2,3, K. McPherson1,2, I. Kerr1, R. Payne1, S. D. Kraus1 and J. P. Wise1,2,3. 1Wise Laboratory of Environmental and Genetic Toxicology, University of Southern Maine, Portland, ME, 2Maine Center for Toxicology and Environmental Health, University of Southern Maine, Portland, ME, 3Department of Applied Medical Science, University of Southern Maine, Portland, ME, 4Ocean Alliance, Lincoln, MA and 5Edgerton Research Laboratory, New England Aquarium, Boston, MA.</td>
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</table>
#2407 Poster Board Number .....................................730 COMPARISON OF CHROMIUM TOXICITY ON HUMAN, STELLER SEA LION, SPERM WHALE, AND NORTHERN RIGHT WHALE SKIN CELLS. C. LaCerte1,2,3, T. Li Chen1,2,3, A. Holmes2,2,3, S. Wise2,2,3, S. Kraus2, F. Gulland2 and J. P. Wise2,2,3. 1Wise Laboratory of Environmental and Genetic Toxicology, University of Southern Maine, Portland, ME, 2Maine Center for Toxicology and Environmental Health, University of Southern Maine, Portland, ME, 3Department of Applied Medical Science, University of Southern Maine, Portland, ME. Edgerton Research Laboratory, New England Aquarium, Boston, MA and The Marine Mammal Center, Sausalito, CA.

#2408 Poster Board Number .....................................731 CYTOTOXIC AND MUTAGENIC EFFECTS OF THE HAIR DYE REACTIVE RED 51 AND ITS DEGRADATION USING PHOTOELECTROCATALYSIS. T. B. Zanoni1, D. P. Oliveira1, L. E. Fraga1, M. B. Zanoni1 and N. R. Pissuti1. 1Universidade de São Paulo, Ribeirão Preto, Brazil and Química Analítica, UNESP, Araraquara, São Paulo, Brazil.

#2409 Poster Board Number .....................................731 COMPARISON BETWEEN THE EFFICIENCY OF TREATMENTS BY PHOTOELECTROCATALYSIS AND CONVENTIONAL CHLORINATION UNDER AQUATIC TOXICITY ENDPOINT. E. A. Ferraz1,2, T. M. Llizer1, M. B. Zanoni1, and D. P. Oliveira1. 1Faculdade de Ciências Farmacêuticas de Ribeirão Preto - Universidade de São Paulo, Ribeirão Preto, São Paulo, Brazil and 2Universidade Estadual Paulista Júlio de Mesquita Filho - UNESP, Araraquara, São Paulo, Brazil.

Wednesday Afternoon, March 9
1:00 PM to 4:30 PM
Exhibit Hall

Poster Session: Food Safety and Nutrition

Chairperson(s): William Tolleson, U.S. FDA, Jefferson, AR, and Edmond Creppy, University of Bordeaux, Bordeaux, France.

Displayed: 1:00 PM–4:30 PM

#2410 Poster Board Number .....................................801 MULTIPLE ANALYSES OF MEAT CONTENTS IN CANNED DOG FOOD AND VEGAN BONE TREATS. M. Hsieh1, C. Chou2, P. Shih1 and H. Hsieh2. 1Veterinary Medicine, National Chung-Hsing University, Taichung, Taiwan and 2Graduate Institute of Microbiology and Public Health, National Chung Hsing University, Taichung, Taiwan.

#2411 Poster Board Number .....................................802 ELUCIDATING THE MECHANISM OF VITAMIN A UPTAKE IN TUMOR-PRONE, VITAMIN A-SENSITIVE TISSUES. C. E. Schulte1 and M. J. Rowling1. 1Food Science and Human Nutrition, Iowa State University, Ames, IA and 2Interdepartmental Graduate Program in Toxicology, Iowa State University, Ames, IA. Sponsor: S. Hendrich.
Society of Toxicology 2011

Program Description (Continued)

Abstract #

#2418 
Poster Board Number .....................................809


#2419 
Poster Board Number .....................................810

NOVEL FEEDING BIOASSAY FOR CHARACTERIZATION OF DEOXYVINALENOL-INDUCED FEED REFUSAL IN THE MOUSE. B. Flannery and J. Pestka. Food Science and Human Nutrition, Michigan State University, East Lansing, MI. Center for Integrative Toxicology, Michigan State University, East Lansing, MI and Microbiology and Molecular Genetics, Michigan State University, East Lansing, MI.

#2420 
Poster Board Number .....................................811


#2421 
Poster Board Number .....................................812


#2422 
Poster Board Number .....................................813

EVALUATION OF THE HYPERSENSITIVITY POTENTIAL OF ALTERNATIVE BUTTER FLAVORINGS; ARE THEY SAFE SUBSTITUTES FOR DIACETYL? S. Anderson, J. Franko, E. Lukomska and B. J. Meade. NIOSH, Morgantown, WV.

#2423 
Poster Board Number .....................................814

BEAUVERICIN-INDUCED OXIDATIVE STRESS IN CHO-K1 CELLS IS PREVENTED BY VITAMINS AND FLAVONOIDS. G. Font, L. Haro, I. Maries, A. Anadon and M. J. Ruiz. Laboratorio de Toxicologia, Universidad de Valencia, Burjasot, Valencia, Spain and Department of Toxicology and Pharmacology, Faculty of Veterinary Medicine, Universidad Complutense, Madrid, Spain.

#2424 
Poster Board Number .....................................815


Abstract #

#2425 
Poster Board Number .....................................816

EFFEC TS OF FUMONISINS IN ETHANOL PRODUCTION. E. Bilen and G. Munkvold. Plant Pathology, Iowa State University, Ames, IA.

#2426 
Poster Board Number .....................................817

COMBINATIVE TOXICITY OF MYCOTOXIN MIXTURES IN ANIMALS AND HUMAN CELLS. G. Qian, L. Tang and J. Wang. Environmental Health Science, University of Georgia, Athens, GA.

#2427 
Poster Board Number .....................................818

MYCOTOXINS MULTI-CONTAMINATION OF PRESCHOOL AGE CHILDREN IN BENIN: PRELIMINARY STUDY IN THE ZOU REGION. E. E. Creppy, J. Tab-Dumond, S. Moukha and B. Sangare-Tigoi. Toxicology, University Bordeaux 2, Bordeaux, France, Toxicology, University Bordeaux 2, Bordeaux, Girone, France and Toxicology Department, University of Abidjan, Abidjan, Cte d’Ivoire.

#2428 
Poster Board Number .....................................819

PYRROCIDINE A TOXICITY IN MICE. S. Hooiser, C. R. Wilson, G. N. Burcham, W. M. Haschek-Hock and D. T. Wicklow. Animal Disease Diagnostic Laboratory, Purdue University, West Lafayette, IN. Department of Pathobiology, University of Illinois, Urbana, IL and Bacterial Foodborne Pathogens and Mycology Research Unit, USDA ARS, Peoria, IL.

#2429 
Poster Board Number .....................................820


#2430 
Poster Board Number .....................................821

TOXICITY OF RIBBON WORM CEPhALOTHRIX SPECIES ON THE SURFACE OF THE SHELL OF CULTURED OYSTERS IN HIROSHIMA BAY, HIROSHIMA PREFECTURE, JAPAN. M. Asakawa, Graduate School of Biosphere Science, Hiroshima University, Higashi-Hiroshima, Japan.

#2431 
Poster Board Number .....................................822

DIFFERENTIAL HEAT STABILITY OF RACTOPAMINE IN LIQUID AND PROTEIN MATRICES. C. Chou, P. Lan, M. Hsieh and W. Chang. Veterinary Medicine, National Chung-Hsing University, Taichung, Taiwan, Graduate Institute of Microbiology and Public Health, National Chung-Hsing University, Taichung, Taiwan and Animal Disease Diagnostic Center, National Chung-Hsing University, Taichung, Taiwan.

#2432 
Poster Board Number .....................................823

STABILIZING EFFECTS OF PH, GALACTOSE, AND EXOPOLYSACCHARIDES ON THERMAL INACTIVATION OF RICIN IN FOODS. W. H. Tolleson, O. A. Triplett and L. S. Jackson. Division of Biochemical Toxicology, National Center for Toxicological Research, Jefferson, AR and National Center for Food Safety and Technology, Summit-Argo, IL.
Abstract #

**#2433**

**Poster Board Number .....................................824**

A KINETIC STUDY OF THERMAL INACTIVATION OF THE BIOTERRORISM AGENT RICIN IN FOODS FOR INFANTS AND SMALL CHILDREN. O. A. Triplett1, W. H. Tolleson and L. S. Jackson2. Division of Biochemical Toxicology, National Center for Toxicological Research, Jefferson, AR and 2National Center for Food Safety and Technology, Summit-Arco, IL.

**#2434**

**Poster Board Number .....................................825**

OCTOPUS AS A FOOD PRODUCT: A SIGNIFICANT SOURCE OF ESSENTIAL ELEMENTS (CU AND CR) AND HUMAN EXPOSURE TO TOXIC ELEMENTS (PB). L. Saldivar1, T. Rodriguez-S1, M. Castilla-M1, M. A. Zezzi-A1 and F. Barbosa-J1. 1Chemistry Faculty, Universidad Nacional Autónoma de México, Universitaria, D.F., Mexico, 2Chemistry Institute, State University of Campinas, Campinas, Sao Paulo, Brazil and 3Faculty of Pharmaceutical Sciences, University of Sao Paulo, Ribeirao Preto, Sao Paulo, Brazil. Sponsor: D. Acosta.

**#2435**

**Poster Board Number .....................................826**

DETERMINATION OF TOXIN CONTAMINATION IN DIETARY SUPPLEMENTS MARKETED IN GERMANY. A. H. Heussen1, J. Fastner2 and D. R. Dietrich2. 1Human & Environmental Toxicology, University of Konstanz, Konstanz, Germany and 2Section II 3.3 - Drinking-Water Resources and Treatment, Federal Environmental Agency, Berlin, Germany.

**#2436**

**Poster Board Number .....................................827**


**#2437**

**Poster Board Number .....................................828**


**#2438**

**Poster Board Number .....................................829**

RISK ASSESSMENT OF CHICORY ROOT EXTRACT AS A FOOD INGREDIENT. R. A. Mateuka and G. A. Burdock. Burdock Group, Orlando, FL.

**#2439**

**Poster Board Number .....................................830**

USP COMPRENDIAL MONOGRAPHS FOR DIETARY SUPPLEMENTS: HELPING TO ENSURE PRODUCT QUALITY—BLACK COHOSH AS A CASE STUDY. N. D. Sarna1, G. I. Giancaspro1, M. Sharaf1, J. C. Griffthi1, S. A. Jordan2 and R. J. Marles2. 1United States Pharmacopeia, Rockville, MD and 2Health Canada, Ottawa, ON, Canada.

**#2440**

**Poster Board Number .....................................831**

SAFETY ASSESSMENT OF FOOD INGREDIENTS ORIGINATING FROM GENETICALLY MODIFIED BACTERIA. L. Dolan and G. A. Burdock. Burdock Group, Orlando, FL.

**#2441**

**Poster Board Number .....................................832**


**#2442**

**Poster Board Number .....................................833**

COMPOSITION OF MULTIPLE LOTS OF EVENING PRIMROSE OIL COMPARED WITH CORN OIL. T. Cristy1, S. Graves1, V. G. Robinson1 and C. Smith1. Battelle Memorial Institute, Columbus, OH and 2National Institute of Environmental Health Sciences, Research Triangle Park, NC.

**#2443**

**Poster Board Number .....................................834**

MINERAL CONTENT OF COMMONLY INGESTED BEVERAGES AND BOREHOLE WATER IN NNEWI, NIGERIA. O. Oritsasewe1, H. Ema1, N. Ekwo1, V. Obiadi1 and A. Ikeje1. 1University of Port Harcourt, Rivers State, Nigeria, Port Harcourt, Nigeria and 2Nnamdi Azikiwe University, Nnewi, Nigeria.

**Wednesday Afternoon, March 9**

1:00 PM to 2:00 PM

Room 140A

**Exhibitor Hosted Session: Electric Cell-Substrate Impedance Sensing: A Label Free, Non-Invasive Method of Cell Measurement**

Presented by: Applied BioPhysics, Inc.

An overview of the use of impedance (both simple and complex) to detect cell morphological changes. Emphasis will be placed on the use of difference AC frequencies to distinguish cell parameters. Various ECIS applications will be discussed including proliferation, cell invasion, automated cell migration, barrier function, toxicology and signal transduction.

**Wednesday Afternoon, March 9**

1:15 PM to 2:15 PM

Room 201

**Meet the Director: Center for Scientific Review Director**

Chairperson(s): Cheryl Lyn Walker, University of Texas M.D. Anderson Cancer Center, Smithville, TX.

**Lecturer:** Sy Garte, Center for Scientific Review, Bethesda, MD.

The Center for Scientific Review (CSR) is the portal for NIH grant applications and their review for Scientific merit. The recent history of the peer review process for toxicology and environmental health sciences grant applications will be discussed, including the experience of the pilot Special Emphasis Panel (SEP) on Systemic Injury from Environmental Exposure (SIEE). Analysis of data, and lessons learned from this pilot will be presented. Alternative approaches, geared toward ensuring the optimum quality and fairness of review for toxicology grants will be described, and preliminary results from recent review cycles will be shared. The presentation will include an interactive segment, whereby audience members will be encouraged to share their experiences with the peer review process, and contribute ideas for improvement.
Autophagy is a cellular process by which organelles, cytoplasm, and specific proteins are delivered to the lysosome where they are degraded. Autophagy has been described for at least four decades, but the scope and the importance of this programmed cellular response have only recently come into focus, heralded by an exponential increase in autophagy publications. One clear message that is emerging from these early studies of autophagy is its relevance to the field of toxicology. Diverse xenobiotics are capable of perturbing autophagy, with effects ranging from autophagy induction to complete inhibition. The functional consequences of these perturbations are complex: in some instances autophagy induction is cytotoxic, however in some instances its induction is a cell death pathway. The significance of perturbing autophagy, with effects ranging from autophagy induction to clearing damaged mitochondria. In the immune system, autophagy is critical to antigen presentation, the development of regulatory and effector functions, and the acquisition of tolerance. Thus, autophagy plays an evolutionarily conserved role in multiple biological processes. The ability of environmental stress and xenobiotics such as inorganic arsenic to modulate autophagy points to the need for an appreciation of this long-known, but poorly understood, pathway in toxicology.

#2444 1:30 OVERVIEW. W. Klimecki. University of Arizona, Tucson, AZ.

#2445 1:45 AUTOPHAGY IN DEVELOPMENT: A LIFE OR DEATH DECISION. E. Baehrecke. Department of Cancer Biology, University of Massachusetts Medical School, Worcester, MA. Sponsor: W. Klimecki.

#2446 2:15 AUTOPHAGY IN IMMUNITY AND INFLAMMATION. V. Deretic. Department of Molecular Genetics and Microbiology, University of New Mexico, Albuquerque, NM. Sponsor: W. Klimecki.

#2447 2:45 ARSENIC, AUTOPHAGY, AND IMMUNOTOXICITY. W. Klimecki, R. M. Douglas, F. Zhao and A. M. Bolt. Department of Pharmacology and Toxicology, University of Arizona, Tucson, AZ.

#2448 3:15 THE ROLES OF MITOCHONDRIAL FUSION, FISSION, AND AUTOPHAGY IN REMOVING DAMAGED MITOCHONDRIAL DNA. J. Meyer. Duke University, Durham, NC.
WeDneSDAY

Risk assessment for manganese (Mn) provides an opportunity to apply PBPK for the neurological effects of Mn would likely be based on epidemiological modeling in a different aspect of quantitative risk assessment: replacing

data from occupational exposures to inhaled Mn in dust. Nevertheless, the critical issues in a Mn risk assessment based on occupational epidemiology data are the nature and extent of the uncertainty factors that should be applied to account for uncertainties regarding inter-individual variability, susceptible sub-populations, duration of exposure, and different forms of Mn. We will describe the epidemiological evidence for the neurotoxic effects of Mn and explore the use of PBPK models for Mn in adult and perinatal animals and humans to predict the effect of key sources of uncertainty on the target tissue Mn dose, elucidate the dose-dependent mode of action for the neurological effects of Mn, and quantify the impact of human variability, life-stage, and other uncertainties on risks estimated from occupational epidemiology studies.

Manganese (Mn) is an essential element that is neurotoxic at high exposures. In recent years there has been increasing use of PBPK modeling in quantitative risk assessments to support animal-to-human extrapolation when human risk estimates are based on animal studies. However, any risk assessment for the neurological effects of Mn would likely be based on epidemiological data from occupational exposures to inhaled Mn in dust. Nevertheless, the risk assessment for manganese (Mn) provides an opportunity to apply PBPK modeling in a different aspect of quantitative risk assessment: replacing default uncertainty factors with chemical-specific adjustment factors. The abstracts include:

- **TRENDS OF THE IPSC TECHNOLOGY FOR BIOMEDICAL RESEARCH AND CELL THERAPY: POTENTIAL OF PROTEIN-INDUCED IPSCS**: K. Kim, McLean Hospital/ Harvard Medical School, Belmont, MA. Sponsor: A. Bowman.

- **IN VITRO MODELS OF ANGELMAN AND PRADER-WILLI SYNDROME VIA INDUCED PLURIPOTENT STEM CELL TECHNOLOGY**: M. Lalande, Genetics and Developmental Biology, University of Connecticut Health Center, Farmington, CT.

- **PATIENT-DERIVED STEM CELLS AS A TRANSLATIONAL MODEL FOR NEUROTOXICOLOGICAL RISK**: A. B. Bowman. Neurology, Vanderbilt University, Nashville, TN.

**Program Description (Continued)**

Abstract #


#2453 2:39 TRENDS OF THE IPSC TECHNOLOGY FOR BIOMEDICAL RESEARCH AND CELL THERAPY: POTENTIAL OF PROTEIN-INDUCED IPSCS. K. Kim, McLean Hospital/ Harvard Medical School, Belmont, MA. Sponsor: A. Bowman.

#2454 3:11 IN VITRO MODELS OF ANGELMAN AND PRADER-WILLI SYNDROME VIA INDUCED PLURIPOTENT STEM CELL TECHNOLOGY. M. Lalande, Genetics and Developmental Biology, University of Connecticut Health Center, Farmington, CT.

#2455 3:43 PATIENT-DERIVED STEM CELLS AS A TRANSLATIONAL MODEL FOR NEUROTOXICOLOGICAL RISK. A. B. Bowman. Neurology, Vanderbilt University, Nashville, TN.

Wednesday Afternoon, March 9

1:30 PM to 4:15 PM

Room 145

**Toxicity Testing: State of Science and Strategies to Improve Public Health**

**Symposium Session: The Use of Epidemiological Data and PBPK Modeling in a Risk Assessment: Manganese As a Case Study**

Chairperson(s): Harvey J. Clewell, The Hamner Institutes for Health Sciences, Research Triangle Park, NC, and Daniel Krewski, University of Ottawa, Ottawa, Ontario, Canada.

Sponsor: 
Metals Specialty Section

Endorsed by: 
Biological Modeling Specialty Section
Neurotoxicology Specialty Section
Risk Assessment Specialty Section

Manganese (Mn) is an essential element that is neurotoxic at high exposures. In recent years there has been increasing use of PBPK modeling in quantitative risk assessments to support animal-to-human extrapolation when human risk estimates are based on animal studies. However, any risk assessment for the neurological effects of Mn would likely be based on epidemiological data from occupational exposures to inhaled Mn in dust. Nevertheless, the risk assessment for manganese (Mn) provides an opportunity to apply PBPK modeling in a different aspect of quantitative risk assessment: replacing default uncertainty factors with chemical-specific adjustment factors. The abstracts include:

- **TRENDS OF THE IPSC TECHNOLOGY FOR BIOMEDICAL RESEARCH AND CELL THERAPY: POTENTIAL OF PROTEIN-INDUCED IPSCS**: K. Kim, McLean Hospital/ Harvard Medical School, Belmont, MA. Sponsor: A. Bowman.

- **IN VITRO MODELS OF ANGELMAN AND PRADER-WILLI SYNDROME VIA INDUCED PLURIPOTENT STEM CELL TECHNOLOGY**: M. Lalande, Genetics and Developmental Biology, University of Connecticut Health Center, Farmington, CT.

- **PATIENT-DERIVED STEM CELLS AS A TRANSLATIONAL MODEL FOR NEUROTOXICOLOGICAL RISK**: A. B. Bowman. Neurology, Vanderbilt University, Nashville, TN.

**Program Description (Continued)**

Abstract #

#2456 1:30 THE USE OF EPIDEMIOLOGICAL DATA AND PBPK MODELING IN A RISK ASSESSMENT: MANGANESE AS A CASE STUDY. H. J. Clewell1, M. Andersen1, V. Tait2, H. Roels3 and W. Boyes4. The Hamner Institutes for Health Sciences, Research Triangle Park, NC, 1University of Ottawa, Ottawa, ON, Canada, 2Université Catholique de Louvain, Brussels, Belgium and 4U.S. EPA, Research Triangle Park, NC.

#2457 1:35 INTRODUCTION. Harvey Clewell


#2459 2:39 THE USE OF PBPK MODELS FOR MONKEY AND HUMAN TO INVESTIGATE THE DOSE-RESPONSE FOR THE NEUROTOXIC EFFECTS OF MN. H. J. Clewell1, J. D. Schroeter2, M. Yoon1, A. Nong1, M. D. Taylor2 and M. E. Andersen1. The Hamner Institutes for Health Sciences, Research Triangle Park, NC and 2Afton Chemical. Richmond, VA.

#2460 3:11 APPLICATION OF PBPK MODELING TO EVALUATE SAFE EXPOSURES TO A TOXIC BUT ESSENTIAL METAL. M. E. Andersen. Computational Biology, The Hamner Institutes for Health Sciences, Research Triangle Park, NC.

#2461 3:43 HAZARD ASSESSMENT FOR THE ESSENTIAL ELEMENT MANGANESE BASED ON TOXICOLOGICAL, EPIDEMIOLOGICAL, AND MECHANISTIC DATA: SUSCEPTIBLE SUB-POPULATIONS AND INTER-INDIVIDUAL VARIABILITY. V. Tait1, F. Salehi2, M. Croteau2, N. Karyakina1, N. Shilnikova2, A. Nguyen1 and D. Krewski1. 1Risk Sciences International Inc., Ottawa, ON, Canada and 2University of Ottawa, Ottawa, ON, Canada. Sponsor: M. Andersen.
**Program Description (Continued)**

**Abstract #**

**Wednesday Afternoon, March 9**
1:30 PM to 4:15 PM

**Room 144**

**Emerging Global Public Health Issues**

**Workshop Session: Advancing Predictive Ecotoxicology Testing and Environmental Risk Assessment in the 21st Century**

**Chairperson(s):** Michelle Embry, ILSI Health and Environmental Sciences Institute, Washington, D.C., and David Volz, University of South Carolina, Columbia, SC.

**Sponsor:** Risk Assessment Specialty Section

**Endorsed by:** Hispanic Organization for Toxicologists Special Interest Group Molecular Biology Specialty Section

Following the publication of the National Research Council (NRC) Report on Toxicity Testing in the 21st Century: A Vision and a Strategy increased attention has been given to the development and use of new technologies and methods for toxicity testing. It is hoped that these new approaches will aid in the design of a routine testing strategy that will provide data that are applicable to the broader range of chemicals, endpoints, and life-stages, while also providing greater detail concerning mode of action and dose/concentration-response, and reducing the overall costs, animal use, and time spent on testing. This Tox21 vision has impacted testing approaches for not only human health, but also ecological risk assessment. Therefore it is important to address these new initiatives aimed at advancing regulatory ecotoxicity testing strategies. Novel approaches that could be integrated into an intelligent, tiered ecotoxicity testing strategy are under development. Additionally, concepts for utilizing chemical mode of action and/or adverse outcome pathways as a basis for developing 21st century test methods and associated predictive tools, initially developed as part of a SETAC Pellston workshop, have been expanded on several fronts. Advances in the application of QSAR and modeling approaches, cell-based assays, and ‘omics methodologies as well as recent OECD efforts to develop a fish testing framework will be highlighted. Our focus will be to discuss approaches to coordinate the development of new human health and environmental toxicity testing strategies, share key lessons and advances and create effective partnerships between human health and ecotoxicology communities.

**#2462 1:30**

**ADVANCING PREDICTIVE ECOTOXICITY TESTING AND ENVIRONMENTAL RISK ASSESSMENT IN THE 21ST CENTURY.** M. Embry and D. Volz.

1ILSI HESI, Washington, D.C. and University of South Carolina, Columbia, SC.

**1:30**

**INTRODUCTION.** Michelle Embry

**#2463 1:35**

**ADVERSE OUTCOME PATHWAYS AND SYSTEMS BIOLOGY AS CONCEPTUAL APPROACHES TO SUPPORT DEVELOPMENT OF 21ST CENTURY TEST METHODS AND EXTRAPOLATION TOOLS.** D. L. Villeneuve1, M. R. Embry2, and D. C. Volz2.

1U.S. EPA Mid-Continent Ecology Division, Duluth, MN, 2ILSI Health and Environmental Sciences Institute, Washington, D.C. and Department of Environmental Health Sciences, University of South Carolina, Columbia, SC.

**#2464 2:07**

**ADVANCES AND OUTLOOKS FOR QSARS IN ECOTOXICOLOGY.** S. A. Villalobos1, S. E. Belanger2 and P. Ranslow1.

1Nalco, Naperville, IL, 2Procter & Gamble, Cincinnati, OH and 3Consortium for Environmental Risk Management, Hallowell, ME.

**Wednesday Afternoon, March 9**
1:30 PM to 4:15 PM

**Room 204**

**Workshop Session: De-Risking the Potential for Cardiovascular Toxicity of Type-2 Diabetic Drugs: Preclinical and Clinical Strategies**

**Chairperson(s):** Alan Bass, Merck & Co., Kenilworth, NJ, and Peter Hoffmann, Novartis, East Hanover, NJ.

**Sponsor:** Drug Discovery Toxicology Specialty Section

**Endorsed by:** Cardiovascular Toxicology Specialty Section

Discovery of effective therapies for the treatment of Type 2 Diabetes (T2D) remains an important and critical unmet medical need for society. As with the development of most new pharmaceuticals, the risk of failure of a compound to achieve marketing authorization remains high. As a result, the pharmaceutical industry has placed a strong commitment in implementing strategies that de-risk the chance of failure when a compound is selected for development. This commitment is reflected in the increasing
We do not fully understand the relationship of different therapeutics for knowledgebase upon which decisions are made because scientific advances through development. Ultimately, the experiences gained over the course of this time informs whether the de-risking strategy pursued has been effective. As shown in the area of development of T2D drugs, the knowledgebase that will lead to de-risking the potential adverse cardiovascular outcomes of T2D drugs.

**Abstract #2468**


1:30 **INTRODUCTION.** Alan Bass

**Abstract #2469**

1:35 **ADVERSE CARDIOVASCULAR RISK ASSOCIATED WITH THERAPEUTICS FOR TYPE 2 DIABETES: CHALLENGES TO IDENTIFYING ACCURATE, PREDICTIVE PRECLINICAL MODELS OF TOXICITY.** A. S. Bass. Global Safety Assessment, Merck & Co., Kenilworth, NJ.

**Abstract #2470**

2:07 **MODELING CARDIOVASCULAR TOXICITY OF THERAPIES FOR TYPE 2 DIABETES IN VITRO.** P. Hoffmann. Novartis, East Hanover, NJ. Sponsor: P. Bentley.

**Abstract #2471**


**Abstract #2472**


**Abstract #2473**


Inhalation exposure to airborne materials in the home, workplace, and outdoors can produce adverse responses in the airways of both healthy and compromised individuals. Creating comparable exposure/response scenarios in laboratory animals presents significant challenges for the respiratory toxicologist, and over the last decade a number of new approaches have been adopted that complement or replace older practices. However, many of these new advances are neither widespread nor widely accepted. Indeed, the choices of airway exposure, and types and methods of data collection can provide the researcher with an array of disparate results, thereby creating a challenge for meaningful risk assessment. We will examine the value of popular and perhaps controversial methodological approaches to evaluate toxic airway responses. Beginning with a critical survey of exposure techniques, presentations will expand into the limitations of animal models, the predictive value of acute responses for chronic and functional responses, the special challenges with testing nanomaterials, and the evolution on in vitro approaches. Together the presentations are intended to foster scientific discussions and debate that may unify our thinking on the best practices for respiratory toxicology testing, and in the long term provide research tools to improve human health.

**Abstract #2474**

1:30 **MEETING THE CHALLENGES OF RESPIRATORY TOXICOLOGY TESTING - IN SEARCH OF BEST PRACTICES.** J. Wagner and P. Cassee. Michigan State University, East Lansing, MI and ‘RIVM, Bilthoven, Netherlands.

**Abstract #2475**

1:38 **DOsing THE RESPIRATORY TRACT.** G. Oberdörster. Environmental Medicine, University of Rochester, Rochester, NY.

**Abstract #2476**

2:05 **CAN ANIMAL INHALATION AND INTRATRACHEAL INSTILLATION (IT) STUDIES BE MADE TO SIMULATE HUMAN EXPOSURE SCENARIOS?** G. E. Hatch. National Health and Environmental Effects Research Laboratory, U.S. EPA, Research Triangle Park, NC.

**Abstract #2477**


**Abstract #2478**

2:57 **SCREENING FOR TOXIC AIRWAY RESPONSES: THE COMPARATIVE TOXICOLOGICAL VALUE OF PULMONARY FUNCTION TESTING APPROACHES.** J. Wagner. Michigan State University, East Lansing, MI.
An overall stubbornly high unemployment rate coupled with industry downsizing and institutional program cuts has fostered a tepid job market for toxicologists. Fewer jobs mean greater competition for limited openings. Thus the onus is on job candidates to make sure that they are putting their best foot forward during the job-seeking process. To that end, job candidates must not only polish their research credentials, but also their job-seeking skills. Therefore, our panel of experts from divergent fields will discuss the importance of having a well-rounded portfolio. Candidates will come to understand the value of a good publication record, acquiring experience and skills outside of the laboratory, and the necessity for sound communication skills. It has become increasingly important that job seekers be aware of the job application process including writing a resume/CV and interviewing. Our panel will provide some insight and share some insider information relative to the hiring practices of human resource departments. Additionally, there will be a discussion of the common unflattering mistakes and, or pitfalls that candidates can sometimes make and ways to avoid them.

**Workshop Session: Polishing Today’s Job Candidate in a Tough Economy**

**Chairperson(s):** Aimen Farraj, U.S. EPA, Research Triangle Park, NC, and Barbara Kaplan, Michigan State University, East Lansing, MI.

**Sponsor:** Career Resource and Development Committee

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**Chairperson(s):** Aimen Farraj, U.S. EPA, Research Triangle Park, NC, and Barbara Kaplan, Michigan State University, East Lansing, MI.

**Sponsor:** Career Resource and Development Committee

An overall stubbornly high unemployment rate coupled with industry downsizing and institutional program cuts has fostered a tepid job market for toxicologists. Fewer jobs mean greater competition for limited openings. Thus the onus is on job candidates to make sure that they are putting their best foot forward during the job-seeking process. To that end, job candidates must not only polish their research credentials, but also their job-seeking skills. Therefore, our panel of experts from divergent fields will discuss the importance of having a well-rounded portfolio. Candidates will come to understand the value of a good publication record, acquiring experience and skills outside of the laboratory, and the necessity for sound communication skills. It has become increasingly important that job seekers be aware of the job application process including writing a resume/CV and interviewing. Our panel will provide some insight and share some insider information relative to the hiring practices of human resource departments. Additionally, there will be a discussion of the common unflattering mistakes and, or pitfalls that candidates can sometimes make and ways to avoid them.
Program Description (Continued)

Abstract #

#2491 2:45 EXPOSURE DURING ALLERGIC SENSITIZATION TO URBAN SUMMER AND WINTER SAN JOAQUIN VALLEY COMBINED FINE/ULTRAFINE CONCENTRATED AMBIENT PARTICLES IN A MOUSE MODEL OF ALLERGIC AIRWAY INFLAMMATION. C. Carosino1,2, L. E. Plummer2,3, M. J. Kleeman1 and K. E. Pinkerton3. 1Pharmacology and Toxicology, University of California Davis, Davis, CA. 2Center For Health and the Environment, University of California Davis, Davis, CA and 3Civil and Environmental Engineering, University of California Davis, Davis, CA.

#2492 3:03 SECONHAND TOBACCO SMOKE, ANTIOXIDANT ENZYMES, AND AIRWAY DEVELOPMENT IN MALE AND FEMALE MICE. L. S. Van Winkle, J. Chan, P. Edwards, V. Kosaou, K. Sutherland and A. Buckpitt. University of California Davis, Davis, CA.

#2493 3:21 ATMOSPHERIC AEROSOLS FORMED FROM BIOGENIC AND ANTHROPOGENIC PRECURSOR REACTIONS AND COAL COMBUSTION EMISSIONS SHOW MILD VASCULAR TOXICITY COMPARED WITH MOTOR VEHICLE EXHAUST. J. McDonald1, M. Doyle-Eisele1, A. Land1, M. Campen1, E. Knipping2 and A. Rohr2. Lovelace, Albuquerque, NM. 1Electric Power Research Institute, Palo Alto, CA and 2University of New Mexico, Albuquerque, NM.

#2494 3:39 UNIQUE ASSOCIATIONS OF PM2.5 – INDUCED CHANGES IN HEART RATE VARIABILITY IN SPONTANEOUSLY HYPERTENSIVE RATS WITH WIND DIRECTION AND SPECIFIC SOURCES IN STEUBENVILLE, OH. J. G. Wagner1, A. Kamal2, M. Morishita2, B. Mukherjee2, G. J. Keeler2, J. R. Harkema3 and A. C. Rohr2. Michigan State University, East Lansing, MI. 1University Michigan, Ann Arbor, MI and 2Electrical Power Research Institute, Palo Alto, CA.

#2495 3:57 INHALATION OF ULTRAFINE PARTICULATE MATTER INDUCES INFLAMMATORY GENE EXPRESSION IN STRIATUM THROUGH NRF-2 AND NF-kappaB PATHWAYS IN RATS EXPOSED IN MEXICO CITY. R. Guerra-Garcia1, E. Vera-Aguilar2, G. Gookin3, M. Uribe-Ramirez4, A. Campbell5, J. Camacho5, M. Kleinman1 and A. De Vizcaya-Ruiz1. 1Department of Toxicology, Cinvestav, Mexico City, Mexico. 2Department Pharmacology, Cinvestav, Mexico City, Mexico. 3Division of Occupational and Environmental Medicine, Department of Medicine, University of Irvine, Irvine, CA and 4Department of Pharmacological Sciences, Western University of Health Sciences, Pomona, CA.

Abstract #

Wednesday Afternoon, March 9
1:30 PM to 4:15 PM
Room 202B

Platform Session: Nrf2 and Antioxidant Response Networks
Chairperson(s): Curtis Klaassen, University of Kansas Medical Center, Kansas City, KS and Joshua P. Gray, U.S. Coast Guard Academy, New London, CT.

#2496 1:30 NRF2 IN TOXICOLOGY: FROM MONOFUNCTIONAL INDUCTORS TO THE NEXT GENERATION OF THERAPY. C. D. Klaassen, Pharmacology, University Kansas Medical Center, Kansas City, KS.

#2497 1:51 TRANSCRIPTIONAL REGULATION OF THE HUMAN FERRITIN GENE THROUGH AN ANTIOXIDANT RESPONSIVE ELEMENT BY CORE HISTONE MODIFICATIONS. B. Huang, K. Iwasaki and Y. Tsuji. Environmental and Molecular Toxicology, North Carolina State University, Raleigh, NC. Sponsor: J. Nishimiyasu-Tsuiji.


#2499 2:33 KEAP1-KNOCKDOWN AND HEPATOCELLULAR SPECIFIC SIRT1 DELETION CONFER RESISTANCE TO FASTING-INDUCED DOWN-REGULATION OF NRF2-TARGET GENE EXPRESSION. S. Kulkarni1, J. Xu2, W. Wei1, X. Li3, M. Yamamoto1 and A. Silt1. 1Biomedical and Pharmaceutical Sciences, University of Rhode Island, Kingston, RI. 2National Institute of Environmental Health Sciences, National Institutes of Health, Research Triangle Park, NC and 3Department of Medical Biochemistry, Tohoku University Graduate School of Medicine, Sendai, Japan.


#2500 2:54 PROFILING ENVIRONMENTAL CHEMICALS IN THE ANTIOXIDANT RESPONSE ELEMENT PATHWAY USING QUANTITATIVE HIGH-THROUGHPUT SCREENING (QHTS). S. J. Shukla1, R. Huang1, S. O. Simmons1, R. R. Tice1, K. L. Witt2 and M. Xiu3. 1NIH Chemical Genomics Center, Rockville, MD, 2U.S. EPA, Research Triangle Park, NC and 3National Toxicology Program, Research Triangle Park, NC.

#2501 3:15 NUCLEAR FACTOR E2-RELATED FACTOR 1 IS INVOLVED IN ARSENIC-INDUCED ANTIOXIDANT RESPONSE IN HUMAN KERATINOCYTES. R. Zhao1, Y. Houv, P. Xue1, C. G. Woods1, J. Fu1, M. P. Wialk2, M. E. Andersson1 and J. Pi1. The Hamner Institutes, Research Triangle Park, NC and 2NTP, NIEHS, NIH, Research Triangle Park, NC.
Wednesday Afternoon, March 9
2:30 PM to 3:30 PM
Room 201
Meet the Director: U.S. FDA Director
Chairperson(s): Michael P. Holsapple, International Life Sciences Institute, Washington, D.C.

Lecturer: Jesse Goodman, U.S. FDA, Silver Spring, MD.

U.S. FDA has defined regulatory science as the science of developing new methods, standards and approaches to assess the safety, efficacy, quality, and performance of U.S. FDA-regulated products (see Advancing Regulatory Science for Public Health, 2010, accessible at: www.fda.gov/science research/specialtopics/regulatoryscience/ucm228202.htm). No area of science is more important to our ability to predict a product’s safety, or assess the potential significance of chemical substances in products, than toxicology. Well performed toxicology studies have undoubtedly protected consumers from many unsafe products and from contaminants that pose true threats to health. Yet most of the toxicology tools in use for regulatory assessment have as of yet been essentially unchanged by the molecular and cellular revolutions of the last 40 years. A wealth of innovation based on application of genomic, proteomic, metabolic, cell based and modeling tools is being applied, largely in the research community, to assessing the effects of novel and existing compounds. These tools, if and as they are validated for their predictive capabilities, offer the potential to revolutionize toxicology and its use in safety assessments, dramatically improving our ability to detect, understand and manage potential risks. Improvements should occur both in sensitivity and in specificity—the goal should be to detect true risks, but to not reject products that are safe due to false positive signals that may not be predictive of target effects in humans (or, for that matter, in other parts of the ecosystem). In addition, there are compelling reasons to limit animal testing where other methods may either replace or improve prediction. In recognition of this potential, U.S. FDA has made “Transforming Toxicology” one of its broad strategic priorities in its Advancing Regulatory Science Initiative. U.S. FDA is including support for new approaches to toxicology in its joint NIH/FDA regulatory science grants, as well as in efforts in both its product centers and at the National Center for Toxicological Research. Enhancing toxicology studies for nanoparticles would receive enhanced support at U.S. FDA, and through collaborative studies, under the President’s 2011 budget proposal currently before Congress, which includes the first dedicated budget support line for regulatory science at U.S. FDA. The Office of the Chief Scientist recently formed a new U.S. FDA-wide Chemical and Environmental Science Council (CESC) to serve as a focus for more proactively managing the growing U.S. FDA portfolio of cross-cutting chemical and toxicology issues, and to enhance scientific and policy communication, collaboration and training across U.S. FDA and with external partners. U.S. FDA has been increasingly engaged with colleagues in diverse agencies such as NIEHS (including through the NTP), U.S. EPA (including through the Tox-21 initiative and multiple specific issues), CDC and CPSC, among others. Such collaboration has, for example, been critical in the scientific response to potential health threats from the Gulf Oil Spill. Through these and other efforts, U.S. FDA has raised the profile of toxicology within the Agency and signaled its support for collaboration to advance the science needed to inform the best possible decisions.

Abstract #

#2503 3:55 BENEFICIAL ROLE OF NRF2 IN REGULATING NADPH GENERATION AND CONSUMPTION. K. C. Wu, J. Y. Cui and C. D. Klausen, Pharmacology, Toxicology, and Therapeutics, University of Kansas Medical Center, Kansas City, KS.
The Tox21 consortium has been working to investigate the use of these new tools, along with existing chemical and biological information, to prioritize substances for further in-Department toxicological evaluation. The goals of the Tox21 Community are to develop predictive models for both in vivo and in vitro biological responses. Success is expected to result in methods for toxicity testing that are more mechanistically based and economically efficient; as a consequence, a reduction or replacement of animals in regulatory testing is anticipated to occur in parallel with an increased ability to evaluate the large numbers of chemicals that currently lack adequate toxicological evaluation. In the past year, Tox21 has completed assembly of a library of ~10,000 chemicals and began screening the library against molecular targets and pathways at the rate of one assay per week. Our panel of experts will inform the scientific community of progress in meeting the Tox21 goals, by focusing on the strategies for chemical and assay selection, workflows for data management and analysis, and understanding the human significance of results. The Tox21 effort represents the largest and most comprehensive evaluation of interaction of environmental chemicals with toxicity pathways and is helping to pave the way for the use of high-throughput screening tools in hazard identification, chemical prioritization, and risk assessment.

Program Description

Informational Session: Progress of the Tox21 Consortium in High-Throughput Bioactivity Profiling of Chemicals

Chairperson(s): Robert Kavlock, U.S. EPA, Research Triangle Park, NC, and Chris Austin, National Human Genome Research Institute, Bethesda, MD.

Sponsor:
Women in Toxicology Special Interest Group

Endorsed by:
Regulatory and Safety Evaluation Specialty Section
Reproductive and Developmental Toxicology Specialty Section

In 2008, the National Institute of Environmental Health Sciences/National Toxicology Program, the NIH Chemical Genomics Center, and the U.S. EPA’s National Center for Computational Toxicology entered into a Memorandum of Understanding to collaborate on the research, development, validation, and translation of new and innovative test methods to characterize key steps in toxicity pathways. The U.S. FDA joined this consortium in 2010. A central component is the exploration of high-throughput screening, as well as high-throughput whole genome analytical methods, to evaluate mechanisms of toxicity. The goals of the Tox21 Community are to investigate the use of these new tools, along with existing chemical and biological information, to prioritize substances for further in-Department toxicological evaluation, identify mechanisms of action for further investigation, and develop predictive models for in vitro biological response.

Success is expected to result in methods for toxicity testing that are more mechanistically based and economically efficient; as a consequence, a reduction or replacement of animals in regulatory testing is anticipated to occur in parallel with an increased ability to evaluate the large numbers of chemicals that currently lack adequate toxicological evaluation. In the past year, Tox21 has completed assembly of a library of ~10,000 chemicals and began screening the library against molecular targets and pathways at the rate of one assay per week. Our panel of experts will inform the scientific community of progress in meeting the Tox21 goals, by focusing on the strategies for chemical and assay selection, workflows for data management and analysis, and understanding the human significance of results. The Tox21 effort represents the largest and most comprehensive evaluation of interaction of environmental chemicals with toxicity pathways and is helping to pave the way for the use of high-throughput screening tools in hazard identification, chemical prioritization, and risk assessment.

Abstract #

4:30 INTRODUCTION. David B. Warheit

4:40 A CHANGE IN DOSE METRICS FOR INHALATION TOXICITY STUDIES WITH ENGINEERED NANOPARTICLES. David B. Warheit

4:50 THE MERITS OF USING SURFACE AREA METRICS BASED ON MEASUREMENTS OF PARTICLE NUMBERS AND MATERIAL-SPECIFIC DENSITY FOR QUANTIFYING PARTICLE EXPOSURES. Günter Oberdörster

5:00 REAL-TIME INSTRUMENTATION FOR MEASURING AIRBORNE PARTICLE SURFACE AREA AND MORPHOLOGY OF NANOPARTICLE AGGLOMERATES. David Y. Pui

5:10 THE EFFECT OF AGGLOMERATE STRUCTURE SIZE ON THE BIOACTIVITY OF NANOPARTICLES. Vincent Castranova

5:20 PANEL DISCUSSION/Q&A.
of nucleoside analogs and implications on the therapeutic use for HIV will be discussed.

2506 4:30 TOXICOLOGICAL CONSIDERATIONS OF PHARMACOTHERAPY DURING PREGNANCY. S. Laffan, M. Miller, C. Buhimschi, R. Miller, D. Stanislaus and O. Olivero. Safety Assessment, GlaxoSmithKline, King of Prussia, PA; Laboratory of Cancer Biology and Genetics, National Cancer Institute, Bethesda, MD; National Center for Toxicology Research, U.S. FDA, Washington, D.C.; Obstetrics & Gynecology, Yale University, New Haven, CT and Obstetrics and Gynecology, University of Rochester School of Medicine and Dentistry, Rochester, NY.

4:30 UPDATE ON FDA’s PROPOSED PREGNANCY LABELING AND PK OF PHARMACEUTICALS IN PREGNANCY. Margaret Miller

4:44 CHALLENGES IN CHOOSING THE RIGHT DRUG FOR PREGNANT OR LACTATING WOMEN. Catalin Buhimschi

4:58 PLACENTAL TRANSPORT OF DRUGS – IMPLICATIONS FOR FETAL EXPOSURE. Richard Miller

5:12 DEVELOPMENT OF NOVEL MEDICINE FOR PRE-TERM LABOR: CHALLENGES IN SUPPORTING CLINICAL TRIALS IN PREGNANT WOMEN. Dinesh Stanislaus

5:26 TRANSPALCENTAL CARCINOGENESIS OF THE ANTI-RETROVIRAL DRUG AZT. Ofelia Olivero

5:40 PANEL DISCUSSION/Q&A.
Program Description (Continued)

THURSDAY MORNING

Thursday Morning, March 10
6:30 AM to 7:50 AM
Room 147

Issue Session: What It Means to Be Global
Chairperson(s): Ruth Roberts, AstraZeneca, Macclesfield, United Kingdom, and William Slikker, Jr., U.S. FDA, Jefferson, AR.

As defined by some, globalization describes the process by which regional economies, societies, and cultures have become integrated through a global network of communication, transportation, and trade. For many, the advent of the Internet has made the production of knowledge a global enterprise, with unlimited possibilities for communication, collaboration, and data sharing across international boundaries.

In April 2009, SOT and the Global Strategy Task Force finalized and commenced implementation of an SOT Global Strategy highlighting four parts of the SOT Strategic Plan 2008–2011 for global efforts:

• Become a global forum for novel discoveries
• Strengthen global partnerships
• Increase reliance of global decision makers on science
• Strengthen and deepen member engagement to address global needs

As part of this workstream, this special session will present the perspectives of four different constituent stakeholders who will address two key questions:

• What does global mean?
• What are the pros and cons of globalization?

Featuring an open discussion, this session will be of interest to a broad range of participants who both wish to hear where the global agenda in toxicology stands today and those who wish to influence the outcome of the discussions.

• Globalization: An Academic Perspective, Jin Ren Shanghai Institute of Materia Medica Pudong, Shanghai
• Globalization: A Regulatory Perspective, Jan Wilhelm van der Laan, National Institute for Public Health and the Environment, Bilthoven, The Netherlands
• Globalization: A CRO Perspective, Peter J. Sausen, Covance Laboratories, Inc., Madison, WI

Abstract #

Integration of Toxicological and Epidemiological Evidence to Understand Human Risk

Informational Session: Beyond Science and Decisions: From Problem Formulation to Dose-Response
Chairperson(s): Roberta Grant, Texas Commission on Environmental Quality, Austin, TX, and Michael Dourson, Toxicology Excellence for Risk Assessment, Cincinnati, OH.

Sponsor:
Risk Assessment Specialty Section

Endorsed by:
Regulatory and Safety Evaluation Specialty Section

In follow up to reports released in 2007 and 2008 by the National Academies of Science (NAS), specifically their report Science and Decisions: Advancing Risk Assessment, we will focus our discussion on the approaches for moving the science of dose-response assessment forward. We will present findings and discuss progress from the first and second of three workshops organized with a multi-stakeholder approach to share information, ideas, and techniques in support of developing practical problem-driven risk assessment guidance. The first of these workshops was held in Austin, Texas in March 2010. This workshop highlighted relevant work in issue identification and assessment methods, followed by brainstorming on purpose-focused methods as well as selection of 20 case proposals. The second workshop took place in October 2010 in Crystal City, Virginia, in tandem with the Federal and State Risk Assessment and Toxicology Conference. A third workshop is scheduled to take place in March or April 2011. At this meeting, the case proposal presentations will be evaluated by a yet-to-be identified science panel selected from the second and third workshops. The panel of experts will build consensus on purpose-specific dose-response methods. One of the primary goals of these workshops is to develop practical guidance for the use of risk assessment techniques applicable to specific issue identification (e.g., prioritization, screening and full assessment) and use by risk managers at a variety of levels (e.g., states, regional managers, people in a variety of agencies, and in the private sector). Specific case proposals will be used as examples to identify useful dose-response techniques.

#2507
6:30 BEYOND SCIENCE AND DECISIONS: FROM PROBLEM FORMULATION TO DOSE-RESPONSE. M.L. Dourson and R.L. Grant

6:35 INTRODUCTION.

6:50 NAS (2008) FINDINGS AND CURRENT EPA RISK ASSESSMENT FORUM EFFORTS ON EXTENSIONS OF THIS WORK. Bette Meek

7:05 ETHYL BENZENE: A CASE STUDY USING MODE OF ACTION (MOA) FRAMEWORK ASSESSMENT FOR UNDERSTANDING HUMAN RELEVANCE OF CANCER RESPONSE. James Bus

7:20 ESTIMATING RISK ABOVE THE EFFECTS SCREENING LEVEL: A CASE STUDY USING CATEGORICAL REGRESSION. Elena Craft
Program Description (Continued)

Abstract #

7:35 INCORPORATING BIOLOGY INTO THE DOSE RESPONSE ASSESSMENT OF NUCLEAR RECEPTORS AGONISTS. Melvin Andersen

Thursday Morning, March 10
6:30 AM to 7:50 AM
Room 145

Toxicity Testing: State of Science and Strategies to Improve Public Health

Education-Career Development Session: Bringing Toxicology to the Decision-Makers Table: Opportunities for Science Policy Positions in Washington, D.C.


Sponsor: Postdoctoral Assembly

Endorsed by:
Hispanic Organization for Toxicologists Special Interest Group
Regulatory and Safety Evaluation Specialty Section

If toxicologists are truly going to improve and protect public and environmental health, not only do we need to continually be advancing the science, but we also need to bring our expertise and knowledge to the policy makers attention. We will need more toxicologists who can translate the information generated in the laboratory to the policy and regulatory arenas. With the 2011 SOT Annual Meeting being held in Washington, D.C., we are provided with a perfect opportunity to hear from local scientists who have successfully transitioned out of the academic laboratory focused on discovering mechanisms of action into working in policy and regulatory settings that impact public and environmental health. We will highlight the various types of positions and opportunities that exist in and around our nation’s capital. Come and learn about what skills and training are most useful to transition from the laboratory to a toxicology policy-maker and regulatory scientist. Our panel of experts include scientists currently doing science policy and regulatory work for a variety of organizations, representing the federal government, private sector, and non-governmental organizations (NGO). Before the interactive roundtable discussion begins, a brief overview summary of the career paths taken, the types of work these scientists are engaged in, and options available for SOT scientists seeking a change will be highlighted.

#2508


6:36 Introduction, Nancy Beck and Minerva Mercado-Feliciano

6:44 Opportunities for Research and Training in a Federal Regulatory Agency, Peter Goering

6:52 A Law Firm and Congressional Perspective, Pat Donnelly

7:00 An Industry Perspective, Tim Pastoor

7:08 Panel Discussion/Q&A.

Thursday Morning, March 10
8:00 AM to 9:00 AM
Ballroom C

Keynote Plenary Lecture: U.S. EPA Vision
Lecturer: Lisa Jackson (invited), U.S. EPA, Washington, D.C.

Administrator Lisa P. Jackson, head of the U.S. EPA, the federal agency responsible for protecting the health and environment for all Americans. As Administrator of the U.S. EPA, she and a staff of more than 17,000 professionals are working across the nation to usher in a green economy, address health threats from toxins and pollution, and renew public trust in U.S. EPA's work.

Ms. Jackson has pledged to focus on core issues of protecting air and water quality, preventing exposure to toxic contamination in our communities, and reducing greenhouse gases. She has promised that all of U.S. EPA’s efforts will follow the best science, adhere to the rule of law, and be implemented with unparalleled transparency.

Ms. Jackson has made it a priority to focus on vulnerable groups including children, the elderly, and low-income communities that are particularly susceptible to environmental and health threats. In addressing these and other issues, she has promised all stakeholders a place at the decision-making table.

Before becoming U.S. EPA’s Administrator, Jackson served as Chief of Staff to New Jersey Governor Jon S. Corzine and Commissioner of the state’s Department of Environmental Protection (DEP). Prior to joining DEP, she worked for 16 years as an employee of the U.S. EPA.

Ms. Jackson is a summa cum laude graduate of Tulane University and earned a master’s degree in chemical engineering from Princeton University. She was born in Pennsylvania and grew up a proud resident of New Orleans, Louisiana. Ms. Jackson now resides in Washington, D.C.

Thursday Morning, March 10
8:30 AM to 12:00 NOON
East Salon

Poster Session: Alternatives to Mammalian Models
Chairperson(s): Mary Jane Cunningham, Nanomics Biosciences Inc., Cary, NC.

Displayed: 8:30 AM–12:00 NOON

Author Attended: 8:30 AM–10:15 AM

#2509

Poster Board Number

Program Description (Continued)

Abstract # Poster Board Number .....................................102
#2510 NEUROLOGICAL NETWORKS COUPLED TO MEA FOR IN VITRO NEUROTOXICITY TESTING: RESULTS FROM A RING TRIAL.
B. Scello1, A. Novellino2, A. Price3, T. Palosari3, T. Sobanski4, G. Gross5, T. J. Shafer6, A. F. Johnstone7, A. Gramowski8, O. Schroeder9, B. Benfenati10, M. Chiappalone11, S. Martinoia12, B. Tedesco13 and M. Whelan14. 1IHCP, IRC, Ispra, Italy, 2ETT S.r.l., Genova, Italy, 3ECHi, Helsinki, Finland, 4University of North Texas, Denton, TX, 5University of Rostock, Rostock, Germany, 6NeuroProof GmbH, Rostock, Germany, 7U.S. EPA, Research Triangle Park, NC and 8Italian Institute of Technology, Genova, Italy.

Poster Board Number .....................................103
#2511 IDENTIFICATION OF HUMAN HEPATOTOXICANTS BY HIGH-CONTENT IMAGING IN MICROPATTERED HUMAN HEPATOCYTE COCULTURES. R. A. Kemper1 and S. Kheta2. 1Integrative Toxicology, Boehinger Ingelheim Pharmaceuticals, Ridgefield, CT and 2Research and Development, Hepregen Corporation, Medford, MA.

Poster Board Number .....................................104
#2512 DEVELOPMENT OF AN INTEGRATIVE APPROACH FOR THE PREDICTION OF SYSTEMIC TOXICITY: COMBINATION OF CELL TOXICITY, PHARMACOLOGICAL, AND PHYSICAL CHEMICAL PROPERTIES. R. R. Note1, H. Noçairi1, M. Thomas1, L. Bourouf1, J. M. McKim1, G. Oüedraogo1 and J. Meunier1. 1L’Oréal, Aulnay Sous Bois, France and 2Ceetox, Kalamazoo, MI. Sponsor: H. Toutain.

Poster Board Number .....................................105
#2513 EVALUATION OF SENSCEPTO® AN INTEGRATIVE MODEL FOR IDENTIFYING CHEMICAL SENSITIZERS. A. Del Bufalo1, R. Note2, S. Teissier2, C. Gomes3, C. Piroir4, J. Ovigne5, J. M. McKim6 and J. Meunier1. 1L’Oréal, Aulnay sous Bois, France and 2Ceetox, Kalamazoo, MI. Sponsor: H. Toutain.

Poster Board Number .....................................106
#2514 DETERMINING THE EFFECTS OF GLUTATHIONE ON DEVELOPMENTAL METHYLMERCURY EXPOSURE. R. H. Klingler and M. J. Carvan. GLWI, University of Wisconsin Milwaukee, Milwaukee, WI.

Poster Board Number .....................................107

Poster Board Number .....................................108
Program Description (Continued)

Abstract #

#2525  Poster Board Number .....................................117
DATACHIP/METACHIP 2.0: AN IMPROVED CHIP PLATFORM FOR 3D CELL-BASED

#2526  Poster Board Number .....................................118
HIGH-THROUGHPUT GENE TRANSFECTION ON A THREE-DIMENSIONAL (3-D) CELL MICROARRAY PLATFORM FOR METABOLISM-INDUCED
TOXICOLOGY SCREENING. S. Kwon, J. Gray, B. Ku, J. Ryan, D. Clark, J. Dordick and M. Lee. 1Department of Chemical and Biological Engineering, Rensselaer Polytechnic Institute, Troy, NY, 2Soli Biosciences, Inc., San Francisco, CA, 3Central R & D Institute, Samsung Electro-Mechanics Co., Suwon, Republic of Korea and 4Department of Chemical Engineering, University of California Berkeley, Berkeley, CA.

#2527  Poster Board Number .....................................119
CELL TOXICITY AND INTERLEUKIN-8 PRODUCTION: UNIQUE RELATIONSHIP WITH ATHEROSCLEROSIS, I. Kimber, C. F. Portsmouth, R. Pendlington, G. Maxwell and R. J. Dearman. 1University of Manchester, Manchester, United Kingdom and 2Unilever Safety & Environmental Assurance Centre, Bedford, United Kingdom.

#2528  Poster Board Number .....................................120

#2529  Poster Board Number .....................................121
USING MULTIPLE ASSAYS TO ASSESS DRUG-INDUCED MITOCHONDRIAL
TOXICITY IN EARLY TOXICOLOGY TESTING. R. Swiss, P. Rana and Y. Will. Compound Safety Prediction, Pfizer Global Research & Development, Groton, CT.

#2530  Poster Board Number .....................................122
JC-1 MITOCHONDRIAL MEMBRANE POTENTIAL MEASUREMENTS OF H9C2 CELLS GROWN IN GLUCOSE AND GALACTOSE CONTAINING MEDIA DOES NOT PROVIDE ADDITIONAL PREDICTION TOWARDS MITOCHONDRIAL TOXICITY ASSESSMENT. P. Rana, Y. Will and S. Nadanaciva. Compound Safety Prediction, Pfizer Global Research & Development, Groton, CT.

#2531  Poster Board Number .....................................123

#2532  Poster Board Number .....................................124

#2533  Poster Board Number .....................................125
HIGH-CONTENT IMAGING ASSAY FOR DETECTING ACCUMULATION OF COMPOUNDS IN LYMPHOMAS. S. Nadanaciva, S. Lu and Y. Will. Compound Safety Prediction, Pfizer Global Research & Development, Groton, CT and 2DSRD, Pfizer Global Research & Development, La Jolla, CA.

#2534  Poster Board Number .....................................126
CUTANEOUS WOUND HEALING AS A TOPOLOGICAL PROTEIN Exposome: A SCREENING PARADIGM. I. Kimber, J. Yang, S. Sohn, J. Chung and S. Han. 1Toxicological Evaluation and Research Department, 2Novartis Institute for Biomedical Research, 3Novartis Institute for Biomedical Research and 4College of Pharmacy, Seoul National University, Seoul, Republic of Korea.

#2535  Poster Board Number .....................................127

#2536  Poster Board Number .....................................128
COMPARISON OF FCM AND ELISA IN THE EVALUATION OF THE OF SKIN SENSITIZATION BY NON-RADIOACTIVE MURINE LOCAL LYPH NODE ASSAY USING BROMODEOXYURIDINE. Y. Yum, Y. Lee, K. Jung, K. Lim, J. Park, H. Park, J. Kim, J. Yang, S. Sohn, J. Chung and S. Han. 1Toxicological Evaluation and Research Department, 2Novartis Institute for Biomedical Research, 3Novartis Institute for Biomedical Research and 4College of Pharmacy, Seoul National University, Seoul, Republic of Korea.

#2537  Poster Board Number .....................................129
ADAPTATION OF THE RAT HEPATOCYTES LONG-TERM CULTURE FOR HIGH-CONTENT IMAGING TO PREDICT CHRONIC LIVER TOXICITY IN VITRO. G. Davide, C. Zehnacker, P. Couttet, S. Chabout, O. Grenet, M. Uteng, F. Pouyan, M. Dong and A. Wolf. Translational Sciences/Investigative Toxicology, Novartis Institute for Biomedical Research (NIBR), Basel, Switzerland.

#2538  Poster Board Number .....................................130
AN IN SILICO APPROACH FOR COMPUTING OCCUPATIONAL EXPOSURE LIMITS OF ORGANIC SOLVENTS. M. Debia and K. Krishnan. Département de Santé Environnementale et Santé au Travail, Université de Montréal, Montréal, QC, Canada.

#2539  Poster Board Number .....................................131
**Abstract #** #2540

**Poster Board Number** ................................. 132


**Abstract #** #2541

**Poster Board Number** ................................. 133

**GENE EXPRESSION PROFILING OF AN IN VITRO HUMAN SKIN MODEL AFTER PSORALEN PLUS ULTRAVIOLET LIGHT-INDUCED PHOTOTOXICITY.** L. F. Pratt, G. L. DeGeorge and M. Cunningham. 1MB Research Laboratories, Spinnerstown, PA and 2Nanomics Biosciences, Inc., Cary, NC.

**Abstract #** #2542

**Poster Board Number** ................................. 134


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**Thursday Morning, March 10**

**8:30 AM to 12:00 NOON**

**East Salon**

**Poster Session:** Alternatives to Animal Models in Toxicology

**Chairperson(s):** Robert Landsiedel, BASF SE, Ludwigshafen am Rhein, Germany.

**Displayed:** 8:30 AM–12:00 NOON

**Author Attended:** 10:15 AM–12:00 NOON

**Abstract #** #2543

**Poster Board Number** ................................. 137

**A NEW IN VITRO MODEL FOR IDENTIFYING LIVER SPECIFIC TOXICITY (LST),** J. M. McKim, B. Wallace, P. C. Wilga, C. Toole, H. Wagner, A. Swanson and K. Rutherford. CeeTox Inc., Kalamazoo, MI.

**Abstract #** #2544

**Poster Board Number** ................................. 138


**Abstract #** #2545

**Poster Board Number** ................................. 139


**Abstract #** #2546

**Poster Board Number** ................................. 140

**USING FUNDULUS HETEROCLITUS TO STUDY BENZYL/PHENYL HYPERNO EFFECTS ON THE HYPOTHALAMUS-PITUITARY-GONAD (HPG) AXIS.** F. T. Booc, C. Thornton, D. MacLatchy, A. Lister and K. L. Willett. 1Pharmacology, University of Mississippi, University, MS and 2Biology, Wilfrid Laurier University, Waterloo, ON, Canada.

**Abstract #** #2547

**Poster Board Number** ................................. 141

**PORCINE ADRENAL CORTEX MICROSONES AS IN VITRO ALTERNATIVE ASSAY FOR SCREENING ON SEX STEROIDOGENESIS TOXICITY.** M. Roelofs, M. van den Berg, A. H. Pierson and M. B. van Duuren. 1Endocrine Toxicology, Institute for Risk Assessment Sciences, Utrecht University, Utrecht, Netherlands and 2National Institute for Public Health and the Environment, Bilthoven, Netherlands.

**Abstract #** #2548

**Poster Board Number** ................................. 142

**EARLY DISRUPTION OF ANGIogenesis-RELATED GENES BY METHYL TERT-BUTYL ETHER (MTBE) LEADS TO VASCULAR SPECIFIC LESIONS IN THE ZEBRAFISH (DANIO RERIO).** J. A. Bonventre, L. A. White and K. R. Cooper. Joint Graduate Program in Toxicology, Rutgers University/UMDNJ, Piscataway, NJ.

**Abstract #** #2549

**Poster Board Number** ................................. 143

**EFFECT OF TRIAZINES ON TESTOSTERONE BIOSYNTHESIS IN BLTK1 MURINE LEYDIG TUMOR CELLS.** A. L. Forgaças, Q. Ding, I. T. Huhtaniemi, N. A. Rahman and T. R. Zacharewski. 1Michigan State University, East Lansing, MI and 2University of Turku, Turku, Finland.

**Abstract #** #2550

**Poster Board Number** ................................. 144

**IMPROVEMENTS AND LIMITATIONS OF THE BOVINE CORNEAL OPACITY AND PERMEABILITY TEST (BCOP, OECD TEST GUIDELINE 437) IN ROUTINE TESTING FOR SEVERE OCULAR IRRITANTS.** H. Raue, A. Schrage, B. Curren, K. Norman, S. N. Kolle, M. Rey-Moreno, B. van Ravenzwaay and R. Landsiedel. 1Product Safety, BASF SE, Ludwigshafen, Germany, 2Experimental Toxicology and Ecology, BASF SE, Ludwigshafen, Germany and 3Institute for In Vitro Sciences, Inc., Gaithersburg, MD.

**Abstract #** #2551

**Poster Board Number** ................................. 145

**ECVAM PREVALIDATION STUDY ON SKIN SENSITISATION ALTERNATIVES: UPDATE ON PROGRESS.** A. Angers-Loustau, D. Bascketter, P. Avey, S. Aiba, N. Alepée, T. Ashikaga, T. Cole, A. Compagnoni, G. Gerberick, S. Hoffmann, J. Ovigne, J. Richmond, H. Sakaguchi and S. Casati. 1European Commission (Joint Research Centre), Ispra, Italy, 2DARBMEB Consultancy Ltd., Sharnbrook, Bedfordshire, United Kingdom, 3Colipa, Skin Tolerance Test Force, Brussels, Belgium, 4Tohoku University Graduate School of Medicine, Sendai, Japan, 5Shiseido Quality Assessment Center, Yokohama, Japan, 6Procter & Gamble, Cincinnati, OH, 7Seh Consulting & Services, Koln, Germany, 8L’Oreal Research, Aulnay-sous-Bois, France, 9Home Office, Dundee, United Kingdom and 10Kao Corporation Safety Science Research Laboratories, Tochigi, Japan.
Abstract #          | Poster Board Number .....................................146
#2552                  | LEYDIG CELLS RESPONSES TO STIMULATION WITH LUTEINIZING HORMONE IN CULTURES FROM RATS OF DIFFERENT AGE. P. Balbuena, J. L. Campbell, R. Clewell and H. J. Clewell. The Hammer Institutes of Health Sciences, Research Triangle Park, NC.
#2553                  | AN ORGANOPTHIC MICROLIVER PLATFORM FOR HIGH-THROUGHPUT DRUG TESTING. S. Messner1, B. Machi1, S. Hammad2, J. M. Kelm3, J. G. Hengstler1 and W. Moritz1. 1InSphero AG, Zürich, Switzerland and 2IFADo Dortmund, Technical University of Dortmund, Dortmund, Germany. Sponsor: C. Corton.
#2554                  | REACTIVE OXYGEN SPECIES IN PRIMARY HUMAN KERATINOCYTES TREATED WITH ANTI-OXIDANTS. K. Norman, H. Inglis and G. Mun. Institute for In Vitro Sciences, Gaithersburg, MD. Sponsor: E. Dahl.
#2555                  | IN VITRO ASSESSMENT OF SKIN IRRITATION POTENTIAL OF SURFACTANT BASED FORMULATIONS USING 3-D SKIN RECONSTRUCTED TISSUES AND CYTOKINE EXPRESSION ANALYSIS. L. Gandolfi1, N. Tierney2, D. Johnson1, R. Walters3, M. Fevola4, E. Gunn5, K. Martini1, A. Kong1, A. Hilberer1, N. Barns2, N. Wilt1, J. R. Nash1, H. Inglis1, H. Raabe6 and G. Costin2. 1Johnson & Johnson, Skillman, NJ and 3Institute for In Vitro Sciences, Inc., Gaithersburg, MD.
#2556                  | USE OF EPIDERM FULL-THICKNESS (EFT) SKIN CULTURES AS AN IN VITRO MODEL FOR WOUND HEALING. P. Hayden2, M. Sachdeva1, P. L. Shah1, U. S. Desai1, R. Patiolla1 and M. Klauser2. 1Pharmacy, Florida A&M University, Tallahassee, FL and 2MaTek Corporation, Ashland, MA.
#2557                  | IN VITRO BILIARY CLEARANCE OF PERFLUOROOCTANOATE IN SANDWICH-CULTURED HEPATOCYTES FROM RATS. D. Nabb, R. Mingoia and X. Han. DuPont Haskell Global Centers for Health & Environmental Sciences, Newark, DE.
#2558                  | IDENTIFICATION OF NOVEL BIOMARKERS OF FORMALDEHYDE TOXICITY IN HUMANS USING FUNCTIONAL TOXICOGENOMICS IN YEAST, M. North1, C. Romero2, A. Logunov1, M. T. Smith1, L. Zhang1 and C. D. Vidal1. 1Department of Nutritional Sciences & Toxicology, The University of California Berkeley, Berkeley, CA and 2Division of Environmental Health Sciences, School of Public Health, The University of California Berkeley, Berkeley, CA.
#2560                  | A NOVEL STRATEGY FOR IN VITRO ASSAY PLATFORM TO PREDICT SKIN SENSITIZING POTENTIAL OF BROAD RAW MATERIALS. M. Miyazawa1, Y. Nakada1, K. Saito1, H. Sakaguchi1, N. Nishiyama1 and F. Gerberick2. 1Kao Corporation, Tachigi, Japan and 2Procter & Gamble Company, Cincinnati, OH.
#2561                  | GENE EXPRESSION ANALYSIS OF PRECISION-CUT HUMAN LIVER SLICES INDICATE STABLE EXPRESSION OF HEPATOTOXICITY RELATED GENES. M. G. Elferink3, P. Olinga1, E. M. van Leeuwen1, S. Bauerschmidt1, J. Polman2, W. G. Schoonen2, S. H. Heisterkamp2 and G. M. Groothuis2. 1Pharmaceutical Technology and Biopharmacy, Groningen Research Institute for Pharmacy, Groningen, Netherlands, 2Pharmacokinetics, Toxicology and Targeting, Groningen Research Institute for Pharmacy, Groningen, Netherlands, 3Molecular Design and Informatics, MSD, Oss, Netherlands, 4Toxicology & Drug Disposition, MSD, Oss, Netherlands, 5Biostatistics and Research Decision Sciences, MSD, OSS, Netherlands and 6Bioinformatics Centre, University of Groningen, Groningen, Netherlands. Sponsor: A. Vickers.
#2563                  | AN IN VITRO MODEL FOR THE STUDY OF BACTERIAL COLONIZATION OF HUMAN EXTRAPLACENTAL MEMBRANES: ROLE OF ANTIMICROBIAL PEPTIDES. E. Boldenov1, S. Jones1, C. Xi1, R. Lieberman2 and R. Loch-Caruso3. 1Environmental Health Sciences, University of Michigan, Ann Arbor, MI and 2Obstetrics and Gynecology, University of Michigan, Ann Arbor, MI.
#2564                  | EVALUATION OF AN ORAL CARE PRODUCT SAFETY SCREENING PROGRAM UTILIZING THE IN VITRO SKINETHIC HUMAN GINGIVAL EPITHELIUM (RHG) AND ORAL BUCAL (RHO) MODELS. L. Wurzbacher1, P. Kazmi1, T. Re1, A. Alonso2, B. Bertino2, N. Barnes4, A. de Brugarole de Fraissinet1, A. Hilberer1, H. Raabe1, N. Wilt1 and V. Srinivasan2. 1L’Oreal USA Products, Clark, NJ, 2SkinEthic Laboratories, Nice, France and 3Institute for In Vitro Sciences, Inc., Gaithersburg, MD.
Program Description (Continued)

Abstract # 2565

Poster Board Number .....................................159

TRANSLATIONAL RESPONSE TO ARSENITE LEADS TO P-BODY AND PAB1P-CONTAINING GRANULE ASSEMBLY IN THE YEAST SACCHAROMYCES CEREVISIAE. V. Striybinsky, M. W. Gordon, J. P. Moore, S. R. Ellis and K. S. Ramos. Biochemistry and Molecular Biology, University of Louisville, Louisville, KY.

Abstract # 2566

Poster Board Number .....................................160

VALIDATION OF IN VITRO DIGESTION MODELS FOR POLYCYCLIC AROMATIC HYDROCARBON BIOACCESSIBILITY FROM SOIL USING THE IN VIVO SWINE MODEL. K. James1, R. E. Peters1, B. Laird1, W. Ma2, M. Wickstrom3, G. Stephenson4 and S. D. Siciliano5. 1Soil Science, University of Saskatchewan, Saskatoon, SK, Canada, 2Stantec Consulting Inc., Guelph, ON, Canada, 3Toxicology Centre, University of Saskatchewan, Saskatoon, SK, Canada and 4Toxicology Group, University of Saskatchewan, Saskatoon, SK, Canada. Sponsor: L. Weber.

Abstract # 2567

Poster Board Number .....................................161

IN VITRO EVALUATION OF AIRWAY TOXICITY USING THE EPIAIRWAY ORGANOTYPIC IN VITRO HUMAN AIRWAY MODEL. G. R. Jackson, J. Bolmarcich, H. Kandarova, S. Letasiova, M. Klausner and P. J. Hayden. MatTek Corp., Ashland, MA.

Abstract # 2568

Poster Board Number .....................................162

DEVELOPMENT OF THE REPLACEMENT OCULAR BATTERY-ROBATT-TIERED TESTING STRATEGY OF ALTERNATIVE TOXICOLOGY TESTS TO REPLACE THE NEED FOR RABBIT EYE TESTS. D. Cerven, G. DeGeorge and M. Piehl. MB Research Laboratories, Spinnerstown, PA.

Abstract # 2569

Poster Board Number .....................................163

THE EYES HAVE IT: CALF VERSUS ADULT EYES IN THE BOVINE CORNEAL OCULARITY AND PERMEABILITY (BCOP) ASSAY. D. A. Donahue2, D. Cerven1, G. DeGeorge2 and J. Avalos1. 1MB Research Laboratories, Spinnerstown, PA and 2Kao Brands Company, Cincinnati, OH.

Abstract # 2570

Poster Board Number .....................................164


Abstract # 2571

Poster Board Number .....................................165


Abstract # 2572

Poster Board Number .....................................166

INCREASED ARSENIC BIOACCESSIBILITY DUE TO MICROBIAL ACTIVITY DOES NOT AFFECT ARSENIC BIOAVAILABILITY. B. Laird1, T. Van De Wiele1, M. Dodd2, S. Casteel2 and S. D. Siciliano5. 1University of Saskatchewan, Saskatoon, Saskatchewan, Canada, 2Ghent University, Ghent, Belgium, 3University of Missouri Columbia, Columbia, MO and 5Royal Roads University, Victoria, BC, Canada. Sponsor: L. Weber.

Abstract # 2573

Poster Board Number .....................................167

AN INTEGRATED APPROACH TO THE RISK ASSESSMENT OF DRUG PRODUCTS. M. Derzi1 and R. Naven2. 1DSRD, Pfizer, Cambridge, MA and 2CSPG, Pfizer, Groton, CT. Sponsor: P. Will.

Abstract # 2574

Poster Board Number .....................................168

PARP-1 ACTIVITY IS INVOLVED IN THE SOLAR UV-INDUCED CUTANEOUS INFLAMMATORY RESPONSE IN THE EPIDERMAL HUMAN SKIN MODEL. H. Kandarova, A. Armento, J. Oldach, C. Cooney, G. Stolper, M. Klausner and P. J. Hayden. MatTek Corporation, Ashland, MA.

Abstract # 2575

Poster Board Number .....................................169

TIMECOURSE OF HEALING AFTER UV-INDUCED DAMAGE IN THE EPIDERMAL HUMAN SKIN MODEL. G. Stolper, C. Cooney, A. Armento, J. Oldach, S. Letasiova, M. Klausner and P. J. Hayden. MatTek Corporation, Ashland, MA.

Thursday Morning, March 10
8:30 AM to 12:00 NOON
East Salon

Poster Session: Disease Prevention

Chairperson(s): Richard LoPachin, Montefiore Medical Center, Bronx, NY, and Bruce Fowler, ATSDR/CDCEC, Atlanta, GA.

Displayed: 8:30 AM–12:00 NOON

Author Attended: 8:30 AM–10:15 AM

Abstract # 2576

Poster Board Number .....................................170

A FULLERENE DECREASED ORGANOPHOSPHATE-INDUCED TOXICITY IN MICE. M. Ehrich1, K. Fuhrman1, J. Hinckley1, B. S. Jortner1, S. Werre1, R. Van Tassell1, Z. Zhao2 and C. R. Kepley3. 1Virginia-Maryland Regional College of Veterinary Medicine, Virginia Tech, Blacksburg, VA, 2Luna Innovations, Blacksburg, VA and 3Luna NanoWorks, Danville, VA.

Abstract # 2577

Poster Board Number .....................................171

PROLINE RICH POLYPEPTIDES MITIGATE THE EFFECTS OF WHOLE-BODY IRRADIATION IN MICE. K. D. Thrall1, M. Franch1, J. E. Morris1 and R. E. Weller1. 1Battelle, Pacific Northwest Division, Richland, WA and 2North Carolina State University, Raleigh, NC.

Abstract # 2578

Poster Board Number .....................................172

PROTECTIVE ROLE OF DEFEROXAMINE ON BEHAVIORAL EFFECTS IN TRANSGENIC (TG-2576) MICE EXPOSED TO A HIGH ALUMINUM DOSE. M. Gómez, J. L. Domingo, T. Garcia, D. Ribes and M. Colomina. Toxicology and Environmental Health, Universitat Rovira i Virgili, Reus, Spain.
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<td>ARE THE NEUROTOXIC EFFECTS OF MANGANESE DUE TO BLOCKAGE OF POST-SYNAPTIC DOPAMINE RECEPTORS.</td>
<td>ENHANCED NRF2 ACTIVATION ATTENUATES FASTING-INDUCED FATTY LIVER. J. Xu1, J. Moscovitz1, M. Yamamoto2 and A. L. Slitt1.</td>
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<td>THE ABILITY OF PAS, ACETYLSALICYLIC ACID, AND CALCIUM EDTA TO PROTECT AGAINST THE TOXIC EFFECTS OF MANGANESE ON MITOCHONDRIAL RESPIRATION AND MEMBRANE POTENTIAL IN THE GILL OF CRASSOSTREA VIRGINICA.</td>
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<td>Poster Board Number ...............................182</td>
<td>INTERNATIONAL WORKSHOP ON ALTERNATIVE METHODS TO REDUCE, REFINE, AND REPLACE THE USE OF ANIMALS IN VACCINE POTENCY AND SAFETY TESTING. J. Kulpa-Eddy1, R. McFarland1, R. Isbrucker1, M. Halder1, H. Kojima1, B. Jones1, N. Johnson1, D. Allen1, E. Lipscomb1.</td>
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<td>ENERGY BALANCE IN MICE CONSUMING A HIGH FAT DIET AND WHEY PROTEIN. H. G. Shertzer1, S. E. Woods1, M. Krishnan1, M. Genter1 and K. J. Pearson1.</td>
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<td>COMPARISON OF THE EFFECTS OF NICOTINAMIDE AND TAURINE IN THE BRAIN AND SPINAL CORD AGAINST OXIDATIVE STRESS BY STREPTOZOTOXIN-INDUCED DIABETES IN RATS. S. N. Patel and C. A. Lau-Cam. St. John’s University, Jamaica, NY.</td>
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#2593  Poster Board Number .....................................201
DIABETES-INDUCED CARDIAC INFLAMMATION AND PATHOLOGICAL CHANGES WERE PREVENTED BY WHOLE-BODY LOW-DOSE IRRADIATION. C. Zhang1, X. Li2 and L. Cai1,2, 1Department of Pediatrics, University of Louisville, Louisville, KY and 2Chinese-American Research Institute for Diabetic Complications, Wenzhou, Jilin, China.

#2594  Poster Board Number .....................................202
SEROTONIN, OXIDATIVE STRESS, AND DOPAMINE PATHWAYS: THE TARGETS FOR AUTISM TREATMENT. A. L. Palazzolo1,2 and E. Demchuk3, 1Division of Toxicology & Environmental Medicine, ATSDR/CDC, Atlanta, GA and 2Biomedical Engineering, Rensselaer Polytechnic Institute, Troy, NY. Sponsor: B. Fowler.

#2595  Poster Board Number .....................................203
UNRAVELING THE EFFECTS OF DEVELOPMENT OF THE Olfactory System in a BRDU-Induced Developmental Disorder Model Rat. M. Kwon1,2, T. Ogawa1,2, T. Nagata3 and S. Shioda2, 1Toxicology, Hatano Research Institute, FDSC, Hadano, Japan, 2Anatomy I, Showa University School of Medicine, Shinagawa, Tokyo, Japan and 3Anti-Aging, Medicine Funded Research Labs, Showa University School of Medicine, Shinagawa, Tokyo, Japan.

#2596  Poster Board Number .....................................204

Thursday Morning, March 10
8:30 AM to 12:00 NOON
East Salon

Poster Session: Developmental Neurotoxicity: General

Chairperson(s): Phillip Bushnell, U.S. EPA, Research Triangle Park, NC, and Dongren Yang, University of California Davis, Davis, CA.

Displayed: 8:30 AM–12:00 NOON

Author Attended: 10:15 AM–12:00 NOON

#2597  Poster Board Number .....................................205
GENE EXPRESSION IN KETAMINE-EXPOSED RAT BRAIN. C. Wang1, Q. Shi2, L. Guo3, T. A. Patterson3, S. Dial1, Q. Li4, N. Sadovova5, X. Zhang6 and J. P. Hanig7, 1Division of Neurotoxicology, National Center for Toxicological Research/U.S. FDA, Jefferson, AR, 2Division of Systems Toxicology, National Center for Toxicological Research/U.S. FDA, Silver Spring, MD, 3Division of Biomedical Toxicology, National Center for Toxicological Research/U.S. FDA, Jefferson, AR, 4Division of Biomedical Toxicology, National Center for Toxicological Research/U.S. FDA, Jefferson, AR, 5Microarray Core Facility, UTSW Medical Center, Dallas, TX, 6Toxicologic Pathology Associates, Jefferson, AR and 7Center for Drug Evaluation and Research/U.S. FDA, Silver Spring, MD.

#2598  Poster Board Number .....................................206
DIFFERENT APOPTOTIC RESPONSE IN MOUSE BRAIN AFTER NEONATAL EXPOSURE TO DIFFERENT FLAME RETARDANTS. H. Viber, Department Environmental Toxicology, Uppsala University, Uppsala, Sweden.

#2599  Poster Board Number .....................................207
SEX SPECIFIC EFFECTS ON NEUROGLIAL DEVELOPMENT FOLLOWING DEVELOPMENTAL EXPOSURE TO PCBs: IMPLICATIONS FOR ADHD RISK IN MALES. R. F. Seegal1, K. Andrews1, S. Sanchez-Morrissey2, K. O. Brossch1 and V. M. Miller2, 1Wadsworth Center, New York State Department of Health, Albany, NY and 2School of Public Health, University at Albany, Albany, NY.

#2600  Poster Board Number .....................................208
PRE-PULSE INHIBITION AND THE STARTLE RESPONSE IN GENETICALLY DIFFERENT PCB-TREATED MICE. C. P. Curran, B. Hays, E. Altenhofen, R. Floyd and A. Mynhier, Biological Sciences, Northern Kentucky University, Highland Heights, KY.

#2601  Poster Board Number .....................................209
GENETIC DIFFERENCES IN ADULT STRESS RESPONSE FOLLOWING GESTATIONAL AND LACTATIONAL EXPOSURE TO POLYCHLORINATED BIPHENYLS IN MICE. E. Altenhofen, B. Hays, C. Kanan-Chega, A. Ashworth, J. Phillips and C. P. Curran, Biological Sciences, Northern Kentucky University, Highland Heights, KY.
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<td>Genetic Differences in Porsolt Forced Swim Behavior and Peak Corticosterone Levels in PCB and Corn Oil-Treated Mice</td>
<td>C. Kamau-Cheggies, R. Floyd, E. Altenhofen, B. Hays and C. P. Cremin</td>
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<td>#2604</td>
<td>Developmental Exposure to PBDE 209 Alters Adult Susceptibility to Paraoxon and Nicotine: Gender and Neurobehavioural Analysis</td>
<td>S. Buratovic, A. Fredriksson, H. Vibe and P. Eriksson</td>
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<td>#2605</td>
<td>Co-Exposure to Radiation and Environmental Toxicants (PBDE 99 and MEH) during a Defined Critical Phase of Neonatal Brain Development Enhances Cognitive Defects in Adult Mice</td>
<td>P. Eriksson1, B. Stenerlöw2, A. Fredriksson1 and S. Sundell-Bergman1</td>
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<td>#2606</td>
<td>Perinatal Exposure of Mice to Dioxin Induces Depression-Like Behavior in a Low-Dose Specific Manner</td>
<td>A. Hajiima, Y. Zhang, T. Endo, M. Kakeyama and C. Tohyama. Laboratory of Environmental Health Sciences, Center for Disease Biology and Integrative Medicine, Graduate School of Medicine, University of Tokyo, Tokyo, Japan.</td>
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<td>#2607</td>
<td>Assessing Later-Life Behavioral Phenotypes in Response to Prenatal Exposure to BenzoPyrene</td>
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<td>Developmental Iodide Deficiency: Reductions in Thyroid Hormones and Impaired Hippocampal Transmission</td>
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<td>Impaired Performance on an Operant Learning Task During Lifetime Exposure to Acrylamide in Fischer 344 Rats</td>
<td>M. G. Paule1, C. S. Roege1 and J. D. Garey2, Division of Neurotoxicology, National Center for Toxicological Research U.S. FDA, Jefferson, AR and SRC, Inc., Arlington, VA.</td>
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<td>#2611</td>
<td>Acetaminophen Metabolites May Modulate Hippocampal Sensitivity to Serotonin and Social Interaction Behavior Through CB1 Receptors</td>
<td>G. G. Gould1, L. Nguyen1, T. F. Burke1, J. G. Hensler1, K. Tret1, L. C. Daws1 and T. Gu1, Physiology, University of Texas Health Science Center at San Antonio, San Antonio, TX, Pharmacology, University of Texas Health Science Center at San Antonio, San Antonio, TX and Restorative Dentistry, University of Texas Health Science Center at San Antonio, San Antonio, TX.</td>
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<td>#2612</td>
<td>Persistent CNS Effects of Postnatal Exposure to Concentrated Ambient Particles</td>
<td>J. L. Allen, J. N. Finkelstein, C. J. Johnston, D. A. Cory-Slechta, Environmental Medicine &amp; Pediatrics, University of Rochester Medical Center, Rochester, NY.</td>
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<td>Life Span Alcohol Exposure Monitored by FDG Brain PET Imaging, More Information from Fewer Animals</td>
<td>D. De Groot1, M. Boogaard1, R. Nederlof1, M. Berk1, E. Utterlof1, L. vd Horst1, M. Otto1, A. Wolterbeek1 and E. De Vries2, TNO Quality of Life, Zeist, Netherlands and Groningen University Medical Center, Groningen, Netherlands.</td>
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<td>#2614</td>
<td>Application of Long-Term Automated Monitoring of Home-Cage Behaviour in Developmental Neurotoxicity Studies</td>
<td>N. Onischchenko, S. Spulber and S. Ceccatelli, Department of Neuroscience, Karolinska Institutet, Stockholm, Sweden.</td>
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**Roundtable Sessions**

**Workshop Sessions**

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The Society of Toxicology 2011 program includes a variety of sessions, including informational and historical highlights, as well as poster and symposium sessions. The abstracts listed cover a range of topics, from developmental neurotoxicology to environmental health sciences. The program is designed to facilitate discussions and the exchange of knowledge in the field of toxicology.
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**#2615**

**AUTOMATED VIDEO IMAGE ANALYSIS FOR ACTIVITY MONITORING IN AN EXTENDED ONE GENERATION REPRODUCTIVE TOXICITY TEST WITH LEAD ACETATE.**

**Poster Board Number .....................................222**


*Lab Research Ltd., Veszprem, Hungary; *Syngenta Crop Protection LLC, Greensboro, NC and **Syngenta, Jealotts Hill, Bracknell, United Kingdom.

**#2616**

**PERIPHERAL NEUROPATHY IN AN EXTENDED ONE GENERATION REPRODUCTIVE TOXICITY TEST WITH LEAD ACETATE.**

**Poster Board Number .....................................233**


*Syngenta, Jealotts Hill, Bracknell, United Kingdom, **Lab Research Ltd., Veszprem, Hungary and ***Syngenta Crop Protection LLC, Greensboro, NC.

**#2617**

**EVALUATION OF THE EFFECT OF DONEPEZIL AND CLONIDINE ON LEARNING MEMORY AND STARTLE RESPONSE IN WISTAR RATS USING ANYMAZE VIDEO TRACKING SYSTEM AND STARTLE MONITOR SYSTEM.**

**Poster Board Number .....................................224**


Toxicology, Jai Research Foundation, Vadava, Gujarat, India. Sponsor: P. Deshmukh.

**#2618**

**IN VIVO LONGITUDINAL MAGNETIC RESONANCE SPECTROSCOPY OF THE DEVELOPING RAT BRAIN.**

**Poster Board Number .....................................225**

S. Luchengk and J. Ramu.


**#2619**

**EFFECT OF LOW-GLUCOSE OR HIGH-INSULIN CONDITION ON RAT PRIMARY PERIPHERAL NEURON.**

**Poster Board Number .....................................226**


Safety Research Laboratory, Mitsubishi Tanabe Pharmcology Corporation, Satsuma, Japan. Sponsor: J. Sugimoto.

**#2620**

**SYNAPTOGENESIS IN PRIMARY HIPPOCAMPAL NEURONS IS MODULATED BY ETHANOL-TREATED ASTROCYTES.**

**Poster Board Number .....................................227**


1DEOHs, University of Washington, Seattle, WA and Department of Psychiatry, University of Illinois at Chicago and Jesse Brown VA Medical Center, Chicago, IL.

**#2621**

**CHRONIC EXPOSURE REDUCES ACUTE DOMIC ACID TOXICITY IN VITRO: ROLE OF GLUTATHIONE.**

**Poster Board Number .....................................228**


1Department of Environmental and Occupational Health Sciences, University of Washington, Seattle, WA and 2Department of Human Anatomy, Pharmacology and Forensic Science, University of Parma Medical School, Parma, Italy.

**#2622**

**METHYLMERCURY AND NON-DIOXIN LIKE POLYCHLORINATED BIPHENYLS INTERFERE WITH NEURAL DIFFERENTIATION OF CORTICAL NEURONAL STEM CELLS.**

**Poster Board Number .....................................229**


1Department of Neuroscience, Karolinska Institutet, Stockholm, Sweden, 2Department of Medical Biochemistry and Biophysics, Karolinska Institutet, Stockholm, Sweden and 3Department of Chemistry, Umeå University, Umeå, Sweden.

**#2623**

**NON-DIOXIN-LIKE POLYCHLORINATED BIPHENYLS (PCBS) ENHANCE DENDRITIC GROWTH IN CULTURED HIPPOCAMPAL NEURONS VIA RYANODINE RECEPTOR (RYR)-DEPENDENT ACTIVATION OF CALCIUM-DEPENDENT SIGNALING PATHWAYS.**

**Poster Board Number .....................................230**


1Veterinary Molecular Biosciences, University of California Davis, Davis, CA and Veterinary and Comparative Anatomy, Washington State University, Pullman, WA.

**#2624**

**ENANTIOSELECTIVE EFFECTS OF PCB136 ON DENDRITIC GROWTH ARE RYANODINE RECEPTOR-DEPENDENT.**

**Poster Board Number .....................................231**


1VM: Molecular Biosciences, University of California Davis, Davis, CA and 2Occupational & Environmental Health, University of Iowa, Iowa City, IA.

**#2625**

**POLYCHLORINATED BIPHENYLS (PCBS) ALTER GLUTAMATE RELEASE FROM PRESYNAPTIC NERVE TERMINALS ISOLATED FROM THE RAT HIPPOCAMPUS INDEPENDENT OF ARYL HYDROCARBON RECEPTOR (AHR) MEDIATED GENE TRANSCRIPTION.**

**Poster Board Number .....................................232**

N. Newman and F. Schanne.

Pharmaceutical Sciences, St. John’s University, Queens, NY.

**#2626**

**NEUROBEHAVIORAL AND TRANSCRIPTIONAL CONSEQUENCES OF ESTROGEN RELATED RECEPTOR GAMMA ACTIVATION BY LOW-DOSE BISPENOL A EXPOSURE DURING NEUROGENESIS.**

**Poster Board Number .....................................233**


Department of Environmental & Molecular Toxicology, Environmental Health Sciences Center, Oregon State University, Corvallis, OR.
Program Description (Continued)

Abstract #  
#2627  
Poster Board Number .....................................234  

Abstract #  
#2628  
Poster Board Number .....................................235  

Abstract #  
#2629  
Poster Board Number .....................................236  
ASSessment of CHEMical EFFECTs ON NeURite OUTGROWTH,neauRonAL POLARIZATION, AND SYNAPTogenesis IN RAT CORTICAL NeURONS USING HIGH CONTENT IMAGE ANALYSIS. B. L. Robinette, J. A. Harwell and W. R. Mundy. Integrated Systems Toxicology Division, NIEERL, U.S. EPA, Research Triangle Park, NC.

Thursday Morning, March 10
8:30 AM to 12:00 NOON
East Salon

Poster Session: Cancinogenesis II

Chairperson(s): Sakina Eltom, Meharry Medical College, Nashville, TN.

Displayed: 8:30 AM–12:00 NOON

Author Attended: 8:30 AM–10:15 AM

Abstract #  
#2630  
Poster Board Number .....................................241  

Abstract #  
#2631  
Poster Board Number .....................................242  
Liver Toxicity Following Kava Kava Administration in F344 Rats and B6C3Fl Mice. M. Behf, R. S. Chhabra1, A. Nyska2, L. Fomby3, B. R. Sparrow4, M. R. Hejmanik2 and P. C. Chan. 1 NTP, NIH, Research Triangle Park, NC, 2 Timrat and Sackler School of Medicine, Tel Aviv University, Timrat, Israel and 3 Battelle, Columbus, OH.

Abstract #  
#2632  
Using DNA-Based Measurement of Oncomutation to Understand Carcinogen Mode of Action. Y. Wang, F. Meng, P. B. McKinzie, M. B. Myers and B. L. Parsons. Division of Genetic and Molecular Toxicology, National Center for Toxicological Research/U.S. FDA, Jefferson, AR.

Abstract #  
#2633  
Analysis of Peroxisome Proliferator-Activated Receptor Gamma (PPARγ) Agonist Troglitazone-Induced Transcriptional Changes in Mouse Endothelial Cells. S. Kakuchi-Kiyota1, L. L. Arnold, P. Koga-Tanaka2, S. Suzuki3 and S. M. Cohen4. 1 Pathology and Microbiology, University of Nebraska Medical Center, Omaha, NE, 2 Pfizer Drug Safety and Development, Groton, CT and 3 Department of Experimental Pathology and Tumor Biology, Nagoya City University Graduate School of Medical Sciences, Nagoya, Aichi, Japan.

Abstract #  
#2634  
RALoxifene is Cyotoxic Toward VARIOUS ESTROGEN RECEPTOR NEGATIVE Cell LINES. S. Taurin, B. D. Yadav, K. B. Tran and R. J. Rosengren. Pharmacology & Toxicology, University of Otago, Dunedin, New Zealand.

Abstract #  
#2635  
Cytotoxic Potential of a Novel CURCUMIN ANALOG RL-71 IN IN VITRO AND IN VIVO MODELS OF ESTROGEN RECEPTOR NEGATIVE BREAST CANCER. B. D. Yadav1, S. Taurin1, L. Larsen2 and R. J. Rosengren3. 1 Pharmacology & Toxicology, University of Otago, Dunedin, New Zealand and 2 Plant and Food Research Limited, Dunedin, Otago, New Zealand.

Abstract #  
#2636  
RAP80 Plays a Critical Role in Maintaining Genomic Stability. Z. Yin and A. M. Jetten. LRB, NIEHS, Research Triangle Park, NC.

Abstract #  
#2637  
Actin and Vimentin Proteins with N-Terminal Deletion Detected in Tumor Bearing Rat Livers Induced by Intraperitoneal-Vein Injection of Ha-Ras Transfected Rat Liver Cells. Y. Nakamura1, A. Kominami1, Y. Tsujimoto1, E. Park2, K. Sato1, C. Chang3, B. L. Upham3 and J. E. Trosko3. 1 Food Sciences and Nutritional Health, Kyoto Prefectural University, Kyoto, Japan and 2 National Food Safety and Toxicology Center, Michigan State University, East Lansing, MI.
SULFORAPHANE INDUCES GLUTATHIONE-S-TRANSFERASE ACTIVITY AND DECREASES AFLATOXIN B1-DNA ADDUCTS IN SPRAGUE-DAWLEY RATS. J. L. Fiala1,2, N. Wiriayachan14, P. A. Egner4, J. D. Groopman3, R. G. Croy2, P. Navasumrit1, M. Ruchirawat1 and J. M. Essigmann2. 1Biological Engineering, Massachusetts Institute of Technology, Cambridge, MA, 2Faculty of Science, Mahidol University, Bangkok, Thailand and 3Environmental Health Sciences, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD.


OXIDATIVE DNA DAMAGE AND DNA BINDING INDUCED BY 2,2-BIS (BROMOMETHYL)-1,3-PROANEDIOL IN HUMAN BLADDER CELLS: POSSIBLE DUAL MECHANISMS IMPlicated IN ITS CARCINOGENICITY. W. Kong, R. K. Kuester, A. Gallegos and I. Sipes. Pharmacology, University of Arizona, Tucson, AZ.


COMPARISON OF AFLATOXIN-DNA ADDUCT LEVELS IN MALE AND FEMALE INFANT B6C3F1 MICE. L. L. Woo1, P. A. Egner2, C. Belanger1, R. Wattanawaraporn1, L. Trudel2, G. N. Wogan3, J. D. Groopman3, R. G. Croy3, and J. M. Essigmann2. 1Biological Engineering, Massachusetts Institute of Technology, Cambridge, MA, 2Environmental Health Sciences, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD and 3Chemistry, Massachusetts Institute of Technology, Cambridge, MA.

NO LUNG TOXICITY FROM STYRENE IN CYP2F2 KNOCKOUT MICE. G. Cruson1, J. S. Bus1, X. Ding1, J. A. Hotchkiss2, J. R. Harkema1 and R. Gingle1. ToxWorks, Bridgeton, NJ, Toxicology and Environmental Research and Consulting, Dow Chemical Company, Midland, MI, New York State Department of Health, Wadsworth Center for Labs, and Research, State University of New York at Albany, Albany, NY, Pathobiology and Diagnostic Investigation, Michigan State University, East Lansing, MI and Environmental and Product Health, Shell Oil Company, Houston, TX.

COVALENT BINDING OF 14C 2-METHOXY-4-NITROANILINE IN MALE SPRAGUE-DAWLEY RATS. R. Snyder1, S. Waidyanatha2, I. Surh2, T. Banks1, S. Patel1, S. Black1 and T. Fennell2. 1Research Triangle Park, NC and 2National Toxicology Program, National Institute of Environmental Health Sciences, Research Triangle Park, NC.

DIFFERENTIAL MODULATION OF CANCER-RELATED MOLECULAR NETWORKS IN HUMAN AND RAT URINARY BLADDER CELLS EXPOSED TO TRIVALENT ARSENICALS. K. Bailey1, K. Wallace1, S. Thal2, D. C. Wolf2, S. W. Edwards2 and R. C. Frys1. Environmental Sciences and Engineering, University of North Carolina at Chapel Hill, Chapel Hill, NC and U.S. EPA, Research Triangle Park, NC.

THE EFFECTS OF ORAL TREATMENT WITH TRANSFLUTHIRIN ON THE BLADDER EPITHELIUM OF RATS AND MICE AND ITS METABOLITE, TETRAFLUOROBENZOIC ACID ON UROTHELIAL CELLS IN VITRO. S. M. Cohen1, L. Arnold1, S. Lautraite1, L. Sheets2, S. Wason2, B. Stahl1, D. Eigenberg1, K. L. Pennington2, S. Kakuchi-Kiyota1 and M. Yokohira1. 1University of Nebraska Medical Center, Omaha, NE, 2Bayer AG, Bayer CropScience, Monheim, Germany and 3Xenometrics, Stillwell, KS.

NEUROBEHAVIORAL ALTERATIONS IN CARG-BOX BINDING FACTOR-A KNOCKOUT MICE. J. T. Barrett1, J. R. Richardson1, X. Zhang1, M. Fang1, K. K. Reuhl4 and H. Zarbl1. 1GSBS, UMDNJ, Piscataway, NJ, 2EOHSI, RWJMS, UMDNJ, Piscataway, NJ, 3University of Washington, Seattle, WA and 4Rutgers, Piscataway, NJ.

INFLUENCE OF BENZ(α)PYRENE (BAP) BIOTRANSFORMATION ON BAP-INDUCED CYTOTOXICITY IN HT-29 HUMAN COLON CANCER CELLS. J. N. Myers and A. Ramesh. Biochemistry & Cancer Biology, Meharry Medical College, Nashville, TN.
Program Description (Continued)

Abstract #   Poster Board Number .....................................260  EFFECTS OF SUBCHRONIC SODIUM ARSENITE ON MALIGNANT TRANSFORMATION MARKERS IN MCF-7 CELLS. A. D. Rios-Perez1, R. Ruiz-Ramos1, L. T. Lopez-Carrillo1 and M. E. Cebrian1, 1Toxicology, CINVESTAV, Mexico City, DF, Mexico and 2CISP, INSIP, Cuernavaca, Morelos, Mexico.

Poster Board Number .....................................261  DOES HELICOBACTER PYLORI PARTICIPATE IN T HELPER-1 MEDIATED IMMUNE ACTIVATION IN COLORECTAL CANCER PATIENTS? B. A. Engin1, A. Karakaya1 and A. Engin1. 1Department of Toxicology, Gazi University, Faculty of Pharmacy, Ankara, Turkey and 2Department of General Surgery, Gazi University, Faculty of Medicine, Ankara, Turkey.

Poster Board Number .....................................262  TOXICOGENOMIC PROFILING OF FORMALDEHYDE-EXPOSED NORMAL AND TRANSFORMED HUMAN ORAL KERATINOCYTES. R. Ceder1, M. Merne1, J. Nilsson1, C. Staab2, J. Hoving1, C. M. Thompson3 and R. C. Graafström4, 1Institute of Environmental Medicine, Karolinska Institutet, Stockholm, Sweden, 2Department of Medical Biochemistry and Biophysics, Karolinska Institutet, Stockholm, Sweden, 3ToxStrategies, Inc., Katy, TX and 4Medical Biotechnology, VTT Technical Research Centre of Finland, Turku, Finland.

Poster Board Number .....................................263  A GENOME-WIDE CELL SIGNALING RNA-INTERFERENCE SCREEN TO IDENTIFY NOVEL REGULATORS OF THE DNA DAMAGE RESPONSE. B. van de Water1, J. Carreras1, L. von Stechow1, R. Sidappa2, A. Pines3, J. Olsen3, H. Vriel1, L. Mullenders1 and E. Danen3, 1Division of Toxicology, Leiden University, Leiden, Netherlands, 2Department of Toxicogenetics, Leiden University Medical Center, Leiden, Netherlands and 3Panum Institute, University of Copenhagen, Copenhagen, Denmark.

Poster Board Number .....................................264  GLUCOSE ENHANCES MENADIONE MEDIATED HYDROGEN PEROXIDE FORMATION IN BETA CELLS. M. A. Palo1, T. L. Womack1, E. Heart2 and J. P. Gray2, 1Science Chemistry, United States Coast Guard Academy, New London, CT and 2Biocurrents Research Center, Marine Biological Laboratory, Woods Hole, MA.

Poster Board Number .....................................265  THE DURATION OF THE EVALUATION PERIOD OF THE POSITIVE CONTROL GROUP FOR RASH2 SHORT-TERM CARCINOGENICITY STUDIES. S. A. Shah, M. A. Paranjpe and E. A. Zahalka, Mammalian Toxicology, BioReliance Corporation, Rockville, MD.

Poster Board Number .....................................266  CYTOTOXICITY OF ARSENICALS ON HUMAN BRONCHIAL EPITHELIAL CELLS IN VITRO. L. Arnold, S. Kakiuchi-Kiyota, K. L. Pennington and S. M. Cohen, University of Nebraska Medical Center, Omaha, NE.

Poster Board Number .....................................267  FORMATION OF TAMOXIFEN (TAM)-DNA ADDUCTS IN MONKEYS AND HUMANS. E. Hernandez; Ramon1, K. John1, R. A. Woodward2 and M. C. Poirier1, 1NCI/NIH, Bethesda, MD and 2NICHHD/NIH, Poolsville, MD.

Poster Board Number .....................................268  INVOLVEMENT OF CONSTITUTIVE ANDROSTANE RECEPTOR (CAR) IN THE PROCESS OF LIVER HYPERTRPHY AND HEPATOCARCINOGENESIS-INDUCED BY CYP2B-INDUCING NON-GENOTOXIC HEPATOCARCINOGENS IN MICE (2). K. Inoue1, M. Yoshida1, Y. Sakamoto2, M. Takahashi1, Y. Taketa1, S. Hayashi1, S. Orawa2 and A. Nishikawa1, 1Division of Pathology, National Institute of Health Sciences, Tokyo, Japan and 2School of Pharmacy, Iwate Medical University, Iwate, Japan.

Poster Board Number .....................................269  DNA DAMAGE MODULATION IN XPA(+/−) P53(+/-) AND WILD TYPE C57BL/6 MICE FED BENZO[A]PYRENE WITHOUT OR WITH CHLOROPHYLLIN (CHL) FOR 28 DAYS. K. Job1, M. I. Churchill1, F. A. Beland2, M. M. Pratt3, G. McMullen1 and M. C. Poirier1, 1Center for Cancer Research, National Cancer Institute, NIH, Bethesda, MD, 2Division of Biochemical Toxicology, National Center for Toxicological Research, U.S. FDA, Jefferson, AR and 3National Center for Environmental Assessment, Office of Research and Development, U.S. EPA, Washington, D.C.

Poster Board Number .....................................270  EXPOSURE TO URBAN PARTICULATE MATTER INDUCES A DECREASE IN E-CADHERIN EXPRESSION IN MULTICELLULAR TUMOR SPHEROIDS, F. M. Bernal-Herrera1, C. M. Garcia-Cuellar2, R. Morales-Barcenas3, Y. Sanchez-Perez2 and Y. J. Chirino1, 1Unidad de Biomedicina, Universidad Nacional Autonoma de Mexico, Edo. Mex, Mexico and 2Subdireccion de Investigacion Basica, Instituto Nacional de Cancerologia, Mexico, Mexico. Sponsor: H. Glauert.

Poster Board Number .....................................271  STUDIES ON METABOLISM OF 1, 4-DIOXANE. W. Eck1, J. Fishbein2, B. Ginevan2, N. Koissi1 and N. Shah1, 1Directorate of Toxicology, U.S. Army Public Health Command, Aberdeen Proving Ground, MD and 2Department of Chemistry and Biochemistry, University of Maryland Baltimore County, Linthicum, MD.

Poster Board Number .....................................272  THE IN VIVO ROLE OF ADIPOCYTE-SPECIFIC PPAR-γ IN ENVIRONMENTAL RISK FACTOR-MEDIATED BREAST TUMOURIGENESIS. G. Skelhorne-Gross1, N. Peterson1, R. Rubino1, S. SentGupta1 and C. Nicol4, 1Pathology and Molecular Medicine, Queen’s University, Kingston, ON, Canada and 2Division of Cancer Biology and Genetics, Queen’s University, Kingston, ON, Canada.
50th Anniversary Annual Meeting and ToxExpo™

Program Description (Continued)

Abstract #

Thursday Morning, March 10
9:00 AM to 11:45 AM
Room 143

Environment and Disease

Syposium Session: Developmental Exposure to Environmental Toxicants: From Persistent Toxicities to Diseases

Chairperson(s): Michele La Merrill, Mount Sinai School of Medicine, New York, NY, and Thomas Simones, University of Montana, Missoula, MT.

Sponsor:
Postdoctoral Assembly

Endorsed by:
Mechanisms Specialty Section
Reproductive and Developmental Toxicology Specialty Section

Ontogenesis involves extensive stem cell expansion and differentiation to create the physical architecture of tissues. This process is mediated by the coordination of multiple developmental pathways that involve a large number of key molecular regulators. Deregulation of these pathways may lead to chronic diseases, such as obesity, diabetes, cancer, and cardiovascular disease, which altogether are responsible for the majority of deaths in the United States. Recent experimental evidence suggest that if a developing organism is subjected to certain stressors, including exposure to various environmental toxicants, during the highly susceptible window of ontogenesis, the physical architecture and molecular milieu may be persistently altered, leading to dysfunction and disease in the adults. Correlations have been established between developmental exposure to certain environmental toxicants and adult diseases. Novel molecular and cellular approaches are being utilized to elucidate the mechanisms by which environmental toxicants disrupt developmental pathways and cause adult diseases. We will demonstrate both the breadth and the Department of the most cutting edge research in the toxicities and molecular mechanisms that support this emerging paradigm. Persistent and novel toxicities resulting from developmental exposures to environmental toxicants of human relevance, including halogenated hydrocarbons, metals, and phenols, will be presented in this symposium. In summary, our attention will be devoted to focusing on how these exposures during development give rise to long-term adverse effects or disease outcomes in endocrine, immune, nervous, metabolic, and reproductive systems.

#2662 9:00 DEVELOPMENTAL EXPOSURE TO ENVIRONMENTAL TOXICANTS: FROM PERSISTENT TOXICITIES TO DISEASES. M. La Merrill, T. Simones, B. Hannas, J. Larocca, S. Li, B. Winans, K. M. Streifel, E. Tokar and E. Kendall. Mount Sinai School of Medicine, New York, NY, University of Montana, Missoula, MT, U.S. EPA, Research Triangle Park, NC.


Abstract #

Thursday Morning, March 10
9:00 AM to 11:45 AM
Room 150

Symposium Session: Vascular Injury: A Figment of Your Inflammation?

Chairperson(s): Holly Smith, Eli Lilly and Company, Greenfield, IN, and Michael Lawton, Pfizer, Groton, CT.

Sponsor:
Regulatory and Safety Evaluation Specialty Section

Endorsed by:
Drug Discovery Toxicology Specialty Section

Because drug-induced vascular injury (Division) is a process rather than a single disease entity, diagnosing and predicting it is like chasing an apparition—there are many sightings but the descriptions are often different. The preclinical finding of vascular injury was initially described in rats and dogs, but has also been observed in mice and non-human primates in recent years. While vasculitis in humans appears to be immune-related, the triggers that induce blood vessels to become damaged and inflamed in animals have not been determined. In addition, it is difficult to distinguish the primary event from secondary inflammation that accompanies the induced damage. In animals, the injury can be observed within hours of drug exposure, whereas in humans it may not appear for weeks or months. With the disparity of observations between preclinical species and humans, it is unclear whether drugs that cause vascular injury or immune-mediated vasculitis in animals do so in humans, and whether a finding of preclinical vascular injury predicts the risk of vascular injury in humans. As pharmaceutical companies expand their drug discovery efforts into new chemical spaces, higher incidences of preclinical Division are being observed in a broader variety of organs, which continue to impede drug development. If Division in animals represents a real hazard to humans, it is paramount for the pharmaceutical industry to...
Program Description (Continued)

Abstract 

... need to develop means for early detection and monitoring of vascular injury. An overview of the current understanding of the pathology of vascular injury will be provided and the challenges in diagnosing and predicting Division with new advances in biomarker strategies will be discussed. In an exploration of the impact of Division on drug development, investigational models and case studies will be shared using examples of small and large molecule-induced vascular injury in animals.

#2669 9:00 VASCULAR INJURY: A FIGMENT OF YOUR INFLAMMATION? H. W. Smith* and M. P. Lawton*, Eli Lilly and Company, Indianapolis, IN and Pfizer, Groton, CT.

9:00 INTRODUCTION. Holly Smith


#2671 9:37 THE IMPACT OF VASCULAR INJURY ON DRUG DEVELOPMENT. W. Kerna, Accelcent Partners LLC, Harvard, MA.


Thursday Morning, March 10
9:00 AM to 11:45 AM
Room 151

Workshop Session: Are We There Yet? Attrition in the Pharmaceutical Industry and Impactful Strategies for Reducing Failure

Chairperson(s): Cynthia Afshari, Amgen, Inc., Thousand Oaks, CA, and James Stevens, Lilly Research Laboratories, Indianapolis, IN.

Sponsor: Drug Discovery Toxicology Specialty Section

Endorsed by: Regulatory and Safety Evaluation Specialty Section

There have been many reports over the years that indicate a significant amount of attrition of candidate molecules in the pharmaceutical industry is due to safety related failures. In recent years new approaches have been deployed to shift safety related attrition earlier in the pipeline. The impact of these new strategies will not be fully realized until they are in place for a number of years. In the meantime, there is no way to objectively assess to what extent and in what manner we are improving as an industry and what further changes and areas of research are needed. Therefore it is important to begin dialogue that aims to provide a forum to discuss contemporary views of the rate and causes of current safety related pharmaceutical attrition. An analysis of the strategies that appear to be most useful (or least useful) to drive this attrition earlier, i.e. fail fast will be included. Varying perspectives will be provided on the primary reasons for safety related attrition within companies and the current strategies deployed to address the problem. Special focus will be given to the early stage portfolio work through the first in human trials. The strategies that will be discussed will include the integration of in vitro and in vivo models with technologies such as imaging platforms, genomics, and protein/biochemical analyses. Gaps or areas for future research support will be highlighted as appropriate.


#2676 9:05 THE INTEGRATION OF MULTI-DISCIPLINARY APPROACHES WITH DISCOVERY TOXICOLOGY IN OPTIMIZING DRUG CANDIDATES. B. D. Car. Pharmaceutical Candidate Optimization, Bristol-Myers Squibb, Princeton, NJ.


#2681 11:19 INTEGRATION OF IN VITRO AND IN SILICO APPROACHES INTO AN ATTRITION-DRIVEN EARLY SAFETY ASSESSMENT STRATEGY. J. L. Stevens. Toxicology, Lilly Research Laboratory, Indianapolis, IN.
system combined with complex genetic susceptibilities are considered crucial. In case of systemic hypersensitivity to drugs, i.e. drug allergy, immune responses to non-self drug-modified antigens may be intermingled with responses to self-antigens. Immune responses against self-antigens are hallmark of autoimmune diseases; however, a low level of self-reactivity is present in healthy individuals and is considered important for immunological homeostasis. The distinction between allergic and autoimmune responses induced by chemicals may be a very fine line, reflecting the relative antigenicity of the novel- and self-proteins involved. Importantly, development of allergic or autoimmune clinical phenomena, including nature and type, may depend on individual susceptibilities (i.e. genetic polymorphisms), or coinciding environmental triggers (e.g. microbial interactions). The complex etiology and lack of mechanistic knowledge is a challenge for risk assessment as at present no single model is available that may predict chemical-induced autoimmunity and systemic allergy. Hazard and risk assessment of these phenomena will likely require a more holistic translational approach. Exploring the similarities and differences between chemical-induced autoimmunity and systemic allergy is an important step to establish a methodological framework to identify chemicals with the potential to induce these immune system toxicities. Therefore we will focus on the complex relationship between chemical-induced autoimmunity and systemic allergy and the identification of methods, mechanistic commonalities and strategies that would be useful for risk assessment.
In 2009, the Family Smoking Prevention and Tobacco Act was passed by Congress, signed into law, and the U.S. FDA was tasked with regulating tobacco. The U.S. FDA's stated goals are to use the best available science to guide the development and implementation of effective public health strategies to reduce the burden of illness and death caused by tobacco products. A potential component of this effort is the implementation of a risk/harm reduction strategy, in which the removal or reduction of harmful ingredients within tobacco products is one possible approach. In this regard, a joint World Health Organization (WHO) and International Agency for Cancer Research (IARC) working group proposed a strategy for lowering toxicant yields in tobacco products based on animal and human toxicity data for individual constituents. This risk based approach requires the prioritization of main stream smoke (MSS) constituents according to their individual risk of developing cancer. In this context, we will explore current and new strategies that have the potential to identify priority constituents for reduction. This will include strategies that utilized conventional approaches to MSS risk assessment which calculate risks according to exposure and hazard. A potential alternative approach for evaluation of MSS constituents exploits a strategy developed by the International Program on Chemical Safety (IPCS) to improve individual chemical risk assessment utilizes a weight-of-evidence approach within a mode-of-action (MOA) framework. Finally, a Quantitative Risk Assessment (QRA) strategy will be considered which combines advanced computational and experimental lung dosimetry, smoking patterns and behavior data, human variability, and available toxicity/cancer potency factors to develop compound-specific comparative estimates of risk for MSS constituents. The primary focus will be placed on both the strengths and weaknesses of the various approaches in the context of a MSS harm reduction strategy.
Deadline for Proposals for SOT 2012 Annual Meeting Sessions: April 30, 2011

WHY SUBMIT A PROPOSAL?

1. To present new developments in toxicology.
2. To provide attendees an opportunity to learn about state-of-the-art technology and how it applies to toxicological research.
3. To provide attendees an opportunity to learn about the emerging fields and how they apply to toxicology.

2012 Thematic Approach

The Scientific Program Committee will continue the thematic approach for the 2012 Annual Meeting. Additional details regarding the themes will be available on the SOT Web site.

Please note that while we are actively soliciting proposals for the themes, all proposal submissions will be reviewed for their timeliness and relevance to the field of toxicology.

SESSION TYPES

Continuing Education—Emphasis on quality presentations of generally accepted, established knowledge in toxicology

Note: CE Courses will be held on Sunday.

Symposia—Cutting-edge science; new areas, concepts, or data

Workshops—State-of-the-art knowledge in toxicology

Roundtables—Controversial subjects

Historical Highlights—Review of a historical body of science that has impacted toxicology

Informational Sessions—Scientific planning or membership development

Education-Career Development Sessions—Sessions that provide the tools and resources to toxicologists that will enhance their professional and scientific development

Submit your proposal on-line at www.toxicology.org
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  - Specialty Section Graduate Committee

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Michael P. Waalkes  
Councilor  
2010–2012

- CCT Conferences Committee, Council Contact
- CE Committee, Council Contact
- Council Subcommittees:
  - FDA/NCTR Liaison Group, Member
  - Non-SOT Meeting, Component, Regional Chapter, and Global Funding, Member
- Postdoctoral Assembly, Council Contact
- Professional Needs Assessment Task Force, Council Contact

T: 919.541.2328  F: 919.541.3970
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Shawn Douglas Lamb  
Executive Director

- Audit Committee, Staff Liaison
- Endowment Fund Board, Ex-Officio Member
- Finance Committee, Staff Liaison
- Global Strategy Task Force, Staff Liaison
- IUTOX Councilors, Staff Liaison
- Nominating Committee, Staff Liaison

T: 703.438.3115  F: 703.438.3113
shawnl@toxicology.org

up-to-date information at www.toxicology.org
Elected and Appointed Committees

Elected Committees

Awards Committee
Harold Zinick, Chair (2010–2011), Member (2009–2011)
Robert E. Chapin, Member (2010–2012)
Lori A. Dostal, Member (2009–2011)
Jay I. Goodman, Member (2009–2011)
Douglas A. Keller, Member (2009–2011)
Serrine S. Lau, Member (2010–2012)
Ruth A. Roberts, Member (2010–2012)
William Slikker, Jr.*
Matthew J. Price**

Membership Committee
Darol E. Dodd, Member (2008–2011)
Terry Gordon, Member (2009–2012)
Abigail C. Jacobs, Member (2009–2013)
Robert L. Tanguay, Member (2009–2012)
Alice R. Villalobos, Member (2010–2013)
James R. Roede, Postdoctoral Representative (2010–2011)
Dennis James Paustenbach, Member (2007–2012)
Serrine S. Lau, Member (2009–2013)
Ruth A. Roberts, Member (2010–2012)
William Slikker, Jr.*
Matthew J. Price**

Nominating Committee
Deborah A. Cory-Slechta, Member (2010–2012)
Vicki L. Dellarco, Member (2010–2012)
Julie E. Goodman, Member (2009–2011)
Michael F. Hughes, Member (2009–2011)
Kimberley Anne Treinen, Member (2010–2012)
Kendall B. Wallace, Member (2009–2011)
Cheryl Lyn Walker*
Shawn Douglas Lamb **

Audit Committee
Jeffrey M. Charles, Member (2007–2012)
David L. Eaton, Member (2010–2013)
Cheryl Lyn Walker*
Shawn Douglas Lamb **

Board of Publications
Hartmut Jaeschke, Chair (2009–2011), Member (2007–2011)
Janice E. Chambers, Member (2010–2014)
Michael P. Holsapple, Member (2009–2011)
Serrine S. Lau, Member (2009–2013)
Lois D. Lehman–McKeeman, ToxSci Editor, Auditor (2003–2011)
Ivan Rusyn, Member (2008–2012)
Jon C. Cook*, ad hoc (2010–2011)
Marcia Lawson**

Career Resource and Development Committee
Carmen Booker, Member (2010–2011)
Marila Cordeiro-Stone, Member (2009–2012)
Aimen K. Farraj, Member (2010–2013)
Barbara L. F. Kaplan, Member (2010–2013)
Richard Davis Storer, Member (2009–2012)
Courtney E. W. Sulentic, Member (2010–2013)
Vasilis Vasilou, Member (2009–2012)
Jocelyn D. B. Zhang, Member (2008–2011)
Chidozie Joshua Amuzie, Postdoctoral Representative (2010–2011)
Xiaochu Zhang, Member Representative (2010–2011)
Donald A. Fox*
Matthew J. Price**

Committee on Diversity Initiatives
Yolanda Banks Anderson, Member (2009–2012)
Nathan J. Cherrington, Member (2009–2012)
Julio Cesar Davila, Member (2008–2011)
Erik P. Hines, Member (2010–2013)
Elaine Valerie Knight, Member (2010–2013)
José E. Manautou, Member (2009–2011)
W. David McGuinn, Member (2008–2011)
Jennifer L. Rayner, Member (2009–2012)
Leslie Recio, Member (2010–2013)
Enrique Fuentes-Mattei, Postdoctoral Representative (2010–2011)
Chad Broker, Student Representative (2010–2011)
Susan J. Borghoff*
Betty Eidemiller**

Appointed Committees

50th Year Anniversary SOT Task Force (FAST)
Meryl H. Karol, Co-Chair, Member (2006–2012)
Linda S. Birnbaum, Member (2006–2012)
Gary P. Carlson, Member (2006–2012)
Jack H. Dean, Member (2007–2012)
Dennis J. Devlin, Member (2007–2012)
John Doull, Member (2006–2012)
David L. Eaton, Member (2006–2012)
William C. Hays, Member (2006–2012)
Ernest Hodgson, Member (2006–2011)
Lisa A. Opanashuk, Member (2007–2012)
Dennis James Paustenbach, Member (2007–2012)
Robert A. Scala, Member (2006–2012)
Ronald B. Tjalkens, Member (2007–2012)
Michael P. Holsapple*
Clarissa Russell Wilson**

Audit Committee
Jeffrey M. Charles, Member (2007–2012)
David L. Eaton, Member (2010–2013)
Cheryl Lyn Walker*
Shawn Douglas Lamb **

Board of Publications
Hartmut Jaeschke, Chair (2009–2011), Member (2007–2011)
Janice E. Chambers, Member (2010–2014)
Michael P. Holsapple, Member (2009–2011)
Serrine S. Lau, Member (2009–2013)
Lois D. Lehman–McKeeman, ToxSci Editor, Auditor (2003–2011)
Ivan Rusyn, Member (2008–2012)
Jon C. Cook*, ad hoc (2010–2011)
Marcia Lawson**

Career Resource and Development Committee
Carmen Booker, Member (2010–2011)
Marila Cordeiro-Stone, Member (2009–2012)
Aimen K. Farraj, Member (2010–2013)
Barbara L. F. Kaplan, Member (2010–2013)
Richard Davis Storer, Member (2009–2012)
Courtney E. W. Sulentic, Member (2010–2013)
Vasilis Vasilou, Member (2009–2012)
Jocelyn D. B. Zhang, Member (2008–2011)
Chidozie Joshua Amuzie, Postdoctoral Representative (2010–2011)
Xiaochu Zhang, Member Representative (2010–2011)
Donald A. Fox*
Matthew J. Price**

Committee on Diversity Initiatives
Yolanda Banks Anderson, Member (2009–2012)
Nathan J. Cherrington, Member (2009–2012)
Julio Cesar Davila, Member (2008–2011)
Erik P. Hines, Member (2010–2013)
Elaine Valerie Knight, Member (2010–2013)
José E. Manautou, Member (2009–2011)
W. David McGuinn, Member (2008–2011)
Jennifer L. Rayner, Member (2009–2012)
Leslie Recio, Member (2010–2013)
Enrique Fuentes-Mattei, Postdoctoral Representative (2010–2011)
Chad Broker, Student Representative (2010–2011)
Susan J. Borghoff*
Betty Eidemiller**

* Council Contact
** Staff Liaison
TBD=To be determined
Elected and Appointed Committees (Continued)

Communications Committee
George M. Gray, Member (2010–2012)
Paul C. Howard, Member (2009–2012)
Daland R. Juberg, Member (2008–2011)
José E. Manautou, Member (2010–2012)
Laine Peyton Myers, Member (2008–2011)
Jennifer Orme-Zavaleta, Member (2010–2013)
Timothy P. Pastoor, Member (2010–2013)
Katie Sprugel, Member (2008–2011)
Prasad Krishnan, Postdoctoral Representative (2010–2011)
Heather Bolstad, Student Representative (2009–2011)
Peter L. Goering*
Martha Lindauer**

Communications Subcommittee: Animals in Research Working Group
Laine Peyton Myers, Chair (2010–2011), Member (2010–2011)
Denise E. Fillman-Holliday, Member (2009–2011)
Steve G. Gilbert, Member (2009–2011)
Betina J. Lew, Member (2010–2011)
Timothy P. Reilly, Member (2009–2011)
Martha Lindauer**

Communications Subcommittee: Congressional Task Force
George B. Corcoran, Chair (2009–2011), Member (2009–2011)
George M. Gray, Member (2009–2011)
Carol J.M. Henry, Member (2010–2011)
Michael P. Holsapple, Member (2010–2011)
Erik R. Janus, Member (2010–2011)
Daland R. Juberg, Member (2009–2011)
Timothy LaBranche, Member (2010–2011)
Mark W. Lafranconi, Member (2010–2011)
James C. Lamb, IV, Member (2010–2011)
Martin Stephens, Member (2010–2011)
Martha Lindauer**

Communications Subcommittee: Editorial Board
Katie Sprugel, Chair (2010–2011), Member (2010–2011)
Drew A. Badger, Member (2010–2011)
James S. Bus, Member (2010–2011)
Paul C. Howard, Member (2010–2011)
Paul C. Howard, Member (2010–2011)
Lois D. Lehman–McKeeman, Member (2009–2011)
Jennifer Gibson Schnellmann, Member (2009–2011)
Judith T. Zelikoff, Member (2009–2011)
Heather Bolstad, Student Representative (2010–2011)
Martha Lindauer**

Contemporary Concepts in Toxicology (CCT) Conferences Committee
James S. Bus, Member (2010–2013)
Chris Corton, Member (2010–2013)
Dale Hattis, Member (2008–2011)
James P. Luyendyk, Member (2008–2011)
Timothy Richard Zacharewski, Member (2009–2012)
Michael P. Waalkes*
Clarissa Russell Wilson**

Continuing Education Committee
Christopher A. Reilly, Chair (2010–2011), Member (2008–2011)
Hadi Falahatpisheh, Member (2008–2011)
Kathleen Gabrielson, Member (2009–2012)
Hanan N. Ghantous, Member (2010–2013)
Debra L. Laskin, Member (2009–2012)
James Patrick O’Callaghan, Member (2010–2013)
J. Craig Rowlands, Member (2010–2013)
Stephen H. Safe, Member (2009–2012)
Yanan Tian, Member (2008–2011)
Mayuranjan Mitra, Postdoctoral Representative (2010–2011)
Colleen McLaughlin, Student Representative (2010–2011)
Michael P. Waalkes*
David Rosse**

Council Subcommittee for Non-SOT Meeting, Component, Regional Chapter, and Global Funding
Lawrence R. Curtis, Co-Chair (2010–2011), Member (2009–2011)
John B. Morris, Co-Chair (2010–2011), Member (2010–2011)
Susan J. Borghoff, Member (2009–2011)
Peter L. Goering, Member (2009–2011)
Michael P. Waalkes, Member (2010–2012)
Marcia Lawson**

Council Subcommittee on Social Networking
Susan J. Borghoff, Chair (2009–2011), Member (2009–2011)
Matthew S. Bogdanoff, Member (2009–2011)
William Slizker, Jr., Member (2010–2011)
Matthew J. Price**

Council Subcommittee on SOT Affiliates and Sponsors
Susan J. Borghoff, Chair (2010–2011), Member (2010–2011)
Matthew S. Bogdanoff, Member (2010–2011)
Lawrence R. Curtis, Member (2010–2011)
John B. Morris, Member (2010–2011)
Clarissa Russell Wilson**

Data Task Force
Ronald N. Hines, Member (2009–2011)
Martin A. Philbert, Member (2009–2011)
Susan J. Borghoff*
Debbie O’Keefe**
Betty Eidemiller**

Disease Prevention Task Force
Matthew J. Campen, Member (2008–2011)
Erica L. Dahl, Member (2009–2012)
Bruce A. Fowler, Member (2010–2013)
James Patrick Mastin, Member (2008–2011)
Donna L. Mendrick, Member (2010–2013)
Matthew S. Bogdanoff*
Clarissa Russell Wilson**
Elected and Appointed Committees (Continued)

**Education Committee**
Aaron Barchowsky, Chair (2009–2011), Member (2007–2011)
Lorraine A. Buckley, Member (2009–2012)
Dori R. Germolec, Member (2008–2011)
Robin C. Guy, Member (2009–2012)
Thomas A. Lewandowski, Member (2010–2013)
Jean C. Pfau, Member (2010–2013)
Stephen B. Pruet, Member (2008–2011)
Sidhartha D. Ray, ad hoc (2010–2011)
Xianai Wu, Postdoctoral Representative (2010–2011)
Arunkumar Asaithambi, Student Representative (2010–2011)
Matthew S. Bogdanoff*  
Betty Eidemiller**

**Education Subcommittee: K–12 Task Force**
Aaron Barchowsky, Education Committee Chair (2009–2011)
Pedro L. Del Valle, Member (2010–2011)
Suzanne Compton Fitzpatrick, Member (2009–2011)
Thomas J. Flynn, Member (2010–2011)
Kathleen Gabrielson, Member (2009–2011)
Joanna M. Matheson, Member (2009–2011)
Dori R. Germolec, Education Committee Liaison (2009–2011)
Betty Eidemiller**

**Education Subcommittee: ToxLearn Work Group**
John H. Duffus, Member (2004–2011)
Tammy R. Dugas, Member (2006–2011)
Sue M. Ford, Member (2006–2011)
Jane Huggins, Member (2006–2011)
Michael A. Kamrin, Member (2004–2011)
Paul Wright, Member (2004–2011)
Lorraine A. Buckley, Education Committee Liaison (2010–2012)
Betty Eidemiller**

**Education Subcommittee: Undergraduate Education**
Aaron Barchowsky, Chair (2009–2011), Member (2009–2011)
Teresa G. Doddi-Butera, Member (2009–2011)
Sue M. Ford, Member (2009–2011)
Wesley G.N. Gray, Member (2009–2011)
Sara Heggland, Member (2009–2011)
Mindy F. Reynolds, Member (2009–2011)
Jean C. Pfau, Education Committee Liaison (2011–2013)
Betty Eidemiller**

**Endowment Fund Board**
Norbert E. Kaminski, Member (2007–2011)
Martin A. Philbert, Member (2010–2013)
Kenneth S. Ramos, Member (2009–2011)
Jacqueline H. Smith, Member (2008–2011)
Robert G. Tariff, Member (2009–2013)
Cheryl Lyn Walker*, Member (2010–2012)
James S. Woods, Member (2009–2012)
Lawrence R. Curtis, Ex-Officio Member (2009–2011)
Michael P. Holsapple, Ex-Officio Member (2010–2011)
Shawn Douglas Lamb, Ex-Officio Member (2006–2011)
John B. Morris, Ex-Officio Member (2010–2013)
Clarissa Russell Wilson**

**Exhibitor Liaison Working Group**
Cyndi Bono, HT (ASCP), Member (2009–2012)
Valerie Cole, Member (2009–2011)
Steve Hachtman, Member (2009–2012)
Lawrence R. Curtis*
Liz Kasabian**

**Finance Committee**
Gail Darlene Chapman, Member (2008–2011)
Jon C. Cook, Member (2010–2012)
John DiGiovanni, Member (2009–2012)
Michael P. Holsapple, Member (2009–2011)
Craig Marcus, Member (2010–2013)
John B. Morris, Member (2010–2012)
Shawn Douglas Lamb**

**Government Liaison Groups**

**CDC/ATSDR**
Peter L. Goering, Chair (2010–2011), Member (2010–2011)
Matthew S. Bogdanoff, Member (2010–2011)
Susan J. Borghoff, Member (2010–2011)
Bruce A. Fowler, Agency Contact (2010–2011)
Martha Lindauer**

**EPA**
Matthew S. Bogdanoff, Chair (2010–2011), Member (2010–2011)
Lawrence R. Curtis, Member (2010–2011)
John B. Morris, Member (2010–2011)
Harold Zenick, Agency Contact (2010–2011)
Martha Lindauer**

**FDA/NCTR**
Michael P. Holsapple, Chair (2010–2011), Member (2010–2011)
Jon C. Cook, Member (2010–2011)
Michael P. Waalkes, Member (2010–2011)
Ron N. Hines, Ex Officio Member (2010–2011)
James A. Popp, Ex Officio Member (2010–2011)
Margaret Ann Miller, Agency Contact (2010–2011)
Martha Lindauer**

**NICHHD**
Susan J. Borghoff, Chair (2010–2011), Member (2010–2011)
Michael P. Holsapple, Member (2010–2011)
Cheryl Lyn Walker, Member (2010–2011)
Martha Lindauer**

**NIEHS**
Jon C. Cook, Member (2010–2011)
Donald A. Fox, Member (2010–2011)
John M. Balbus, Agency Contact (2010–2011)
Martha Lindauer**

**NIOSH**
Peter L. Goering, Member (2010–2011)
William Slikker, Jr., Member (2010–2011)
Martin A. Philbert, Ex-Officio Member (2010–2011)
Martha Lindauer**
Global Strategy Task Force
S. Satheesh Anand, Association of Scientists of Indian Origin (2009–2012)
Silvia B.M. Barros, Member (2009–2012)
Kok Wah Hew, Member (2009–2012)
Betabet Quintanilla–Vega, Hispanic Organization of Toxicologists (2009–2012)
Denise Robinson Gravatt, Member (2009–2012)

Historian
Peter L. Goering*
Clarissa Russell Wilson**

Nominating Group for Honorary Members
Jon C. Cook, Member (2010–2011)
Cheryl Lyn Walker*, Member (2010–2011)
Matthew J. Price**

Postdoctoral Assembly (PDA) Executive Board
Sarah Campion, Chair (2010–2011), Member (2009–2011)
Michele La Merrill, Vice-Chair (2010–2012)
Vijay M. Kale, Secretary (2010–2011)
Marie Chantale Fortin, Treasurer (2010–2011)
Anne Elizabeth Loccisano, Councilor (2010–2011)
Michael P. Waalkes*
Betty Eidemiller**

Professional Needs Assessment Task Force
Mary Beth Genter, Chair (2010–2011), Member (2009–2012)
Gary P. Carlson, Member (2010–2013)
Barbara D. Davis, Member (2009–2011)
James C. Lamb, IV, Member (2008–2011)
James A. Popp, Member (2009–2012)
Mari S. Stavanja, Member (2010–2013)
Michael P. Waalkes*
Marcia Lawson**

Job Market Survey Subcommittee
J. Kevin Kerzee, Chair† (2010–2011), Member (2010–2012)
Mary Beth Genter†, Member (2010–2012)
James A. Popp†, Member (2010–2012)
Richard Davis Storer‡, Member (2010–2012)
Vasilis Vasilion, Member (2010–2012)
Betty Eidemiller, Data Task Force Liaison
Marcia Lawson**

Research Funding Committee
Michael Aschner, Member (2010–2013)
Jonathan A. Doorn, Member (2009–2012)
Joel G. Pounds, Member (2008–2011)
Alvaro Puga, Member (2008–2011)
Hollie I. Swanson, Member (2010–2013)
Donald A. Fox*
Betty Eidemiller**

Scientific Liaison Task Force
John M. DeSesso, Member (2010–2011)
Kenneth L. Hastings, Member (2010–2013)
Thomas B. Knudsen, Member (2008–2011)
Qiang Ma, Member (2010–2013)
Dennis J. Naas, Member (2010–2012)
Jeffrey J. Everitt, ad hoc (2008–2011)
John B. Morris*
Marcia Lawson**

Scientific Program Committee
Cynthia A. Afshari, Member (2008–2011)
Leigh Ann Burns Naas, Member (2009–2012)
Myrtle A. Davis, Member (2008–2011)
Paul M.D. Foster, Member (2009–2012)
Annie M. Jarabek, Member (2009–2012)
Abby A. Li, Member (2010–2014)
Charlene A. McQueen, Member (2007–2011)
Terrence J. Monks, Member (2008–2011)
Richard S. Pollenz, Member (2008–2011)
James L. Stevens, Member (2010–2014)
David B. Warheit, Member (2009–2012)
Peter K. Working, Member (2010–2014)
Nichelle Sankey**

†Representatives from the Professional Needs Assessment Task Force
‡Representatives from the Career Resource and Development Committee
Elected and Appointed Committees (Continued)

Student Advisory Council (SAC)
Ofek Bar-Ilan, President (2010–2011), Member (2009–2011)
Thomas Simones, Secretary-Treasurer (2010–2011), Member (2010–2011)
James Michael Berg, Member (2010–2011)
Michael G. Borland, Member (2010–2011)
Donald A. Fox*
David Rosse**

Student Advisory Council (SAC): Regional Chapter/Special Interest Group Graduate Committee
Ofek Bar-Ilan, Chair (2010–2011), Member (2010–2011)
Erin M. G. Allen, Central States (2010–2011)
Kevin Michael Beggs, Michigan (2010–2011)
Heather M. Bolstad, Northern California (2010–2011)
Josephine A. Bonventre, Mid-Atlantic (2010–2011)
Marie M. Bourgeois, Southeastern (2010–2011)
Chad Nicholas Brocker, Mountain West (2010–2011)
Tammy Elmergreen, Midwest (2010–2011)
Jennifer Leigh Head, Women in Toxicology (2010–2011)
Senthilkumar Perumal Kuppusamy, Association of Scientists of Indian Origin (2010–2011)
Narae Lee, Korean Toxicologists Association in America (2010–2011)
Colleen Elizabeth McLaughlin, National Capital (2010–2011)
Sarah Y. Skolness, Northland (2010–2011)
Parrisa S. Solaimani, Southern California (2010–2011)
Jose A. Torres, Hispanic Organization of Toxicologists (2010–2011)
Chad S. Weldy, Pacific Northwest (2010–2011)
Li Xu, American Association of Chinese in Toxicology (2010–2011)
Donald A. Fox*
David Rosse**

Student Advisory Council (SAC): Specialty Section Graduate Committee
Thomas Simones, Chair (2010–2011)
   Regulatory and Safety Evaluation (2010–2011)
Arunkumar Asaithambi, Drug Discovery Toxicology (2010–2011)
Christopher M. Carosino, Biological Modeling (2010–2011)
Fanny L. Casado-Pena, Biotechnology (2010–2011)
Jill Anne Franzosa, Molecular Biology (2010–2011)
Nicholas Heger, Reproductive and Developmental Toxicology (2010–2011)
Christina A. Hickey, Inhalation and Respiratory (2010–2011)
Lydia Marie Louis, Occupational and Public Health (2010–2011)
Jingtao Lu, Comparative and Veterinary Toxicology (2010–2011)
Jason P. Magby, Neurotoxicology (2010–2011)
Ashley P. Pettit, Cardiovascular Toxicology (2010–2011)
Ronald B. Pringle, Mixtures (2010–2011)
Gayatri Sankaran, Dermal Toxicology (2010–2011)
Lu Wang, Toxicologic and Exploratory Pathology (2010–2011)
Sandra S. Wise, Metals (2010–2011)
Xiaochu Zhang, Immunotoxicology (2010–2011)
Donald A. Fox*
David Rosse**

SOT Liaison Representatives

American Association for the Advancement of Science (AAAS) Representative
Charlene A. McQueen

Association for Assessment and Accreditation of Laboratory Animal Care (AAALAC) Board of Trustees Representative
Loren Koller

International Union of Toxicology (IUTOX) Councilors
Jon C. Cook, Member (2010–2013)
Jay I. Goodman, Member (2010–2013)
Michael P. Holsapple*, Member (2010–2013)
William Slikker, Jr., Member (2010–2013)
Cheryl Lyn Walker, Member (2010–2013)
Shawn Douglas Lamb**
Regional Chapter—Officers

Allegheny-Erie (86*)
Kelly A. Brant, President
Sachin S. Devi, President-Elect
Aaron Barchowsky, Vice President
Robin E. Gandel, Secretary
William James Mackay, Treasurer
Nicolas A. Stewart, Past President
James P. Fabisiak, Councilor
Jim Scabilloni, Councilor
Mark Weinberg, Councilor
Fujun Liu, Postdoctoral Representative
Arpit Mehta, Student Representative

Central States (87*)
Jonathan A. Doorn, President
Lora L. Arnold, President-Elect
Hans-Joachim Lehmler, Secretary/Treasurer
Anumanta G. Kanthasamy, Past President
James P. Luyendyk, Councilor
Susan C. McKarns, Councilor
Shashi K. Ramaiah, Councilor
Xiaxai Wu, Postdoctoral Representative
Erin M. G. Allen, Student Representative

Gulf Coast (111*)
Bhagavatula Moothy, President
Erica D. Bruce, Vice President
Christie M. Sayes, Secretary
Alice R. Villalobos, Treasurer
Shawn B. Bratton, Past President
R. Timothy Miller, Councilor
Laura M. Plunkett, Councilor
Gensheng Wang, Postdoctoral Representative
James Michael Berg, Student Representative

Lake Ontario (21*)
TBA

Michigan (175*)
Joanne Caroline English, President
Bjorn A. Thorsrud, President-Elect
Robert G. Ellis-Hutchings, Secretary/Treasurer
Alan P. Brown, Past President
Nancy Anne M. Berdasco, Councilor
Alice Hudder, Councilor
Roseann L. Vorce, Councilor
Rohit Singhal, Postdoctoral Representative
Kevin Michael Beggs, Student Representative

Mid-Atlantic (503*)
Kenneth R. Reuhl, President
Raymond G. York, Vice President
Janet C. Gould, Vice President-Elect
Gloria B. Post, Secretary
Lauren M. Tarantino Hutchison, Treasurer
Anthony R. Schatz, Past President
Lin Mantell, Councilor
John Michael Mitchell, Councilor
Karl A. Traul, Councilor
TBA, Postdoctoral Representative
Josephine A. Bonventre, Senior Student Representative
Nicole S. Olgun, Junior Student Representative
Midwest (222*)
Matthew D. Schroeder, President
Christina R. Wilson, President-Elect
Thomas A. Mahly, Secretary
Molly S. Weiler, Treasurer
Walter C. Prozialeck, Past President
Michael L. Biehl, Councilor
Gregory L. Erxson, Councilor
Susan M. Henwood, Councilor
Lise I. Lobeg, Councilor
TBA, Postdoctoral Representative
Tammy Elmergreen, Student Representative

Mountain West (115*)
Matthew D. Reed, President
Donna D. Zhang, Vice President
Cynthia Ju, Vice President-Elect
Kevin Welch, Secretary/Treasurer
Philip J. Moos, Past President
Jean C. Pfau, Councilor
Mingyi W. Trimble, Councilor
Robert Kuester, Postdoctoral Representative
Gabriel A. Knudsen, Senior Student Representative
Chad Nicholas Brocker, Student Representative

National Capital Area (255*)
Pamela L. Chamberlain, President
Laurie E. Roszell, Vice President
Erik R. Janus, Secretary
Thomas J. Flynn, Treasurer
Jennifer W. Sekowski, Past President
Robert J. Mitkus, Councilor
Syril D. Pettit, Councilor
Rosemary A. Schuh, Councilor
Matthew John Smith, Postdoctoral Representative
Colleen Elizabeth McLoughlin, Student Representative

North Carolina (374*)
Melanie Louise Foster, President
Darol E. Dodd, Vice President
Michael F. Hughes, Vice President-Elect
Brenda Faiola, Secretary/Treasurer
David J. Thomas, Past President
Christal C. Bowman, Councilor
Jamie C. Dewitt, Councilor
Brante P. Sampey, Postdoctoral Representative
Katie Beth Paul, Student Representative

Northeast (290*)
Laura Andrews, President
Paul Nugent, Vice President
Nicole W. Hurst, Secretary/Treasurer
Graeme B.J. Smith, Past President
Felicia April Grzemski, Councilor
Laura M. Plunkett, Councilor
Vishal S. Vaidya, Councilor
TBA, Postdoctoral Representative
TBA, Senior Student Representative
TBA, Junior Student Representative

* Membership totals as printed in the most recent Membership Directory
Regional Chapter—Officers (Continued)

Northern California (361*)
Tao Wang, President
Karen L. Steinmetz, Vice President
Jeffrey S. Tepper, Vice President-Elect
Veronique Valerie Lauriault, Secretary
Karen Riceles, Treasurer
Stephen M. DiZio, Past President
Mark R. Field, Councilor
Amy H. Kim, Councilor
Matthew North, Postdoctoral Representative
Heather M. Bolstad, Student Representative

Northland (96*)
Timothy M. O’Brien, President
Nathan R. Pechack, President-Elect
Catherine F. Jacobson, Secretary/Treasurer
John W. Nichols, Past President
Kelly P. Coleman, Councilor
Helen M. Goeden, Councilor
John R. MacDonald, Councilor
TBA, Postdoctoral Representative
Sarah Y. Skolness, Student Representative

Ohio Valley (186*)
Mary Beth Genter, President
Courtney E.W. Sulentic, President-Elect
Lynette K. Rogers, Vice President
Jason C. Lambert, Secretary
Jeffrey D. Moehlenkamp, Treasurer
Amy L. Roe, Past President
Janelle S. Crossgrove, Councilor
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- **Educational Activities**—Proceeds from this Fund support a margin of excellence in SOT Educational Activities.
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- **Diversity Initiatives**—Committee on Diversity Initiatives
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- **Founders Fund**—Founders Fund recipient selected by Awards Committee
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- **Perry J. Gehring Biological Modeling Student Award**—Biological Modeling SS
- **Perry J. Gehring Diversity Student Travel Award**—Committee on Diversity Initiatives
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- **Harry W. Hays Memorial**—SOT Education and/or Priority Needs Fund* *
- **Health and Environmental Science Institute Immunotoxicology Young Investigator Student Award**—Immunotoxicology SS
- **Vera W. Hudson and Elizabeth K. Weisburger Scholarship**—Women in Toxicology SIG
- **Frank C. Lu Food Safety Student Award**—Food Safety SS
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- **Roger O. McClellan Student Award**—Comparative and Veterinary SS
- **Harihara Mehendale ASIO Student Award**—Association of Scientists of Indian Origin SIG
- **Metals Specialty Section Student Research Award**—Metals SS
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- **Regulatory and Safety Evaluation Student Award**—Regulatory and Safety Evaluation SS
- **Renal Toxicology Fellowship Award**—Mechanisms SS
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- **Drarm V. Singh Carcinogenesis Award**—Carcinogenesis SS
- **Carl C. Smith Student Mechanisms Award**—Mechanisms SS
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- **Toxicologists of African Origin Endowment**—Toxicologists of African Origin SIG

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- **Harihara Mehendale ASIO Student Award**—Association of Scientists of Indian Origin SIG
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- **Regulatory and Safety Evaluation Student Award**—Regulatory and Safety Evaluation SS
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- **Robert J. Rubin Student Travel Award**—Mechanisms SS and Risk Assessment SS
- **Drarm V. Singh ASIO Student Award**—Association of Scientists of Indian Origin SIG
- **Drarm V. Singh Carcinogenesis Award**—Carcinogenesis SS
- **Carl C. Smith Student Mechanisms Award**—Mechanisms SS
- **Ronald G. Thurman Student Travel Award**—Mechanisms SS
- **Toxicologists of African Origin Endowment**—Toxicologists of African Origin SIG

**Recognition Levels**

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**General Purpose Funds**

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<td>Student Travel</td>
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(Listed on the previous page)

| $ | $ | $ | $ |

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<td>Joe and Teri LeBeau</td>
</tr>
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### 2009–2010 Honor Roll of Contributors

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#### Institutional Contributors

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#### EMPLOYERS MATCHING EMPLOYEE

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### 2009–2010 Contributions by Fund

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| INTERNATIONAL ACTIVITIES FUND             | Balbir S. Brar                           |
|                                            | Jon C. and Judith R. Cook                 |
|                                            | Bruce A. Fowler                           |
|                                            | Ronald N. Hines and D. Gail McCarver      |
|                                            | Denise Robinson Gravatt                   |
|                                            | Jacqueline H. Smith                       |
|                                            | SOT 50th Anniversary Match                |
|                                            | James G. Wagner                            |

up-to-date information at [www.toxicology.org](http://www.toxicology.org)
## 2009–2010 Contributions by Fund

### SOT Priority Needs Fund

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### Special Purpose Funds

Funds that did not receive contributions are listed in the front of this report.

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### Diversity Initiatives Fund

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## 2009–2010 Contributions by Fund

**PERRY J. GEHRING BIOLOGICAL MODELING STUDENT AWARD FUND**

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**PERRY J. GEHRING DIVERSITY STUDENT TRAVEL AWARD FUND**

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**PERRY J. GEHRING RISK ASSESSMENT STUDENT AWARD FUND**

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**HEALTH AND ENVIRONMENTAL SCIENCE INSTITUTE IMMUNOTOXICOLOGY YOUNG INVESTIGATOR STUDENT AWARD FUND**

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**VERA W. HUDSON AND ELIZABETH K. WEISBURGER SCHOLARSHIP FUND**

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**ROGER O. MCCLELLAN STUDENT AWARD FUND**

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**HARIHARA MEHENDALE ASSOCIATION OF SCIENTISTS OF INDIAN ORIGIN STUDENT AWARD FUND**

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Endowment Fund (Continued)

2009–2010 Contributions by Fund

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Our thanks and deep appreciation to all the members and friends of the Society who have contributed to our previous goal of reaching $1 million in donations by the 50th Anniversary year.

The number of named funds has grown to 30 at the time of this printing. Students are the main beneficiaries of the awards from the various Funds.

Help exhaust the SOT Council Approved $750,000 50th Anniversary Match. Your contribution can have twice the IMPACT.
## Recognition of Others

### IN HONOR OF

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SOT Affiliates

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Linda S. Birnbaum, Ph.D., D.A.B.T., A.T.S.
Director, National Institute of Environmental Health Sciences and National Toxicology Program

Meet the Director
Linda S. Birnbaum, Ph.D., D.A.B.T., A.T.S.
Wednesday, March 9, 2011
9:30-10:30 a.m.
Room 201
Walter E. Washington Convention Center
### Headquarters Staff

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