Society of Toxicology

Program

Philadelphia Convention Center
Philadelphia • Pennsylvania
March 19 – 23, 2000
Platinum
Boehringer Ingelheim Pharmaceuticals
The Burroughs Wellcome Fund
Monsanto Company
NIEHS
Pfizer, Inc.
Pharmacia & Upjohn
RW Johnson

Gold
★ American Petroleum Institute ★ Ani Lytics, Inc. ★ Aventis
★ AstraZeneca ★ Battelle ★ Charles River Laboratories
★ E. I. DuPont De Nemours & Company ★ Eastman Kodak Company
★ Eli Lilly & Company ★ Harlan Sprague Dawley/Harlan Teklab
★ Johnson & Johnson ★ Procter & Gamble Pharmaceuticals
★ RJ Reynolds Tobacco Company
★ SmithKline Beecham ★ SNBL Group

Silver
★ Abbott Laboratories ★ BBL Sciences ★ Dow Corning Corporation ★ EPL
★ Quintiles Preclinical ★ Sanofi-Synthelabo ★ TherImmune Research Corporation
★ Unilever Research ★ Wyeth-Ayerst Research

SOT Thanks YOU for Your Generous Contribution and Sponsorship
39th Annual Meeting

Society of Toxicology

Program

Philadelphia Convention Center
Philadelphia • Pennsylvania
March 19 – 23, 2000
Final Night Reception

Thursday, March 23
5:30 PM–7:30 PM

Take advantage of your last opportunity to socialize and network with your colleagues by attending the Final Night Reception. Participate in the festivities or sit back, relax and partake of the refreshments.

This reception will be held at the Pennsylvania Convention Center and is free to all attendees.

www.toxicology.org

Did You Know...

all the Annual Meeting information and forms you’re interested in are available through the Society of Toxicology Web site?
Check it Out!

Visit the Society of Toxicology Web site today!
Society of Toxicology

Program

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### SUNDAY, MARCH 19
#### CONTINUING EDUCATION
**Sunrise Mini-Courses**

**7:00 AM-7:45 AM**
1. Introduction to Proteomics

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#### CONTINUING EDUCATION
**Morning Courses**

**8:15 AM-12:00 NOON**
3. Environmental Epidemiology and Toxicology: The Interface and the Interactions
4. Pulmonary Immunotoxicology
5. Molecular Genetics, Metabolism and Cell Signaling in Renal Carcinogenesis: A Lesson in Synergistic Toxicology
6. Molecular Approaches to a Comprehensive Understanding of Cardotoxicity
7. Advanced Neurotoxicology: Biomarkers and Mechanisms of Oxidative Stress-Induced Neurotoxicity
8. Rodent Toxicity and Nongenotoxic Carcinogenesis: Knowledge-Based Human Risk Assessment from Molecular Mechanisms
9. Advances in Non-Invasive Micrometer and Nanometer Scale Cellular/Tissue Vital Imaging
10. Tips for Effective Risk Communication

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#### CONTINUING EDUCATION
**Afternoon Courses**

**1:15 PM-5:00 PM**
11. Antibodies as Reagents to Evaluate Toxicant-Mediated Signal Transduction Pathways
12. Phototoxicology: Basic Principles of Light, Photobiology and Regulatory Issues
13. Toxicokinetics and Physiologically-Based Toxicokinetics in Toxicology and Risk Assessment
14. Metal Exposure and Toxicity of the Respiratory Tract
15. Safety Pharmacology and Risk Assessment
16. Toxicogenomics in the Trenches
17. The Application of Philosophy to Risk Assessment, Management and Communication

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### MONDAY, MARCH 20
#### PLenary Lecture
**8:30 AM**
Grassroots Advocacy in Action, Francis Visco, National Breast Cancer Coalition

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#### INNOVATIONS IN APPLIED TOXICOLOGY

**1:30 PM**
- Toxicology in the Next Millennium: Toxicogenomics and Proteomics
- **Workshops**
- Airborne Particulate Matter: Physico-Chemical Characteristics and Human Exposure Issues Related to Health Effects Research and Assessment
- Toxicology for Kids, Part II: The Classroom Experience

---

#### SYMPOSIUM
**9:30 AM**
- Human Health and Ecological Impact of Harmful Algal Blooms
- Molecular Mechanisms of Chemical Teratogenesis
- **Workshops**
- Are There Autoimmune Consequences of Toxicant Exposure in Human Populations?

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#### SPECIAL LECTURE
**12:00 NOON**
Controlling p53, David Lane, CRC Laboratories

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#### PLATFORM SESSIONS
**9:30 AM**
- Carcinogenesis
- Pesticides
- TCDD
- **Poster Discussion Sessions**
- Developmental Immunotoxicology
- Xenobiotic Regulated Transcription
- **Poster Sessions**
- Respiratory Toxicology: Models, Methods, & Safety Evaluation
  - Neurotoxicology of Monoamines
  - Glutathione
  - Metals
  - Liver/Gastrointestinal System
  - Reactive Intermediates
  - Cell Proliferation/Cell Cycle
  - Disposition/Pharmacokinetics
- **PM**
  - Intermolecular Interactions
  - Neurotoxicity of Metals
  - PBPP
  - Cytoskeletal Protein
  - Human Risk Assessment
  - Hypoxia
  - Hyporeninemia

---

### TUESDAY, MARCH 21
#### BURANOWSKI WELLCOME SCHOLAR AWARD LECTURE
**8:30 AM**
Retinoid Binding Proteins and Retinoid Toxicity, Ellen Li, Washington University School of Medicine

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#### SYMPOSIUM
**8:30 AM**
- Assessing the Safety of Gene Therapy
- Advances in the Use of Mechanism-Based Biomarkers in Risk Assessment
- The Role of Endotoxin in Occupational and Environmental Lung Disease: Exposure-Response Relationships and Susceptibility Factors
- From Epidemiology to the Gene: Mechanisms by Which Particulate Matter Induces Adverse Effects
- Interaction with Ionotropic Neurotransmitter Receptors by Environmental Toxicants: Consequences for Neuronal Function

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#### WORKSHOPS
**8:30 AM**
An Analysis of the C, α T Concept and of Mechanisms in Free Radical Toxicology: The Legacy of Fritz Haber
**1:30 PM**
Latex Allergy in the Workplace
Harmnonization of Cancer and Non-Cancer Risk Assessment; Moving Beyond the NRC Book

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#### B17/CURATOR DISCUSSION
**12:00 NOON**
Safety Testing of Genetically Modified Foods
<table>
<thead>
<tr>
<th>WEDNESDAY, MARCH 22</th>
<th>THURSDAY, MARCH 23</th>
<th>SPECIAL EVENTS SPONSORED BY THE SOCIETY OF TOXICOLOGY</th>
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<tbody>
<tr>
<td><strong>BURROUGHS WELLCOME SCHOLAR AWARD LECTURE</strong></td>
<td><strong>SYNOPSIS</strong></td>
<td><strong>SATURDAY, MARCH 18</strong></td>
</tr>
<tr>
<td>8:30 AM</td>
<td>8:30 AM</td>
<td>1:30 PM</td>
</tr>
<tr>
<td>Gene Induction by Phenobarbital and Cell Signaling in the Hepatocyte, Curtis Omezeniwa, University of Washington</td>
<td>Dendritic Cells: Targets for and Mediators of Immunotoxicity and Allergy</td>
<td>2000 Leadership Orientation for Committee Members</td>
</tr>
<tr>
<td><strong>INNOVATIONS IN TOXICOLOGICAL SCIENCES</strong></td>
<td>Surrogate Biomarkers for Drug Safety</td>
<td><strong>SUNDAY, MARCH 19</strong></td>
</tr>
<tr>
<td>8:30 AM</td>
<td>9:30 AM</td>
<td>8:00 AM</td>
</tr>
<tr>
<td>Role of Co-Repressors and Co-ACTivators in Regulation of Soluble Receptor Mediated Transcription</td>
<td>Arsenic: Applications of Carcinogenic Mechanisms to Risk Assessment</td>
<td>Media Training I: What To Do When The Media Calls</td>
</tr>
<tr>
<td><strong>SYNOPSIS</strong></td>
<td>Integration of Mechanistic, Toxicological and Epidemiological Data into the EPA’s Trihalomethane Cancer Assessment</td>
<td>4:00 PM</td>
</tr>
<tr>
<td>8:30 AM</td>
<td>Toxicological Considerations of Pharmaceuticals for Pediatric Patients</td>
<td>Media Training Workshop II: On-Camera Training for Toxicologists</td>
</tr>
<tr>
<td>Immunotoxicity of Ethanol: Lessons From a Structurally Simple, Yet Functionally Complex Immunotoxicant</td>
<td><strong>WORKSHOPS</strong></td>
<td><strong>4:00 PM</strong></td>
</tr>
<tr>
<td>Mycotoxins: Recent Advances and Their Relevance to Carcinogenesis and Toxicology</td>
<td>Metabolism of Subcellular Localization and Regulation of Cell Cycle and Apoptosis</td>
<td>Registration Desk Opens.</td>
</tr>
<tr>
<td>1:30 PM</td>
<td>Toxicological Database Mining in the 21st Century</td>
<td><strong>MONDAY, MARCH 20</strong></td>
</tr>
<tr>
<td>Application of Cytomodulation Models to Cancer Risk Assessment</td>
<td><strong>ISSUES SESSION</strong></td>
<td>4:30 PM</td>
</tr>
<tr>
<td>Molecular Approaches to Studies of Glutathione Metabolism and Function</td>
<td>The Value and Ethics of Using Human Data for the Registration of Pesticides</td>
<td>Placement Service Seminar</td>
</tr>
<tr>
<td><strong>WORKSHOPS</strong></td>
<td><strong>PLATFORM SESSIONS</strong></td>
<td>4:30 PM</td>
</tr>
<tr>
<td>The Influence of Co-Pollutants on the Toxicity of Airborne Particulate Matter</td>
<td>Metals</td>
<td>Specialty Section Presidents’ Meeting</td>
</tr>
<tr>
<td>1:30 PM</td>
<td><strong>POSTER DISCUSSION SESSIONS</strong></td>
<td>6:00 PM</td>
</tr>
<tr>
<td>Human Immunotoxicity: Examples and Strategies for Determining Risk</td>
<td>Apoptosis: Signaling Pathways</td>
<td>Women in Toxicology Meeting and Roundtable</td>
</tr>
<tr>
<td>Current Status of Model Development for Photobiology Risk Assessment with Relevance to Humans</td>
<td>Neurotoxicology of Solvents and Hydrocarbon</td>
<td>6:00 PM</td>
</tr>
<tr>
<td><strong>ROUND TABLE</strong></td>
<td>1:30 PM</td>
<td>Specialty Section Meetings: Epidemiology, Immunotoxicology, Mechanisms of Occupational Health, Risk Assessment, Toxicologic and Exploratory Pathology</td>
</tr>
<tr>
<td>8:30 AM</td>
<td>PETROXOAPROLE Proliferation</td>
<td>7:00 PM</td>
</tr>
<tr>
<td>Are Dietary Supplements Safe?</td>
<td>Risk Assessment of Solvents in Drinking Water</td>
<td>Regional Chapter Meetings</td>
</tr>
<tr>
<td><strong>SPECIAL WORKSHOP</strong></td>
<td><strong>POSTER SESSIONS</strong></td>
<td><strong>TUESDAY, MARCH 21</strong></td>
</tr>
<tr>
<td>12:00 NOON</td>
<td>Reproductive System</td>
<td>7:00 AM</td>
</tr>
<tr>
<td>Conversation with NIEHS Director: Ken Olden, Dr. Ken Olden, NIEHS</td>
<td>Biotransformation</td>
<td>In Vitro Toxicology Lecture for Graduate Students</td>
</tr>
<tr>
<td><strong>PLATFORM SESSIONS</strong></td>
<td>In Vivo</td>
<td>7:00 AM</td>
</tr>
<tr>
<td>Hypersensitivity</td>
<td>Gene Expression/Genomics, Safety Evaluation</td>
<td>Regional Chapters Presidents’ Meeting</td>
</tr>
<tr>
<td>Risk Assessment</td>
<td>Kidney</td>
<td>8:00 AM</td>
</tr>
<tr>
<td><strong>POSTER DISCUSSION SESSIONS</strong></td>
<td>Pharmaceuticals</td>
<td>K-12 Teacher Workshops: Paracelsus Goes to School</td>
</tr>
<tr>
<td>8:30 AM</td>
<td><strong>POSTER SESSIONS</strong></td>
<td>12:00 NOON</td>
</tr>
<tr>
<td>K-12 Educational Programs in Toxicology and Health</td>
<td>Reproductive System</td>
<td>Graduate Student/Post-Doctoral Fellow Luncheon</td>
</tr>
<tr>
<td>Gene Expression in Oxidative Injury</td>
<td>Biotransformation</td>
<td>1:30 PM</td>
</tr>
<tr>
<td>1:30 PM</td>
<td>In Vivo</td>
<td>Research Funds: Programs, Sources and Consultation</td>
</tr>
<tr>
<td>Molecular Immunotoxicology</td>
<td>Gene Expression/Genomics, Safety Evaluation</td>
<td>4:30 PM</td>
</tr>
<tr>
<td><strong>POSTER SESSIONS</strong></td>
<td>Kidney</td>
<td>Annual Business Meeting</td>
</tr>
<tr>
<td>9:30 AM</td>
<td>Pharmaceuticals</td>
<td>5:30 PM</td>
</tr>
<tr>
<td>Endocrine System II</td>
<td><strong>POSTER SESSIONS</strong></td>
<td>Public Lecture: Living Safely with Chemicals in the New Millennium: How Toxicologists Help Decide What Is Safe</td>
</tr>
<tr>
<td>Neurotoxicology of Pesticides</td>
<td>Reproductive System</td>
<td>6:00 PM</td>
</tr>
<tr>
<td>Carcinogenesis II—Carcinogenesis &amp; Anticarcinogenesis Regulatory/Policy</td>
<td>Biotransformation</td>
<td>Specialty Section Meetings: Carcinogenesis, Inhalation, Metals, Neurotoxicology, Regulatory and Safety Evaluation, Biological Modeling</td>
</tr>
<tr>
<td>TCDD</td>
<td>Respiratory Toxicology, Mechanism</td>
<td>7:00 PM</td>
</tr>
<tr>
<td>Cadmium/Lead</td>
<td>Receptor Biology/Signal Transduction</td>
<td>Regional Chapter Meetings</td>
</tr>
<tr>
<td>Developmental Toxicology</td>
<td>Environmental Toxicology</td>
<td><strong>WEDNESDAY, MARCH 22</strong></td>
</tr>
<tr>
<td>1:30 PM</td>
<td>Pesticides</td>
<td>4:30 PM</td>
</tr>
<tr>
<td>Biomarkers: Biotransformation</td>
<td>Cardiovascular</td>
<td>SOT Council Meeting with Graduate Students</td>
</tr>
<tr>
<td>Respiratory Toxicology, Mechanism</td>
<td>Hydrocarbons/PAHs</td>
<td>6:00 PM</td>
</tr>
<tr>
<td>Receptor Biology/Signal Transduction</td>
<td>Hematopoiesis</td>
<td>Specialty Section Meetings: Food Safety, In Prop</td>
</tr>
</tbody>
</table>
## SOT Annual Meeting Events Calendar

### March 12, 2000

<table>
<thead>
<tr>
<th>Time</th>
<th>Event Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30 AM to 1:00 PM</td>
<td>Council Meeting&lt;br&gt;Philadelphia Marriott&lt;br&gt;Conference Suite II</td>
</tr>
<tr>
<td>7:30 AM to 1:30 PM</td>
<td>TiP Editor Interviews&lt;br&gt;Philadelphia Marriott&lt;br&gt;Conference Suite III</td>
</tr>
<tr>
<td>10:00 AM to 5:00 PM</td>
<td>iUTOX-ICT Meeting&lt;br&gt;Philadelphia Marriott&lt;br&gt;Conference Suite I</td>
</tr>
<tr>
<td>1:30 PM to 3:00 PM</td>
<td>2000 Leadership Orientation for Committee Members&lt;br&gt;Pennsylvania Convention Center&lt;br&gt;Room 105AB</td>
</tr>
<tr>
<td>3:00 PM to 4:00 PM</td>
<td>Media Training I: What To Do When the Media Calls&lt;br&gt;(Ticket Required)&lt;br&gt;Philadelphia Marriott&lt;br&gt;Salon 1JK</td>
</tr>
<tr>
<td>4:00 PM to 6:00 PM</td>
<td>Graduate Student Fellowship Interviews&lt;br&gt;Pennsylvania Convention Center&lt;br&gt;Room 106A</td>
</tr>
<tr>
<td>4:00 PM to 6:00 PM</td>
<td>Media Training II: On-Camera Training for Toxicologists&lt;br&gt;(Ticket Required)&lt;br&gt;Philadelphia Marriott&lt;br&gt;Salon 1JK</td>
</tr>
<tr>
<td>4:00 PM to 7:00 PM</td>
<td>Message Center/Lodging Information Desk&lt;br&gt;Pennsylvania Convention Center&lt;br&gt;Registration Area</td>
</tr>
<tr>
<td>4:00 PM to 7:00 PM</td>
<td>Registration&lt;br&gt;Pennsylvania Convention Center&lt;br&gt;Room 201A</td>
</tr>
<tr>
<td>4:00 PM to 7:00 PM</td>
<td>CE Walk-Through for Committee&lt;br&gt;Pennsylvania Convention Center&lt;br&gt;Room 201A</td>
</tr>
<tr>
<td>4:30 PM to 6:00 PM</td>
<td>Continuing Education Walk-through For Students&lt;br&gt;Pennsylvania Convention Center&lt;br&gt;Room 201A</td>
</tr>
<tr>
<td>5:00 PM to 6:30 PM</td>
<td>Risk Assessment Task Force Meeting&lt;br&gt;Philadelphia Marriott&lt;br&gt;Conference Room 413</td>
</tr>
<tr>
<td>7:00 AM to 7:45 AM</td>
<td>Continuing Education Sunrise Course #1: Introduction to Proteomics&lt;br&gt;(Ticket Required)&lt;br&gt;Pennsylvania Convention Center&lt;br&gt;Room 201ABC</td>
</tr>
<tr>
<td>7:00 AM to 7:45 AM</td>
<td>Continuing Education Sunrise Course #2: Metabonomics&lt;br&gt;(Ticket Required)&lt;br&gt;Pennsylvania Convention Center&lt;br&gt;Room 204AB</td>
</tr>
<tr>
<td>7:00 AM to 5:00 PM</td>
<td>Message Center/Lodging Information Desk&lt;br&gt;Pennsylvania Convention Center&lt;br&gt;Registration Area</td>
</tr>
<tr>
<td>7:00 AM to 5:00 PM</td>
<td>Registration&lt;br&gt;Pennsylvania Convention Center&lt;br&gt;Bridge Area</td>
</tr>
<tr>
<td>7:00 AM to 5:00 PM</td>
<td>SOX Office&lt;br&gt;Pennsylvania Convention Center&lt;br&gt;Room 106B</td>
</tr>
<tr>
<td>7:00 AM to 4:00 PM</td>
<td>Speaker Ready Room&lt;br&gt;Pennsylvania Convention Center&lt;br&gt;Room 300</td>
</tr>
<tr>
<td>7:30 AM to 4:00 PM</td>
<td>Continuing Education Courses&lt;br&gt;Pittsburgh Convention Center&lt;br&gt;1st and 2nd Floors</td>
</tr>
<tr>
<td>8:00 AM to 5:00 PM</td>
<td>Exhibition Setup&lt;br&gt;Pennsylvania Convention Center&lt;br&gt;Exhibit Hall A</td>
</tr>
<tr>
<td>8:00 AM to 4:30 PM</td>
<td>Guest Hospitality Center&lt;br&gt;Philadelphia Marriott&lt;br&gt;Conference Room 309-310</td>
</tr>
<tr>
<td>8:00 AM to 5:00 PM</td>
<td>Media Center&lt;br&gt;Pennsylvania Convention Center&lt;br&gt;Room 303B</td>
</tr>
<tr>
<td>8:00 AM to 5:00 PM</td>
<td>Media Training II: On-Camera Training for Toxicologists&lt;br&gt;(Ticket Required)&lt;br&gt;Philadelphia Marriott&lt;br&gt;Salon K</td>
</tr>
<tr>
<td>8:00 AM to 10:00 AM</td>
<td>Placement Committee Meeting&lt;br&gt;Pennsylvania Convention Center&lt;br&gt;Room 106A</td>
</tr>
<tr>
<td>8:00 AM to 4:30 PM</td>
<td>Undergraduate Educational Program for Visiting Scholars&lt;br&gt;Philadelphia Marriott&lt;br&gt;Salon 1</td>
</tr>
<tr>
<td>8:15 AM to 12:00 PM</td>
<td>AM Continuing Education Courses&lt;br&gt;Pittsburgh Convention Center&lt;br&gt;(See Signage for Room Assignments)</td>
</tr>
<tr>
<td>10:00 AM to 3:30 PM</td>
<td>Placement Services&lt;br&gt;Pittsburgh Convention Center&lt;br&gt;Room 103ABC</td>
</tr>
<tr>
<td>12:00 PM to 1:00 PM</td>
<td>CE Committee and Student Lunch&lt;br&gt;Pennsylvania Convention Center&lt;br&gt;Room 304/VIP</td>
</tr>
<tr>
<td>12:00 PM to 6:30 PM</td>
<td>iUTOX Executive Committee Meeting&lt;br&gt;Philadelphia Marriott&lt;br&gt;Conference Suite I</td>
</tr>
<tr>
<td>1:15 PM to 5:00 PM</td>
<td>PM Continuing Education Courses&lt;br&gt;Pittsburgh Convention Center&lt;br&gt;(See Signage for Room Assignments)</td>
</tr>
<tr>
<td>3:00 PM to 6:00 PM</td>
<td>Toxicology Education Foundation Committee Meeting&lt;br&gt;Pennsylvania Convention Center&lt;br&gt;Room 106A</td>
</tr>
<tr>
<td>5:00 PM to 6:00 PM</td>
<td>President's Reception For CE Speakers&lt;br&gt;(By Invitation Only)&lt;br&gt;Pennsylvania Convention Center&lt;br&gt;Room 304/VIP</td>
</tr>
<tr>
<td>5:00 PM to 6:30 PM</td>
<td>Welcome Reception&lt;br&gt;(All Attendees Welcome)&lt;br&gt;Pittsburgh Convention Center&lt;br&gt;Grand Hall</td>
</tr>
<tr>
<td>6:30 PM to 7:30 PM</td>
<td>25-Year Member Reception&lt;br&gt;(By Invitation Only)&lt;br&gt;Pittsburgh Convention Center&lt;br&gt;Room 304/VIP</td>
</tr>
</tbody>
</table>
SOT Annual Meeting Events Calendar

MONDAY - MARCH 20, 2000

Events are listed alphabetically by the event start time.

6:30 AM to 8:00 AM
Mechanisms Specialty Section Officers Meeting
Philadelphia Marriott
Conference Room 308

7:00 AM to 8:00 AM
American Board of Veterinary Toxicology Executive Committee Meeting
Philadelphia Marriott
Conference Room 405

7:00 AM to 8:00 AM
Carcinogenesis Specialty Section Officers Meeting
Philadelphia Marriott
Conference Room 307

7:00 AM to 8:30 AM
Continuing Education Committee Meeting
Pennsylvania Convention Center
Room 106A

7:00 AM to 8:30 AM
Inhalation Specialty Section Committee Meeting
Philadelphia Marriott
Conference Room 404

7:30 AM to 5:00 PM
Message Center/Lodging Information Desk
Pennsylvania Convention Center
Registration Area

7:00 AM to 8:30 AM
Past Presidents' Breakfast
Philadelphia Marriott
Conference Room 306

7:00 AM to 8:30 AM
Registration
Pennsylvania Convention Center
Bridge Area

7:00 AM to 5:00 PM
SOT Office
Pennsylvania Convention Center
Room 303B

8:00 AM to 4:30 PM
Exhibit Hall Open for Poster Booths
Pennsylvania Convention Center
Exhibit Hall A

8:00 AM to 4:30 PM
Guest Hospitality Center
Philadelphia Marriott
Conference Room C-310

8:00 AM to 5:00 PM
Media Center
Pennsylvania Convention Center
Room 303B

8:30 AM to 9:30 AM
Plenary Lecture: Grassroots Advocacy in Action, Francis Visco, National Breast Cancer Coalition
Pennsylvania Convention Center
Ballroom

9:30 AM to 10:30 AM
Complimentary Coffee
Pennsylvania Convention Center
Exhibit Hall A

9:30 AM to 4:30 PM
Exhibition
Pennsylvania Convention Center
Exhibit Hall A

9:30 AM to 12:30 PM
Poster Sessions
Pennsylvania Convention Center
Exhibit Hall A

9:30 AM to 11:45 AM
Scientific Sessions
Pennsylvania Convention Center
(See Program Descriptions for Room Assignments)

11:30 AM to 1:30 PM
Comparative & Veterinary Specialty Section Officers Meeting
Philadelphia Marriott
Conference Room 307

11:30 AM to 1:30 PM
Education Subcommittee for Minority Initiatives Meeting
Pennsylvania Convention Center
Conference Room 106A

11:30 AM to 1:30 PM
Toxicology Information Systems Seminar, Sponsored by SciVision/Academic Press
Philadelphia Marriott
Conference Room 404

11:45 AM to 1:15 PM
Mid-Atlantic Regional Chapter Luncheon - Dock Street Brasserie
Restaurante, Two Locum Sqaure at 18th and Cherry Streets
(Reservations Required)

12:00 PM to 1:30 PM
Immunotoxicology Specialty Section Officers Meeting
Philadelphia Marriott
Conference Room 305-306

12:00 PM to 1:30 PM
Medical Research Council (MRC) Lecture: Controlling P35, David Lane, CRG Laboratories
Pennsylvania Convention Center
Room 201AB

12:00 PM to 2:00 PM
KAL-A Committee Meeting
Pennsylvania Convention Center
Room 304/VIP

1:30 PM to 4:30 PM
Innovations in Applied Toxicology - Toxicology in the Next Millennium: Toxicogenomics and Proteomics
Pennsylvania Convention Center
Room 201AB

1:30 PM to 4:30 PM
Poster Sessions
Pennsylvania Convention Center
Exhibit Hall A

1:30 PM to 4:30 PM
Scientific Sessions
Pennsylvania Convention Center
(See Program Descriptions for Room Assignments)

1:30 PM to 4:30 PM
Toxicology for Kids, Part II: The Classroom Experience
Pennsylvania Convention Center
Room 105B

4:30 PM to 6:00 PM
American Board of Toxicology Open Meeting and Mixer
Philadelphia Marriott
Conference Room 305-306

4:30 PM to 7:00 PM
Neurotoxicology Specialty Section Student/Post-Doc Poster Competition
Pennsylvania Convention Center
(By Invitation Only)
Exhibit Hall A

4:30 PM to 5:30 PM
Placement Service Seminar
Pennsylvania Convention Center
Room 111B

4:30 PM to 7:00 PM
Roundtable of Toxicology Consultants Meeting
Philadelphia Marriott
Conference Room 405

4:30 PM to 6:00 PM
Specialty Section Presidents' Meeting
Pennsylvania Convention Center
Room 105A

4:30 PM to 6:00 PM
Swine Model for Electrocardiography Emphasis Q-T Interval Meeting, Sponsored by Eli Lilly and Company
Minipigs
Philadelphia Marriott
Conference Room 407-408

6:00 PM to 7:30 PM
Epidemiology Specialty Section Reception
Philadelphia Marriott
Salon 1

6:00 PM to 7:30 PM
Immunotoxicology Specialty Section Reception
Philadelphia Marriott
Salon D

6:00 PM to 7:30 PM
Mechanisms Specialty Section Reception
Philadelphia Marriott
Salon AB

6:00 PM to 7:30 PM
Occupational Health Specialty Section Reception
Philadelphia Marriott
Salon C

6:00 PM to 7:30 PM
Risk Assessment Specialty Section Reception
Philadelphia Marriott
Salon KL

6:00 PM to 7:30 PM
Toxicologic & Experimental Pathology Specialty Section Reception
Philadelphia Marriott
Salon J

6:00 PM to 7:30 PM
Women in Toxicology Meeting and Roundtable
Philadelphia Marriott
Conference Room 401-402

7:00 PM to 9:00 PM
Oxford University Press
Toxicological Sciences Reception
(No Invitation Only)

7:00 PM to 10:00 PM
Swing Nine Reception, Sponsored by Chrysalis Preclinical Services
Philadelphia Marriott
Salon H

8:00 PM to 10:00 PM
University of North Carolina - Curriculum in Toxicology Reception
Philadelphia Marriott
Conference Room 407
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30 AM - 9:00 AM</td>
<td>World Wide Web Task Force Meeting</td>
<td>Pennsylvania Convention Center Room 305</td>
</tr>
<tr>
<td>8:00 AM - 8:30 AM</td>
<td>Burroughs Wellcome Scholar Award Lecture: Retinoid Binding Proteins and Receptor Toxicity, Ellen Li, Washington University School of Medicine</td>
<td>Pennsylvania Convention Center Room 201ABC</td>
</tr>
<tr>
<td>8:00 AM - 8:30 AM</td>
<td>Exhibit Hall Open for Poster Boards</td>
<td>Pennsylvania Convention Center Exhibit Hall A</td>
</tr>
<tr>
<td>8:00 AM - 8:30 AM</td>
<td>Poster Sessions</td>
<td>Philadelphia Marriott Conference Room 309-310</td>
</tr>
<tr>
<td>8:00 AM - 9:00 AM</td>
<td>Media Center</td>
<td>Pennsylvania Convention Center Room 303B</td>
</tr>
<tr>
<td>8:00 AM - 9:00 AM</td>
<td>Message Center/Lodging Information Desk</td>
<td>Pennsylvania Convention Center Registration Area</td>
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<tr>
<td>8:00 AM - 9:00 AM</td>
<td>Registration</td>
<td>Pennsylvania Convention Center Bridge Area</td>
</tr>
<tr>
<td>8:30 AM - 11:30 AM</td>
<td>Scientific Sessions</td>
<td>Pennsylvania Convention Center (See Program Descriptions for Room Assignments)</td>
</tr>
<tr>
<td>8:00 AM - 4:00 PM</td>
<td>SOT Office</td>
<td>Pennsylvania Convention Center Room 303B</td>
</tr>
<tr>
<td>9:30 AM - 10:30 AM</td>
<td>Complimentary Coffee</td>
<td>Pennsylvania Convention Center Exhibit Hall A</td>
</tr>
<tr>
<td>9:30 AM - 4:30 PM</td>
<td>Exhibition</td>
<td>Pennsylvania Convention Center Exhibit Hall A</td>
</tr>
<tr>
<td>9:30 AM - 12:30 PM</td>
<td>Poster Sessions</td>
<td>Pennsylvania Convention Center Exhibit Hall A</td>
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<tr>
<td>11:45 AM - 1:00 PM</td>
<td>Early Insight into the Potential Toxicity of New Medicinals: The CASETOX Program Sponsored by Charles River Laboratories</td>
<td>Philadelphia Marriott Salon D</td>
</tr>
<tr>
<td>6:00 PM - 8:00 PM</td>
<td>Joint Reception Hosted by Johns Hopkins Center for Alternatives to Animals, Testing, The Department of Environmental Health Sciences Division of Toxicological Sciences and the National Capital Area Regional Chapter of SOT</td>
<td>Philadelphia Marriott Conference Room 307</td>
</tr>
<tr>
<td>6:00 PM - 7:30 PM</td>
<td>Metals Specialty Section Reception</td>
<td>Philadelphia Marriott Salon I</td>
</tr>
<tr>
<td>6:00 PM - 7:30 PM</td>
<td>Neurotoxicology Specialty Section Reception</td>
<td>Philadelphia Marriott Salon D</td>
</tr>
<tr>
<td>7:00 PM - 8:30 PM</td>
<td>Mountain West and Gulf Coast Regional Chapter Reception</td>
<td>Philadelphia Marriott Conference Room 407-409</td>
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<tr>
<td>7:00 PM - 8:30 PM</td>
<td>Pacific Northwest Regional Chapter Reception</td>
<td>Philadelphia Marriott Conference Room 306</td>
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<tr>
<td>7:00 PM - 8:30 PM</td>
<td>South Central Regional Chapter Reception</td>
<td>Philadelphia Marriott Conference Room 401-402</td>
</tr>
<tr>
<td>7:30 PM - 10:00 PM</td>
<td>University of Rochester Alumni Reception</td>
<td>Philadelphia Marriott Conference Room 410</td>
</tr>
<tr>
<td>Time</td>
<td>Event Description</td>
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<tr>
<td>8:30 AM</td>
<td>8:30 AM to 11:30 AM Innovations in Toxicological Sciences: Role of Co-Repressors</td>
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<td></td>
<td>and Co-ACTivators in Regulation of Soluble Receptor Mediated Transcription</td>
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<tr>
<td></td>
<td>Pennsylvania Convention Center Room 201ABC</td>
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<tr>
<td>8:30 AM</td>
<td>8:30 AM to 11:30 AM NIEHS Grantees Poster Discussion</td>
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<tr>
<td></td>
<td>Session: K-12 Education Programs in Toxicology and Health</td>
<td></td>
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<tr>
<td></td>
<td>Pennsylvania Convention Center Room 107AB</td>
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<tr>
<td>8:30 AM</td>
<td>8:30 AM to 11:30 AM Scientific Sessions</td>
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<td></td>
<td>Pennsylvania Convention Center</td>
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<td>(See Program Descriptions for Room Assignments)</td>
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<tr>
<td>9:30 AM</td>
<td>9:30 AM to 10:30 AM Complimentary Coffee</td>
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<td></td>
<td>Pennsylvania Convention Center</td>
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<td></td>
<td>Exhibit Hall A</td>
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<tr>
<td>9:30 AM</td>
<td>9:30 AM to 10:30 AM Exhibition</td>
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<td>Pennsylvania Convention Center</td>
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<td>Exhibit Hall A</td>
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<tr>
<td>9:30 AM</td>
<td>9:30 AM to 12:30 PM Poster Sessions</td>
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<td>Pennsylvania Convention Center</td>
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<tr>
<td></td>
<td>Exhibit Hall A</td>
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<tr>
<td>11:30 AM</td>
<td>11:30 AM to 1:30 PM Education Committee Meeting</td>
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<td></td>
<td>Pennsylvania Convention Center</td>
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<td></td>
<td>Room 106B</td>
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<tr>
<td>11:30 AM</td>
<td>11:30 AM to 1:30 PM Finance Committee Meeting</td>
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<td></td>
<td>Pennsylvania Convention Center</td>
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<td></td>
<td>Room 106A</td>
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<tr>
<td>12:00 PM</td>
<td>12:00 PM to 1:15 PM Special Workshop: Conversation with NIEHS Director</td>
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<tr>
<td></td>
<td>Ken Olden</td>
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<td></td>
<td>Pennsylvania Convention Center</td>
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<td></td>
<td>Room 204AB</td>
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<tr>
<td>1:30 PM</td>
<td>1:30 PM to 4:30 PM Poster Sessions</td>
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<td>Pennsylvania Convention Center</td>
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<td>Exhibit Hall A</td>
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<tr>
<td>1:30 PM</td>
<td>1:30 PM to 4:30 PM Scientific Sessions</td>
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<td></td>
<td>Pennsylvania Convention Center</td>
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<td>(See Program Descriptions for Room Assignments)</td>
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<tr>
<td>2:00 PM</td>
<td>2:00 PM to 4:00 PM Exhibit Liaison Committee Meeting</td>
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<td></td>
<td>Pennsylvania Convention Center</td>
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<td></td>
<td>Room 305</td>
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</tbody>
</table>
Events are listed alphabetically by the event start time.

6:30 AM to 7:30 AM
Reproductive & Developmental
Specialty Section Officers Meeting
Philadelphia Marriott
Conference Room 405

7:00 AM to 8:30 AM
Comparative & Veterinary Specialty
Section Officers Meeting
Philadelphia Marriott
Conference Room 308

7:00 AM to 8:00 AM
Placement Committee Meeting
Pennsylvania Convention Center
Room 1020

7:00 AM to 4:30 PM
Speaker Ready Room
Pennsylvania Convention Center
Room 300

7:30 AM to 4:30 PM
Concession Stands
Pennsylvania Convention Center
1st and 2nd Floors

7:30 AM to 12:00 PM
Placement Services Message Center
Pennsylvania Convention Center
Room 101B

7:30 AM to 8:30 AM
Program Committee Meeting
Pennsylvania Convention Center
Room 100B

8:00 AM to 4:30 PM
Guest Hospitality Room
Philadelphia Marriott
Conference Room 309-310

8:00 AM to 12:00 PM
Media Center
Pennsylvania Convention Center
Room 301B

8:00 AM to 12:00 PM
Message Center/Lodging Information Desk
Pennsylvania Convention Center
Registration Area

8:00 AM to 12:00 PM
Registration
Pennsylvania Convention Center
Bridge Area

8:00 AM to 12:00 PM
SOT Office
Pennsylvania Convention Center
Room 303B

8:30 AM to 11:30 AM
Poster Sessions
Pennsylvania Convention Center
2nd Floor
(See Signage)

8:30 AM to 11:30 AM
Scientific Sessions
Pennsylvania Convention Center
(See Program Descriptions for Room Assignments)

12:00 PM to 1:30 PM
Issue Session: The Value and Ethics of Using Human Data for the Registration of Pesticides
Pennsylvania Convention Center
Room 204AB

1:30 PM to 4:15 PM
Scientific Sessions
Pennsylvania Convention Center
(See Program Descriptions for Room Assignments)

4:30 PM to 5:30 PM
Awards Presentation
Pennsylvania Convention Center
Room 201ABC

5:30 PM to 7:30 PM
Final Night Reception
(Following the Awards Presentation)
Pennsylvania Convention Center
Ballroom
Awards Presentation

Thursday, March 23, 4:30 PM–5:30 PM

At 4:30 PM, in the Pennsylvania Convention Center,
the Society of Toxicology will present the following awards for the year 2000:

Zeneca Traveling Lectureships

The first 2000 Zeneca Traveling Lectureship is awarded to Dr. Kenneth S. Ramos. Dr. Ramos completed doctoral work in biochemical toxicology at the University of Texas at Austin. After post-doctoral training at the University of Nevada, he was assistant professor of pharmacology at the Philadelphia College of Pharmacy and Science and Texas Tech University Health Science Center. He joined the Faculty of Toxicology at Texas A&M University in 1989 where he currently serves as Professor and Director of the NIEHS Center of Excellence in Environmental and Rural Health. His research focuses on signaling cross-talk between xenobiotic-activated transcription factors, characterization of cell- and promoter-specific patterns of trans-activation/trans-repression in response to oxidative stress in vascular cells, and gene/environment interactions in glomerular toxicity and nephrogenesis. He is on the editorial boards of the Journal of Biochemical and Molecular Toxicology, American Journal of Physiology, In Vitro Cellular and Developmental Biology, Cell Biology and Toxicology, Chemico-Biologic Interactions, and General Pharmacology.

The second 2000 Zeneca Traveling Lectureship is awarded to Dr. Garold S. Yost. Dr. Yost received a BS degree in chemistry from Bethel College in 1971, a MS in organic chemistry from the University of Hawaii in 1974, and a Ph.D. in organic chemistry from Colorado State University in 1977. He did post-doctoral training in pharmaceutical chemistry at the University of California, San Francisco from 1977-78 and was a Visiting Lecturer in the Department of Pharmacology at John Hopkins University from 1978-81. Dr. Yost was an Assistant Professor in the College of Pharmacy at Washington State University from 1981-87. Dr. Yost began his appointment at the University of Utah in 1987 and was promoted to Professor in 1992.

Dr. Yost was awarded a Research Career Development Award from the National Heart, Lung and Blood Institute in 1987. He was a member of the Committee on Toxicology of the National Academy of Sciences from 1991-97 and a member of the Developmental Therapeutics/Contracts Review Committee for the National Cancer Institute from 1993-95.

Dr. Yost has been highly active in the Society of Toxicology since 1984. He is the Chair of the Scientific Affairs Committee of ISSX, and a member of the Council of ISSX.

Dr. Yost has a total of 58 refereed publications, 76 abstracts and 12 book chapters. He has served as the Dissertation Advisor for 13 Ph.D. students and has supervised 15 post-doctoral fellows. He has been on the editorial boards of Toxicology and Applied Pharmacology (1989-present), Chemical Research in Toxicology (1991-94, 1996-99), Journal of Toxicology and Environmental Health (1992-95), Chemico-Biological Interactions (1992-1998); and Drug Metabolism and Disposition (1994-present).

Congratulations to all the Award Winners
Arnold J. Lehman

The first 2000 Arnold J. Lehman award is presented to Dr. Carole A. Kimmel. The award is in recognition of her significant contributions to the field of risk assessment, in particular, her work on methodology and approaches to the evaluation of reproductive, developmental, and neurotoxicity data for risk assessment; development of improved methodology for non-cancer risk assessment in general, including experimental work and development of guidance for the application of benchmark dose methodology; harmonization of cancer and non-cancer risk assessment, including the application of a mechanistic understanding of underlying processes to risk assessment approaches; as well as her contributions to a number of national and international efforts to improve risk assessment for children's health. In addition, Dr. Kimmel has made a number of contributions to the SOT in this area, serving as Past President of the Risk Assessment Specialty Section and for three years as chair of the Task Force to Improve the Scientific Basis for Risk Assessment which has had a major impact on the understanding of risk assessment and the importance of applying sound scientific principles within the society.

The second 2000 Arnold J. Lehman award is presented to Dr. Janardan K. Reddy. Dr. Reddy is the Magerstadt Professor of Pathology and Chairman of the Department of Pathology at Northwestern University Medical School. His 30-year research career includes seminal investigations into the biological implications of the induction of peroxisome proliferation in liver cells by structurally diverse chemicals. Dr. Reddy coined the term "peroxisome proliferators" to describe these agents. Dr. Reddy and his colleagues have made a number of conceptual advances in our understanding of peroxisome proliferation, among which the following deserve special mention.

First, the demonstration that the phenomenon of peroxisome proliferation can be induced by many hypolipidemic agents led to the suggestion that peroxisome proliferation is linked to lipid metabolism, and served as an impetus for the discovery of the peroxisomal beta-oxidation system. Second, he and his colleagues discovered the hepatocarcinogenic property of peroxisome proliferators and demonstrated that these agents are nongenotoxic and non-mutagenic. Third, based on the tissue/cell specificity of responses and the coordinated transcriptional activation of beta-oxidation system genes, he hypothesized that peroxisome proliferators exert their action by a receptor-mediated mechanism. His initial work on the peroxisome proliferator-binding proteins has laid the foundation for the identification of peroxisome proliferator activated receptors (PPARs). Dr. Reddy's work in this area has been significant to risk assessment by providing valuable data on how this important mechanism of toxicity works; by demonstrating that the chronic effects of peroxisome proliferators are attributable to persistent changes in gene expression; and by providing a basis for interspecies comparisons of toxicity. His current research focuses on the characterization of PPAR-mediated signal transduction including the role of nuclear receptor co-activators in the induction of pleiotropic responses.

Contributions to Public Awareness of the Importance of Animals in Toxicology Research

The first ever Contributions to Public Awareness of the Importance of Animals in Toxicology Research award is presented to the Allegheny-Erie SOT Regional Chapter. The Allegheny-Erie Chapter has made increasing community awareness of the importance of animals in toxicology and biomedical research a key element of the chapter's mission. The A-E SOT has presented a program entitled, "Paracelsus Goes to School," which is designed to inform high school teachers about the science of toxicology and the necessity of animals in biomedical research. By focusing on informing teachers about toxicology research instead of high school students directly, A-E SOT has reached a much larger audience. The program has been presented on three occasions in two states (Pennsylvania and Ohio). It has been estimated that, by presenting this program to a total of 58 teachers from 31 school districts, it was possible to reach 8,700 students. The program consists of lectures, laboratories and interactive sessions designed to demonstrate to teachers how to approach the subjects of tox-
Awards Presentation
Thursday, March 23, 4:30 PM–5:30 PM

Toxicology and animals in research with their students. A second approach to increasing public awareness was the Summer Student Toxicology Program by A-E SOT at NIOSH. Approximately 30 undergraduate students worked at NIOSH for 2.5 months over the summer in a variety of positions. The program was organized by Dr. Anna Shevedova, Dr. Vince Castranova and other NIOSH employees, lectured on various topics in toxicology, including occupational, pulmonary and neurotoxicology. The summer program culminated in the students' preparation of scientific posters that were judged by A-E SOT's Awards Committee Chairperson.

Education

The 2000 Education award is presented to Dr. Gary P. Carlson. Dr. Carlson received his Ph.D. from the University of Chicago under the mentoring of Dr. Kenneth P. DuBois. After six years at the University of Rhode Island, he joined the faculty in the Department of Pharmacology and Toxicology in the School of Pharmacy at Purdue University in 1975. He is currently Professor of Toxicology in the School of Health Sciences and an adjunct professor at the Indiana University School of Medicine. Throughout his career, Dr. Carlson has taught toxicology in professional programs in nursing, pharmacy, medicine and industrial hygiene. He has been on many graduate student committees and has maintained an active research program that has focused on understanding the mechanism of numerous industrial chemicals. He has published more than 130 papers and book chapters.

Dr. Carlson has been a contributor to our profession for more than 30 years. He has served on many grant review panels for NIH, EPA, NSF and other governmental agencies. Dr. Carlson has participated in the activities of several committees for the National Academy of Sciences/National Research Council and the United States Environmental Protection Agency, including the Science Advisory Board. He was Chairman of the EPA SAB committee on drinking water. He recently chaired the Technical Reports Review Subcommittee of the Board of Scientific Counselors (BOSC) of the National Toxicology Program.
associated with G0-G1 transition. The authors found that APAP inhibits serum growth factor activation of c-myc expression, NF-KB DNA binding, and Ras kinase. Therefore, the ability of APAP to inhibit passage of cells through both G1 and S phases might interfere with organ regeneration and thus exacerbate acute liver damage caused by APAP.

Toxicology and Applied Pharmacology

This Board of Publications award is presented to the author(s) of the best paper published in the SOT journal, "Toxicology and Applied Pharmacology," in the year ending June 1999.


Dexamethasone (Dex), estradiol (E2), and 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) all affect the immune system, causing immunosuppression and thymic atrophy. It is still uncertain how and where these compounds act to induce thymic atrophy. It has been suggested that these compounds may have similar actions and targets, i.e., apoptosis of immature thymocytes for Dex and TCDD and preferential targeting of CD4+ CD8+ double-positive cells by Dex and E2. The authors of this paper reported results suggesting that there are distinct mechanisms for the actions of Dex, E2, and TCDD in the thymus and that apoptosis is not a key mechanism of E2- and TCDD-induced thymic atrophy.

Achievement

The 2000 Achievement award is presented to Dr. Christopher Bradfield. Dr. Bradfield, Associate Professor of Oncology at the McArdle Laboratory, University of Wisconsin, used rigorous molecular biology techniques leading to ground-breaking toxicological findings. Since receiving his Ph.D. studying the effects of dietary indoles as modifiers of xenobiotic metabolism under the direction of Dr. Leonard Bjeldanes at Berkeley, he has studied the Ah receptor and related signaling pathways. After post-doctoral training with Dr. Alan Poland, he became an Assistant Professor of Molecular Pharmacology and Biological Chemistry at Northwestern. Dr. Bradfield was the first to clone the Ah receptor, demonstrating that it is a novel ligand activated transcription factor, which is not a member of the steroid hormone receptor superfamily. Instead, it is the first ligand-activated member of the PAS family of basic helix-loop-helix inhibitory proteins. Dr. Bradfield has shown that many members of this family can dimerize with another PAS protein, ARNT, which is the heterodimeric partner of the AhR, and plays a key role in hypoxia, differentiation, and development. Dr. Bradfield's laboratory has also created AhR and Arnt knockout mice. Dr. Bradfield serves as a faculty role model for his combination of research, teaching, and administrative activities, together with his national and international reputation as a scientist. In summary, Dr. Bradfield is an outstanding scientist who has made and will continue to make major contributions to toxicology.

Merit

The 2000 Merit award is presented to Dr. Philippe Shubik. Dr. Shubik has had an illustrious career, contributing greatly to the fields of medicine, pathology, cancer research and toxicology. Early in his career, he and Dr. Isaac Benhalum published seminal papers that identified and characterized initiation and promotion in chemical carcinogenesis. These concepts remain as important cornerstones in our basic knowledge regarding carcinogenesis. He went on to lead major programs in chemical carcinogenesis at the Chicago Medical School and the Eppley Institute for Research in Cancer. His research has focused on identifying and understanding mechanisms involved in carcinogenesis. This focus has been carried forward in promoting the use of mechanistic data to make sound risk assessment decisions regarding foods, drugs and chemicals. He has served as editor of numerous journals and books, and published over 200 scientific papers. Dr. Shubik has been a member of the most influential national and international committees in the fields of cancer and toxicology, including the National Cancer Advisory Committee. He founded and serves as the President of the Toxicology Forum, an organization that brings scientists from government, industry and academia together to discuss critical issues in toxicology. Dr. Shubik is a Visiting Fellow at Green College, Oxford University.

Honorary Members

1999 Honorary Member, Takashi Sugimura, and 2000 Honorary Member, Findlay Russell, will be honored at this year's Awards Presentation.
General Information

Scientific Sessions and Special Events will be held at the Pennsylvania Convention Center unless otherwise listed.

Registration Fees:

<table>
<thead>
<tr>
<th>Category</th>
<th>On-Site</th>
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<tr>
<td>SOT Member</td>
<td>$255</td>
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<tr>
<td>Non-Member</td>
<td>$430</td>
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<tr>
<td>SOT Retired Member</td>
<td>$115</td>
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<tr>
<td>Post-Doctoral (SOT Member or Non-Member)</td>
<td>$130</td>
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<tr>
<td>Grad. or Undergrad. Student (SOT Member or Non-Member)</td>
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<td>SOT Associates</td>
<td>$0</td>
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<tr>
<td>Press</td>
<td>$0</td>
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<tr>
<td>Guest (non-scientists: see page 19, &quot;Hospitality Center&quot;)</td>
<td>$40</td>
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Continuing Education Courses Fees:

(AM and PM classes run concurrently.)

<table>
<thead>
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<th>Category</th>
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<tr>
<td>SOT Member/Corporate/Retired</td>
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<td>Non-Member</td>
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<td>Post-Doctoral</td>
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<td>Graduate or Undergraduate Student</td>
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<td>Press</td>
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Registration Desk—Pennsylvania Convention Center

Saturday, March 18 .................. 4:00 PM–7:00 PM
Sunday, March 19 .................... 7:00 AM–5:00 PM
Monday, March 20 ................... 7:00 AM–5:00 PM
Tuesday, March 21 .................. 8:00 AM–4:00 PM
Wednesday, March 22 ............... 8:00 AM–4:00 PM
Thursday, March 23 ................ 8:00 AM–12:00 PM

Registration Materials

When you arrive at the Pennsylvania Convention Center, please go to the registration area located on the bridge walkway of the Convention Center near Exhibit Hall A to pick up your registration materials (i.e., badge holder, Exhibitor Directory and other supplemental materials).

Receipt of the Program and The Toxicologist

1. SOT members in the U.S. and Canada will receive the Program and The Toxicologist (abstracts volume) prior to the meeting, as will U.S. and Canadian non-members who pre-register by January 10, 2000.

2. SOT members and non-member pre-Registrants outside the U.S. and Canada, as well as non-members in the U.S. who register after January 10, will receive the Program and The Toxicologist at the registration desk on-site.

3. SOT members outside of the U.S. and Canada who do not attend the meeting will receive their copies of the Program and The Toxicologist after the meeting.

NOTE:

Please bring your copy of the Program and The Toxicologist with you to the meeting — there will be a fee for additional copies.
Air Transportation

The Philadelphia International Airport is the nearest airport serving downtown Philadelphia and transportation to all convention hotels is provided by shuttle or taxi service. Shuttle desks are located in the baggage claim area.

Reference Numbers

Special airline discount reference numbers are assigned to SOT. Please be sure to use them when making your reservations. (Use of these numbers will ensure your entry into the complimentary airline ticket drawing.)

United Airlines ..................574TF
US Airways .....................40151167

SOT has arranged special discounted rates with United Airlines and US Airways for travel originating in the US, Canada and Puerto Rico. These rates provide savings of 5-10 percent off the lowest applicable fare or 10-15 percent off a full coach fare. By staying over a Saturday night, you can take advantage of additional savings. LEE TRAVEL also offers great savings on discounted fares that do not require a Saturday night stayover.

Help SOT help you. When you use the reference numbers, SOT receives credit from the airlines. These credits are used to help offset the travel costs of invited speakers and allow SOT to keep registration fees economical.

Complimentary Airline Ticket Drawing

Attendees who purchase their tickets through United Airlines or US Airways and use SOT's reference numbers will automatically be entered into a special drawing for ONE COMPLIMENTARY ROUND-TRIP TICKET on United Airlines. The ticket is valid to anywhere in the continental US for up to 12 months after the Annual Meeting; the recipient is responsible for tax and processing fees. LEE TRAVEL will be glad to verify that you are entered in the drawing.

International Attendees

You can qualify for the COMPLIMENTARY ROUND-TRIP TICKET DRAWING by using the SOT reference numbers when you purchase your ticket(s). Send the Travel Form to LEE TRAVEL and they will make your SOT air travel reservations. Discounts may apply based on your departure city.

Military/Government Tickets

Special airline discounts may apply for travel and will qualify you for the COMPLIMENTARY ROUND-TRIP TICKET DRAWING by using the SOT reference numbers when you purchase your military/government ticket(s). Send the Travel Form to LEE TRAVEL and they will make your SOT air travel reservations.

Contacting LEE TRAVEL

LEE TRAVEL's toll free telephone number is (800) 298-5338. For international calls, or if you are unable to use the toll-free number from your city, please call (203) 254-3706, or use the Travel Form located on the SOT Web site (www.toxicology.org) and fax your airline request directly to: LEE TRAVEL at (203) 319-4298. If you prefer to e-mail your request, you may do so at sat@lee.travel.com.

Ground Transportation

Shuttle Bus

Shuttle bus service is provided from the Philadelphia International Airport to all SOT designated hotels in the Philadelphia area with rates starting from $10 one way. Shuttles are located in the far end of the baggage claim area of Philadelphia International Airport. For more information, call LEE TRAVEL at (800) 298-5338.

Taxi

The taxi fare from Philadelphia International Airport to the Philadelphia convention hotels is approximately $20.

Car Rental

Do you need a rental car during the SOT Annual Meeting in Philadelphia? To receive SOT's special meeting rate for SOT Members and Non-Members, please call AVIS at (800) 331-1600. Use Discount# T534999.

Local Rail Service

The Southeast Pennsylvania Transit Authority (SEPTA) provides local rail service between the Philadelphia International Airport and downtown Philadelphia. The R-1 line provides service to the convention center district.
Train

Amtrak's 30th Street Station is minutes from the Pennsylvania Convention Center and city hotels; operating rail service along the Northeast Corridor from Boston, MA to Washington, DC and from New Haven, CT to Springfield, MA. You will have access to inter-city trains operating over the corridor, including high-speed Metroliners between New York and Washington, DC. Inter-city service is also provided to many points south and west. For reservations or more information contact LEE TRAVEL at (800) 298-5338 or (203) 254-3706.

Hotels

The Society of Toxicology 39th Annual Meeting is headquartered at the Philadelphia Marriott. The scientific sessions and exhibits are located at the Pennsylvania Convention Center.

SOT has reserved blocks of rooms with varying room rates at ten hotels. You are encouraged to call the hotel at which you are interested in registering to ensure it provides the services you desire (e.g., room service, full-service restaurant). All room charges are subject to a 14 percent hotel room tax, per room night.

Hotel room rates are commissionable, with all commissions paid directly to SOT for support of long-range planning initiatives. A $3.00 rebate per room will be used to help cover the costs of the Pennsylvania Convention Center.

On-Line Hotel Reservation System


If you choose not to register on-line, you can reserve your room by completing the Housing Request Form, located on the SOT Web site (www.toxicology.org) and faxing it to Housing-On-Line at (800) 667-6584 (US) or (702) 795-8767 (International). Forms may also be mailed to: Housing-On-Line, 2275-A Renaissance Drive, Las Vegas, NV 89119, USA.

Philadelphia Hotel Accommodations

For hotel locations, please see map. (All room charges are subject to a 14 percent hotel room tax.) If you are requesting a suite, please submit your suite request in writing to SOT; attention Patricia Strong; Fax: (703) 438-3113 or E-mail: patricia@toxicology.org.

SOT Headquarters’ hotel is the Philadelphia Marriott.

<table>
<thead>
<tr>
<th>Single</th>
<th>Double</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Clarion Suites</td>
<td>$142</td>
</tr>
<tr>
<td>1010 Race Street</td>
<td></td>
</tr>
<tr>
<td>Philadelphia, PA 19107</td>
<td></td>
</tr>
<tr>
<td>Telephone: (215) 922-1730</td>
<td></td>
</tr>
<tr>
<td>Fax: (215) 922-6258</td>
<td></td>
</tr>
<tr>
<td>1 Block from the Convention Center</td>
<td></td>
</tr>
<tr>
<td>1, 3 - Rating: AAAMM</td>
<td></td>
</tr>
</tbody>
</table>

| B. Courtyard By Marriott | $162 | $172 |
| 21 North Juniper Street | |
| Philadelphia, PA 19107 | |
| Telephone: (215) 625-2900 | |
| Fax: (215) 625-6907 | |
| 2 Blocks from the Convention Center | |
| Not Rated - Opened in Fall 1999 | |

| C. Crowne Plaza | $150 | $150 |
| 1800 Market Street | |
| Philadelphia, PA 19103 | |
| Telephone: (215) 561-7500 | |
| Fax: (215) 561-2556 | |
| 6 Blocks from the Convention Center | |
| 2, 3, 4, 5 - Rating: AAAMM | |

| D. DoubleTree | $169 | $189 |
| Broad Street at Locust | |
| Philadelphia, PA 19107 | |
| Telephone: (215) 893-1600 | |
| Fax: (215) 893-1663 | |
| 5 Blocks from the Convention Center | |
| 1, 2, 3, 4, 5 - Rating: AAAMM | |

| E. Hawthorn Suites | $152 | $162 |
| 1109 Vine Street | |
| Philadelphia, PA 19107 | |
| Telephone: (215) 829-8300 | |
| Fax: (215) 282-1806 | |
| 2 Blocks from the Convention Center | |
| 3, 5 - Not Rated - Opened in 1998 | |
F. Holiday Inn Express Midtown
1305 Walnut Street
Philadelphia, PA 19107
Telephone: (215) 735-9300
Fax: (215) 732-2593
5 Blocks from the Convention Center
1, 4 - Rating: AAA ◆◆◆

G. Hotel Windsor
1700 Benjamin Franklin Parkway
Philadelphia, PA 19103
Telephone: (215) 981-5678
Fax: (215) 981-5609
5 Blocks from the Convention Center
2, 3, 5 - Not Rated - Opened in 1999

H. Philadelphia Marriott
1201 Market Street
Philadelphia, PA 19107
Telephone: (215) 625-2900
Fax: (215) 625-6097
Connected to the Convention Center
1, 2, 3, 4, 5 - Rating: AAA ◆◆◆

I. Warwick
1701 Locust Street
Philadelphia, PA 19103
Telephone: (215) 735-6000
Fax: (215) 790-7766
12 Blocks from the Convention Center
1, 2, 3, 5 - Rating: AAA ◆◆◆◆
No Shuttle Service Provided

J. Wyndham Franklin Plaza
17th & Race Streets
Philadelphia, PA 19103
Telephone: (215) 448-2000
Fax: (215) 448-2853
2 Blocks from the Convention Center
Adjacent to outside vendor fitness room
1, 4, 5 - Rating: AAA ◆◆◆

KEY TO HOTEL SERVICES

1 Business Center
2 Concierge Level
3 Fitness Room
4 Gift Shop
5 Valet Parking

Hotel ratings are based on the AAA rating system.

Disabled Access

The Pennsylvania Convention Center and most of the SOT hotels are accessible to persons with special needs. If you require special services, please mark the appropriate box on the Housing Request Form. If you require more information about disabled access, please call SOT Headquarters at (703) 438-3115.

Hospitality Suites and Affiliate Meetings

All requests for hospitality suites and affiliate meetings must be approved by SOT Headquarters. To reserve a meeting room, please submit an Ancillary Meeting Application. Hospitality suite and ancillary meeting space is booking fast. Send your request in now. The deadline was November 17. For a suite, contact Patricia Strong by fax at (703) 438-3113 or e-mail at patricia@toxicology.org. Suites and meeting rooms will be assigned on a first-come, first-served basis. Hospitality suites and meeting rooms at all the hotels will be available to registered exhibitors and SOT Corporate Associate members only. No hospitality functions may be scheduled during the scientific sessions—including morning sessions such as the Plenary and Burroughs Wellcome Lectures, Annual Business Meeting, Awards Presentation or Final Night Reception.

Guest Hospitality Center

Philadelphia Marriott: Conference Room 309–310

The SOT Guest Hospitality Center provides guest participants (non-scientists) with a place to meet and socialize with other guests. The Center will be located at the Philadelphia Marriott hotel, staffed Sunday through Thursday from 8:00 AM–4:30 PM and information on local attractions and tours will be available there.

Guests must be registered for the Annual Meeting to access the Hospitality Center. Guests must register on the same form as the person they are accompanying. (Guests are welcome to attend the Welcoming and Final Night receptions, but will not have access to the scientific sessions or the Exhibit Hall.)
Message Center/Lodging Information Desk

Pennsylvania Convention Center: Registration Area

The SOT Message Center/Lodging Information Desk will be located in the registration area of the Pennsylvania Convention Center and open during registration hours, Saturday – Thursday. Please inform your office and family of the Message Center/Lodging Information Desk number: (215) 418-5300. (The Message Center/Lodging Information Desk will not accept facsimiles.)

Annual Meeting Attendee lodging information will be available at the Message Center/Lodging Information Desk. The lodging list will be based on hotel information as of one week prior to the meeting. If you do not wish to have your lodging information made available to others, please visit the Message Center/Lodging Information Desk and have your name removed from the listing.

Convention Center First Aid and Security

If an emergency occurs at the Pennsylvania Convention Center, proceed to the nearest phone, dial 0 and ask the operator to connect you to security. State the telephone number and area from which you are calling as well as the nature and location of the incident. The Emergency Medical Team will arrive within minutes.

The First Aid Station is located in the back of Exhibit Hall A.

Should the fire alarm sound in the Pennsylvania Convention Center, please exit the building in an orderly manner through the first and second floor exits.

Final Night Awards Presentation

Thursday, March 23, 4:30 PM – 5:30 PM
Pennsylvania Convention Center: Room 201ABC

At 4:30 PM, in the Pennsylvania Convention Center, the Society of Toxicology will honor the following 2000 Award Recipients:

<table>
<thead>
<tr>
<th>Award</th>
<th>Recipient</th>
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</thead>
<tbody>
<tr>
<td>Achievement</td>
<td>Christopher Bradfield</td>
</tr>
<tr>
<td>Arnold J. Lehman</td>
<td>Carole Kimmel</td>
</tr>
<tr>
<td>Janardan Reddy</td>
<td></td>
</tr>
<tr>
<td>Colgate-Palmolive Visiting Professor</td>
<td>Yale University, School of Medicine</td>
</tr>
<tr>
<td>Contributions to Public Awareness of Animals in Toxicological Research</td>
<td>Allegheny-Erie Chapter Education</td>
</tr>
<tr>
<td>Gary Carlson</td>
<td></td>
</tr>
<tr>
<td>Enhancement of Animal Welfare</td>
<td>Yves Alarie</td>
</tr>
<tr>
<td>Merit</td>
<td>Philippe Shubik</td>
</tr>
<tr>
<td>Zeneca Traveling Award Lectureships</td>
<td>Kenneth Ramos</td>
</tr>
<tr>
<td></td>
<td>Garold Yost</td>
</tr>
</tbody>
</table>

Board of Publications Best Paper Awards in:

Toxicological Sciences

  - Hamid A. Boulacres
  - Charles Giardina
  - Carya L. Navarro
  - Edward A. Khairallah
  - Steven D. Cohen

Toxicology and Applied Pharmacology

  - J. Erin Staples
  - Nancy C. Fiore
  - Donald E. Frazier, Jr.
  - Thomas A. Gasiewicz
  - Allen E. Silverstone
Welcoming Reception

Sunday, March 19, 5:00 PM–6:30 PM
Pennsylvania Convention Center: Grand Hall

Greet your colleagues and plan your itinerary at the Welcoming Reception, which will be held at the Pennsylvania Convention Center. Enjoy light snacks and complimentary soda provided by SOT and sponsors—cash bars will also be available.

25-Year Member Reception

Sunday, March 19, 6:30 PM–7:30 PM
Pennsylvania Convention Center: Room 304/VIP

Have you been a member of the Society for 25 years (or perhaps many more)? If so, you will be recognized as a group at the SOT 2000 Annual Meeting’s 25-Year Member Reception, which will be held at the Pennsylvania Convention Center.

Please consider joining us at the Annual Meeting so we can extend our gratitude for the solid foundation on which the Society has grown. Information was mailed in December to all 25-Year Members.

Student/Post-Doctoral Fellow Reception

Sunday, March 19, 7:00 PM–9:00 PM
Philadelphia Marriott: Salon H

All students and post-docs are invited to attend a complimentary reception, which will be held at the Philadelphia Marriott hotel immediately following the Welcoming Reception. Complimentary food and soda will be provided by SOT and sponsors—a cash bar will also be available. Meeting badges are required.

Specialty Section Receptions

Monday, March 20-Wednesday, March 22,
6:00 PM–7:30 PM
Philadelphia Marriott: See Events Calendar on pages 4–8 for dates, times and locations.

All current and prospective SOT Specialty Section members are encouraged to attend.

Regional Chapter Receptions

Monday, March 20-Wednesday, March 22,
7:00 PM–8:30 PM
Philadelphia Marriott: See Events Calendar on pages 4–8 for dates, times and locations.

All Regional Chapter members (current and prospective) are encouraged to attend. Please check the Events Calendar on pages 4–8 to see if your Chapter is meeting.

Awards Presentation and Final Night Reception

Thursday, March 23
4:30 PM–7:30 PM

Celebrate the achievements of your peers and take advantage of your last opportunity to socialize and network with your colleagues by attending the Awards Presentation and Final Night Reception.

Participate in the festivities or sit back, relax and partake of the refreshments.

The presentation and reception will be held at the Pennsylvania Convention Center and are free to all attendees.
General Information

SOT Headquarters Office
Pennsylvania Convention Center: Room 303B
Saturday, March 18 ......................... 4:00 PM – 7:00 PM
Sunday, March 19 ......................... 7:00 AM – 5:00 PM
Monday, March 20 ......................... 7:00 AM – 5:00 PM
Tuesday, March 21 ......................... 8:00 AM – 4:00 PM
Wednesday, March 22 ..................... 8:00 AM – 4:00 PM
Thursday, March 23 ...................... 8:00 AM – 12:00 NOON

SOT T-Shirts $8 each
Pennsylvania Convention Center: Registration Area
SOT T-Shirts will be available for sale at the Sales Booth in the Registration Area of the Pennsylvania Convention Center (during registration hours) at a cost of $8 per shirt.

Customized Shirts and Totebags
Customized shirts and totes that promote the Society of Toxicology will also be available for order on-site in the Registration area. These specialty items will be shipped to you after the meeting.

Speaker Slide Preview Room
Pennsylvania Convention Center: Room 300
Saturday, March 18 ......................... 4:00 PM – 7:00 PM
Sunday – Thursday, March 19 – 23 ........... 7:00 AM – 4:00 PM

Media Center
Pennsylvania Convention Center: Room 303B
Sunday – Wednesday, March 19 – 22 ........... 8:00 AM – 5:00 PM
Thursday, March 23 ...................... 8:00 AM – 12:00 PM

Media Training Workshops for Toxicologists
By Kalish Communications of Washington, DC.

Media Training I: What To Do When the Media Calls
Saturday, March 18, 3:00 PM–4:00 PM (Free)
Philadelphia Marriott: Salon IJK
Learn to control the message and the media! This workshop is lively, fun, creative, challenging and loaded with critical information. This seminar is for beginning and advanced media savvy toxicologists. Registration is free. The Media Training Workshop will be held at the Philadelphia Marriott. All attendees will receive a free reference guide.

Media Training II: On-Camera Training for Toxicologists
Saturday, March 18, 4:00 PM–5:00 PM (Free)
Philadelphia Marriott: Salon IJK, and
Sunday, March 19 ($75)
Philadelphia Marriott: Salon K
On Sunday, March 19, this workshop will be held hourly starting at 8:00 AM with a break from 12:00 NOON–1:00 PM. The last workshop will begin at 4:00 PM.

Learn to develop and deliver your message to the media on camera! These sessions will be held to help toxicologists hone their skills for delivering key messages during crises and other tense situations. The two-hour Saturday workshop will be held in a large-group setting with a few attendees being selected for on-camera interviews. The one-hour small group training sessions allow for each participant to be trained and critiqued on camera. The registration fee for a Sunday Workshop is $75 for all participants. All attendees of the one-hour workshop will receive a free videotape of their interview.
Media Representative Registration/Media Center

Pennsylvania Convention Center: Room 303B

Registration fees are waived for working reporters and public information officers. Proof of credentials is required. Accepted credentials include a recognized press card, business card, letter on official letterhead from an editor of a publication or a producer of a program certifying that you are covering the conference for their respective organization.

The newspaper will be on the 3rd floor, Room 303B of the Pennsylvania Convention Center. The newspaper will be equipped with Internet access, computers, telephones, copier and fax machines.

Hours of operation are Sunday, March 19–Wednesday, March 22, 8:00 AM–5:00 PM and Thursday, March 23, 8:00 AM–12:00 PM.

For more information, contact Deborah Hyman, Public Affairs Director, at (703) 438-3115, ext. 327 or E-mail: deborahh@toxicology.org.

Placement Services

Placement Registration
Pennsylvania Convention Center: Room 103A

Placement Message Center
Pennsylvania Convention Center: Room 103B

Placement Job Posting Room
Pennsylvania Convention Center: Room 103C

Placement Interview Room
Pennsylvania Convention Center: Rooms 102AB and 104AB

SOT’s on-line job bank makes it easier for candidates and employers alike to access the Placement service from the SOT Web site (www.toxicology.org). Registrations are continuously processed and valid for six months. Once registered, candidates may search the listing of available jobs and employers may browse candidate profiles. During the registration period, users can update their listings or search the database as often as they wish. Communication with a desired employer or candidate can even be made via e-mail messages created within the system.

In addition to the on-line service, the traditional Placement Service program will be functional at the Annual Meeting. Although pre-registration is encouraged, registrations will be accepted at the Annual Meeting. All users with current registrations at the time of the Annual Meeting will be allowed to use the service.

Sponsorship Opportunities

Sponsorship opportunities are available for the 2000 Annual Meeting. Your sponsorship serves as visible evidence of your organization’s commitment to the science of toxicology. In addition, your sponsorship provides an opportunity for you to increase the overall awareness of your company among SOT members and 5,200 Annual Meeting attendees. As a sponsor, your company will receive recognition in the Final Program, The Toxicologist, the pre- and post-meeting newsletters, the Exhibitor Directory and in the meeting registration materials. In addition, acknowledgment signs will group sponsors by levels of giving and will be displayed at all the SOT functions during the Annual Meeting.

There are four levels of sponsorship available: platinum (over $5,000), gold ($2,000–$4,999), silver ($1,000–$1,999) and contributor ($500–$999). Your sponsorship will help offset the cost of the following functions: Minority Student Program, Student Evening Social, Continuing Education Program Refreshments, Graduate Students Luncheon, K-12 Teachers Workshop, Media Training Workshops, Welcoming Reception, and the Final Night Reception. If you are interested in SOT sponsorship, contact SOT Headquarters at (703) 438-3115 or E-mail: sothq@toxicology.org.
General Information

Exhibits

For many of the science professionals who attend, the focus of the SOT Annual Meeting is the three-day SOT exhibition. Here, state-of-the-art products and services directly relating to the advancement of research within toxicology and associated areas are displayed.

Exhibits Are Open:

- Monday, March 20 ................................. 9:30 AM-4:30 PM
- Tuesday, March 21 ................................. 9:30 AM-4:30 PM
- Wednesday, March 22 .............................. 9:30 AM-4:30 PM

At the SOT exhibition, scientists have a first-hand opportunity to talk with the exhibitors, examine and learn about the products and services on display by more than 240 companies. To request a booth at the SOT exhibition, contact Clarissa Russell Wilson, Director of Exhibits, at SOT Headquarters at (703) 438-3115, Ext. 326 or E-mail: clarissa@toxicology.org. (Space is limited and selling quickly.)

Exhibitors:

Do not miss this opportunity to increase your company’s exposure during the SOT Annual Meeting and throughout the year. Display your company’s ad in the SOT Exhibitor Directory which serves as a constant source of information throughout the conference and the year. For more details on advertising opportunities, contact Clarissa Russell Wilson at (703) 438-3115, ext. 326 or E-mail: clarissa@toxicology.org.

Reminder:

The SOT exhibits are considered to be part of the Annual Meeting scientific sessions. Guests and children are not allowed to participate. The Society requires approval of all photographic equipment used in the Exhibit Hall. For information or approval, contact Clarissa Russell Wilson at (703) 438-3115, ext. 326 or E-mail: clarissa@toxicology.org.

Complimentary Coffee in Exhibit Hall

Complimentary coffee sponsored by the exhibitors and SOT will be provided in the Exhibit Hall from 9:30 AM to 10:30 AM, Monday through Wednesday.

Food Service in Exhibit Hall

Coffee, juices and quick-serve continental breakfast items will be available for purchase from 8:00 AM to 10:00 AM and luncheon items will be available for purchase from 11:00 AM to 2:00 PM Monday through Wednesday in the Exhibit Hall. Coffee, soda and snacks will be sold from 2:00 PM until the close of the Exhibit Hall Monday through Wednesday afternoons.

SOT Exhibit Booths

Animals In Research Booth

The Society of Toxicology is committed to research of the highest quality and views the use of laboratory animals necessary to protect human health and the environment, except where alternative techniques have been validated. Stop by the Animals in Research Committee booth to pick up your copies of updated SOT statements concerning the use of animals in research. A variety of other materials will be on display, including curriculum resources, videotapes, brochures, and sources of items on the importance and ethics of animal research and the use of alternative models.

K-12 Resource Booth

This is your chance to see and use the excellent classroom resources that improve science skills of students and increase their understanding of toxicology. The booth will showcase web resources, videos, print materials, and tried and true activities that can be used by teachers and the toxicologists that visit classrooms and community groups. These resources include materials demonstrated in the Paracelsus Goes to School and Toxicology for Kids workshops. Come share with the K-12 Subcommittee what YOU are doing in your local area.
SOT Membership Booth
Saturday, March 18–Thursday, March 23
Pennsylvania Convention Center: Registration Area

The SOT Membership Committee has put together a booth highlighting the benefits of membership in SOT. Applications for SOT membership will be available. Non-members attending this year’s meeting are invited to visit the booth. Student members who are eligible for Associate membership and Associate members who are eligible for Full membership are also encouraged to visit the booth and pick up an application form. The deadlines for receipt of applications are January 1, May 1 and September 1. (An SOT Membership Application is located as the Appendix section of this book or on the SOT Web site at www.toxicology.org)

Toxicology Education Foundation (TEF) Booth

The Toxicology Education Foundation (TEF) will highlight Toxicology in the Classroom, a program to increase implementation of quality toxicology-related curriculum in middle grade classrooms. Contributions of SOT members to the TEF fundraising campaign will make it possible for classrooms across the nation to use these lessons in toxicology and environmental health. Learn more about the campaign, check that your name is on the contributor’s list, and learn how you can help. Fresh baked goodies are promised.

Write To Congress (RALA) Booth

Annual Meeting attendees are invited to write their Congressperson at the SOT Regulatory Affairs and Legislative Assistance (RALA) booth. Computer terminals loaded with congressional directories and sample letters on medical research funding, risk assessment, and animals in research will be available for attendees to address, write and mail their letters. Make certain to schedule your time at the SOT Annual Meeting to include writing your Congressperson. Letter writers will receive a small gift from SOT.
<table>
<thead>
<tr>
<th>Company Name</th>
<th>Booth Number</th>
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<tbody>
<tr>
<td>ABC Laboratories</td>
<td>634</td>
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<tr>
<td>ABEL Scientific-Aquatic Biological Evaluation Laboratory</td>
<td>767,765</td>
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<tr>
<td>Absorption System</td>
<td>205</td>
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<td>Academia Book Exhibis</td>
<td>544</td>
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<td>Academic Press</td>
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<td>Access Technologies</td>
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<td>Affymetrix, Inc.</td>
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<td>Alabama Research &amp; Development</td>
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<td>Allentown Caging Equipment Co., Inc.</td>
<td>717</td>
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<tr>
<td>Altech Technologies Inc.</td>
<td>445</td>
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<td>ALZA Scientific Products &amp; ALZET® Osmotic Pumps</td>
<td>834,816</td>
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<tr>
<td>American Board of Toxicology, Inc.</td>
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<td>American Chemical Society</td>
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<td>American Conference of Government Industrial Hygienists (ACGH&amp;F)</td>
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<td>American College of Toxicology</td>
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<td>Americans for Medical Progress</td>
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<td>Anti-Lytics, Inc.</td>
<td>502</td>
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<td>Anilab, Inc.</td>
<td>907</td>
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<td>Animal Identification and Marking Systems, Inc.</td>
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<td>Animals In Research (SOT)</td>
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<tr>
<td>Applied Preclinical Services</td>
<td>1105</td>
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<td>Aqua Survey Inc.</td>
<td>1127</td>
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<tr>
<td>Association for Assessment of Accreditation of Laboratory</td>
<td>SED</td>
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<td>Animal Care International (AAALAC International)</td>
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<td>Battelle</td>
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<td>Bayer Corporation</td>
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<td>BB Biologics, Inc.</td>
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<td>Becoll House, Inc.</td>
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<tr>
<td>Becton International</td>
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<tr>
<td>Beverly Glen Medical Systems Corp.</td>
<td>217</td>
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<tr>
<td>Bio-Life® Associates, Ltd.</td>
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<td>Bio-Serv</td>
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<td>Bioanalytical Services - Evansville</td>
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<tr>
<td>BioDynamics®</td>
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<td>Biological Test Center</td>
<td>729</td>
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<td>Biology and Zoology Research Center Inc.</td>
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<td>BioMedic Data Systems Inc.</td>
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<td>BIOPAC Systems, Inc.</td>
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<td>BioReliance</td>
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<tr>
<td>Biosense Laboratories</td>
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<tr>
<td>Biotrin International</td>
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<tr>
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Admittance to the Exhibit Hall is limited to attendees with full registrations. 
Children under the age of 16 are not allowed in the Exhibit Hall.

Please ask permission before taking pictures in the Exhibit Hall.

*SED - See Exhibitor Directory for Booth Number
The Society of Toxicology would like to express its gratitude to

DR. RICHARD S. WARITZ

For the fourth year in a row, Dr. Waritz volunteered his own time to review and confirm the scientific terminology in the SOT Annual Meeting Program.

Thank You
Continuing Education Courses

All courses will be held on Sunday, March 19, 2000, at the Pennsylvania Convention Center. Please check the signage in the Registration area 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 the Continuing Education Information Booth near the course site at the Convention Center on Sunday. The booth will be open 6:30 AM - 2:15 PM. Registration for the Sunrise Mini-Courses closed January 31, 2000.

6:30 AM
Continental Breakfast (Sunrise Mini-Courses Only)

7:00 AM - 7:45 AM, Sunrise Mini-Courses 1 & 2:
1. Introduction to Proteomics

8:15 AM - 12:00 NOON, Morning Courses
3. Environmental Epidemiology and Toxicology: The Interface and the Interactions
4. Pulmonary Immunotoxicology
5. Molecular Genetics, Metabolism and Cell Signaling in Renal Carcinogenesis: A Lesson in Synecdoxic Toxicology
6. Molecular Approaches to a Comprehensive Understanding of Cardiotoxicity
7. Advanced Neurotoxicology: Biomarkers and Mechanisms of Oxidative Stress-Induced Neurotoxicity
8. Rodent Toxicity and Nongenotoxic Carcinogenesis: Knowledge-Based Human Risk Assessment from Molecular Mechanisms
9. Advances in Non-Invasive Micrometer and Nanometer Scale Cellular/Tissue Vital Imaging
10. Tips for Effective Risk Communication

1:15 PM-5:00 PM, Afternoon Courses
11. Antibodies as Reagents to Evaluate Toxicant-Mediated Signal Transduction Pathways
12. Phototoxicology: Basic Principles of Light, Photobiology and Regulatory Issues
13. Toxicokinetics and Physiologically-Based Toxicokinetics in Toxicology and Risk Assessment
14. Metal Exposure and Toxicity of the Respiratory Tract
15. Safety Pharmacology and Risk Assessment
16. Toxicogenomics in the Trenches
17. The Application of Philosophy to Risk Assessment, Management and Communication

INNOVATIONS IN APPLIED TOXICOLOGY

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<td>Airborne Particulate Matter: Physico-Chemical Characteristics and Human Exposure Issues Related to Health Effects Research and Assessment #299-303</td>
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<td>Toxicology for Kids, Part II: The Classroom Experience #304-308</td>
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<td>Tuesday</td>
<td>An Analysis of the Cytotoxicity and Mechanisms in Free Radical Toxicology: The Legacy of Fritz Haber #698-612</td>
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<td>Latex Allergy in the Workplace #906-910</td>
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<td>Harmonization of Cancer and Non-Cancer Risk Assessment: Moving Beyond the NRC Book #911-915</td>
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<td>The Influence of Co-Pollutants of the Toxicity of Airborne Particulate Matter #1144-1149</td>
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<td>Human Immunotoxicity: Examples and Strategies for Determining Risk #1406-1410</td>
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<td>Current Status of Model Development for Photobiology Risk Assessment with Relevance to Humans #1411-1416</td>
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<td>Arsenic: Applications of Carcinogenic Mechanisms to Risk Assessment #1668-1673</td>
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<td>Integration of Mechanistic, Toxicological and Epidemiological Data into the EPA’s Trichloroethylene Cancer Assessment #1942-1946</td>
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<td>Toxicological Considerations of Pharmaceuticals for Pediatric Patients #1947-1952</td>
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<td>Are There Autoimmune Consequences of Toxicant Exposure in Human Populations? #28-31</td>
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<td>Are Dietary Supplements Safe? #1150-1154</td>
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PLATFORM SESSIONS

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<td>Pesticides #309-318</td>
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<td>TCDD #319-328</td>
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<td>Thursday</td>
<td>Metals #1953-1964</td>
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## POSTER DISCUSSION SESSIONS

*Please check signage outside the room for discussion topic areas.*

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<td>Developmental Immunotoxicology #41-51</td>
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<td>Monday 9:30 AM</td>
<td>Xenobiotic Regulated Transcription #52-59</td>
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<td>Mechanisms of Developmental Toxicity #329-339</td>
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<td>Risk Assessment of Metals #349-349</td>
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<td>Tuesday 8:30 AM</td>
<td>Mechanisms of Arsenic Carcinogenesis #625-636</td>
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<td>TCDD/In Utero Exposure #637-646</td>
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<td>Role of Oxidative Stress in Carcinogenesis #938-946</td>
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<td>Wednesday 8:30 AM</td>
<td>K-12 Educational Programs in Toxicology &amp; Health #1178-1186</td>
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<td>Gene Expression in Oxidative Injury #1187-1198</td>
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<td>Molecular Immunotoxicology #1417-1429</td>
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<td>Neurotoxicology of Solvents &amp; Hydrocarbons #1686-1697</td>
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<td>Risk Assessment of Solvents in Drinking Water #1977-1987</td>
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## POSTER SESSIONS

*All posters will be displayed from 9:30 AM — 12:30 PM (Monday — Wednesday) and 8:30 AM — 11:30 AM (Thursday) or 1:30 PM — 4:30 PM. Sessions indicated by an asterisk (*) will be attended from 9:30 AM — 11:00 AM or 1:30 PM — 3:00 PM (except Thursday morning when they will be displayed from 8:30 AM — 11:30 AM and attended from 8:30 AM — 10:00 AM). Those without an asterisk will be attended from 11:00 AM — 12:30 PM or 3:00 PM — 4:30 PM (except Thursday morning when they will be attended 10:00 AM — 11:30 AM).*

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<td>Neurotoxicology of Monoamines #101-115</td>
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<td>Glutathione #116-142</td>
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<td>Metals #143-184</td>
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<td>Liver/Gastrointestinal System #185-227</td>
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<td>Monday 9:30 AM</td>
<td>Reactive Intermediates #228-236</td>
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<td>Cell Proliferation/Cell Cycle #236A-247</td>
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<td>Disposition/Pharmacokinetics #248-286</td>
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<td>Halogenated Hydrocarbons #350-369</td>
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<td>Neurotoxicology of Metals #370-409</td>
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<td>PBPK (Physiologically Based Pharmacokinetics) #40-446</td>
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<td>Hypersensitivity #560-590</td>
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<td>Inflammation #647-655</td>
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<td>Skin #684-729</td>
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<td>Risk Assessment Modeling #853-882</td>
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<td>Respiratory Toxicology: Mechanisms</td>
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<td>Environmental/Ecotoxicology</td>
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<td>Safety Evaluation #1844-1877</td>
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<td>Kidney #1878-1911</td>
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Continuing Education Courses

Sunday, March 19, 2000

The Continuing Education Program offers a wide range of courses that cover state-of-the-art 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 assist investigators in developing, implementing, or learning techniques or approaches and the advanced course is intended to be of interest to individuals already working in the field.

Please Note: Continuing Education Courses are scheduled concurrently for Sunrise (7:00–7:45), AM (8:15–12:00), or PM (1:15–5:00) sessions.


Sunrise Mini-Course: Introduction to Proteomics

Sunrise Mini-Course 1—Basic

Chairperson/Instructor: Daniel C. Liebler, University of Arizona, Tucson, AZ.

Endorsed by the Mechanisms Specialty Section.

The proteome consists of all of the expressed proteins in any particular cell and is thus the functional expression of the genome. Research in proteomics focuses on the expression of proteins and their post-translational modification by endogenous or exogenous agents. Proteomics approaches open new avenues to investigate mechanisms by which environmental chemicals affect living systems through identification of specific protein targets and characterization of effects on cellular protein expression and post-translational modification. Modern proteomics and genomics approaches offer an ability to observe changes in whole pathways and signalling networks as opposed to individual genes and proteins that code for single, cellular components. This short, basic course will introduce participants to methods used in proteomics, peptide sequence analysis and identification of proteins using databases. Applications of the techniques will also be discussed. This course should be useful to all toxicologists involved in mechanistic research.

Sunrise Mini-Course: Metabonomics—A New Approach to Drug Toxicity Screening Using NMR Spectroscopy, Pattern Recognition and Expert Systems

Sunrise Mini-Course 2—Basic

Chairperson: Donald G. Robertson, Parke-Davis Pharmaceutical Research, Ann Arbor, MI. Instructor: Jeremy K. Nicholson, Imperial College, University of London, London, United Kingdom.

Endorsed by the Mechanisms Specialty Section.

The combination of NMR with computer pattern recognition, expert systems and other bioinformatic tools has given rise to a new “Metabonomics” approach to toxicological assessment. Metabonomics is complementary to genomic and proteomic approaches and also gives new biomarker or surrogate marker information on toxic effects of drugs, as well as providing insights into toxic mechanisms. New high throughput flow injection technology and expert system spectrometer control allows high throughput of biofluids for in vivo toxicological assessment at a much lower overall cost than other “rival” high technology screening tools. NMR spectroscopy of biofluids and intact tissues can be used to provide detailed biochemical information on the functional integrity of organisms following challenges with xenobiotics or other pathophysiological perturbations. This basic course on NMR spectroscopy and expert systems and its application to toxicology, should appeal to those with interests in mechanistic problems, high throughput in vivo screening and lead candidate selection.

Environmental Epidemiology and Toxicology: The Interface and the Interactions

AM 3—Basic

Chairpersons: Richard A. Parent, Consultant, Limited, Damariscotta, ME and Christopher Schoenwald, National Institute of Environmental Health Sciences, Research Triangle Park, NC.

Endorsed by the Epidemiology Specialty Section.

Assessing human health hazards from environmental exposures is the common goal of both epidemiology and toxicology. Few investigations have successfully blended these disciplines. Knowledge and understanding of exposures, associations with effects and mechanisms of toxicity are the underpinning of risk assessment and risk management. This course will outline several perspectives on the need for multidisciplinary cooperation between toxicologists and epidemiologists. The goal is to help toxicologists understand how their biological science can provide useful tools for human population studies of health effects of environmental exposures.
Environmental epidemiology basics will be presented and integrated with concepts and examples of how biologic understanding can strengthen the search for both association of exposure and disease and proof of cause/effect. Lectures will demonstrate the use of biomarkers of exposure and effect in epidemiology; the integration of toxicological understanding into epidemiological study design; and the importance of understanding exposure and dose/response. Participants will be better able to work with those planning population studies for chemical exposure risk discovery by understanding study design, exposure evaluation and outcome analysis.

The Need for Disciplinary Interaction between Epidemiology and Toxicology, Christopher Schonwalder, National Institute of Environmental Health Sciences, Research Triangle Park, NC.

Environmental Epidemiology Basics, Genevieve Matanoski, Johns Hopkins, School of Public Health, Baltimore, MD.

Risk Assessment and Epidemiology, Irva Herz-Picciotto, University of North Carolina School of Public Health, Chapel Hill, NC.

Developing Biomarkers for Epidemiologic Studies, Regina Santella, Columbia University, New York, NY.

Epidemiological Study Design with Toxicological Input, Matt Longnecker, National Institute of Environmental Health Sciences, Research Triangle Park, NC.

Pulmonary Immunotoxicology

Chairpersons: Mitchell D. Cohen and Judith T. Zelikoff, New York University School of Medicine, New York, NY.

Endorsed by the Immunotoxicology and Inhalation Specialty Sections.

Pulmonary immunotoxicology has been active over the past decade in seeking to elucidate how environmental and workplace agents can modify immune function in the lungs so as to allow for indirect alterations in respiratory health and, subsequently, overall health. This course will review recent advances in pulmonary immunotoxicology for investigators in the field as well as to those about to enter it. The first speaker will describe normal respiratory system structure, function and immunology, as well as disposition of inhaled particles/gases. The second presenter will describe the major pathological processes which may arise from immunomodulation. Each remaining presentation will deal with a major class of pulmonary immunomodulating agents and will provide an overview of exposure, mechanisms by which immunomodulation evolves and the potential risk to human health from exposure to each class of agents. Because of the wide scope of agents to be discussed, this CE course will not only be of great interest to researchers in the fields of pulmonary toxicology and immunotoxicology, but it will be informative to scientists involved in regulatory matters and to those doing research in food safety, neurotoxicology, metals toxicology and mechanisms.

Respiratory Tract Structure and Defense: An Overview, Richard B. Schlesinger, New York University School of Medicine, New York, NY.

Adverse Effects of Altered Pulmonary Immunity, Meryl H. Karol, University of Pittsburgh, Pittsburgh, PA.

Immunotoxicants—Biologics, Robert L. Sherwood, IIT Research Institute, Chicago, IL.

Immunotoxicants—Ambient Gases, Mark W. Frampton, University of Rochester Medical Center, Rochester, NY.

Immunotoxicants—Metals, Gregory L. Finch, Lovelace Respiratory Research Institute, Albuquerque, NM.

Molecular Genetics, Metabolism and Cell Signaling in Renal Carcinogenesis: A Lesson in Synergistic Toxicology

Chairperson: Myrtle A. Davis, University of Maryland, Baltimore, MD.

Endorsed by the Carcinogenesis Specialty Section.

Renal carcinogenesis provides an example of the synergistic relationship between metabolism, genetics, proliferation and cell death in mediating renal toxicity. The objective of this basic course is to provide a review of cellular responses and other physiologically relevant aspects of the kidney that are important in mediating renal carcinogenesis. The presentations will provide the attendees with a useful review of several currently emerging topics that are being integrated in mechanistic investigations. The information provided in this course will be of general use to individuals involved in safety evaluations, risk assessment and those that examine mechanisms of renal toxicity.

Histopathology and Mechanisms of Renal Carcinogens and Nephrotoxins, Gordon Hard, American Health Foundation, Valhalla, NY.

Metabolism of Renal Toxicants and Carcinogens, Serrine S. Lau, University of Texas, Austin, TX.

Cell Signaling in Renal Apoptosis and Proliferation, Myrtle A. Davis, University of Maryland, Baltimore, MD.

Molecular Genetics of Renal Carcinogenesis, Cheryl Walker, UTMD Anderson Cancer Center, Smithville, TX.
Molecular Approaches to a Comprehensive Understanding of Cardiotoxicity

Chairperson: Y. James Kang, University of Louisville, Louisville, KY.

Endorsed by the Mechanisms and Molecular Biology Specialty Sections.

Cardiotoxicity is a major environmental health problem and an important complication of clinical applications of a diversity of drugs including anti-cancer chemotherapeutics. However, we toxicologists have not explored this field to the same extent as we have in studying the toxicology of the liver, lungs, kidneys, or brain. As a result, cardiac toxicology research is extremely under-represented in the discipline of toxicology. Advances in molecular biology of the heart have provided tremendous opportunities to study molecular mechanisms of cardiotoxicity. Such studies are increasingly important for the molecular era of cardiac medicine. For example, myocardial gene therapy is likely to soon be in phase 1 trials and its associated cardiotoxicity must be studied. It is time for toxicologists to become more involved in this exciting field and to make our contributions to the advanced understanding of cardiovascular diseases. This CE course will provide: (1) an overview of toxic events in the heart; (2) a comprehensive discussion of myocardial energy metabolism and oxidative injury and the role of apoptosis in cardiotoxicity; (3) an overview of the most exciting advances in molecular biology of the heart; and, (4) a discussion of the molecular tools used to dissect cellular and molecular mechanisms of cardiotoxicity. The ultimate goal of this CE course is to promote cardiac toxicology research and teaching within our discipline.

Molecular Approaches to a Comprehensive Understanding of Cardiotoxicity, Y. James Kang, University of Louisville, Louisville, KY.

Overview of Toxic Events in the Heart, Kendall B. Wallace, University of Minnesota, Duluth, MN.

Energy Malmetabolism, Oxidative Stress and Toxicological Consequences in the Heart, James P. Kehret, University of Texas, Austin, TX.

Overview of Molecular Biology of the Heart, Jeffery Robbins, University of Cincinnati, Cincinnati, OH.

Molecular Approaches to Cardiac Toxicology Research, Y. James Kang, University of Louisville, Louisville, KY.

Advanced Neurotoxicology: Biomarkers and Mechanisms of Oxidative Stress-Induced Neurotoxicity

Chairpersons: William Stilker, National Center for Toxidological Research, USDA, Jefferson, AR and Tomas Giurante, Johns Hopkins University, Baltimore, MD.

Endorsed by the Neurotoxicology Specialty Section.

This advanced course will focus on oxidative stress-induced neurotoxicity and the several multidisciplinary approaches used to define this important mechanism of action of neurotoxicants. Researchers in the field of neurotoxicology rely on neuropathological, behavioral, neurochemical/molecular biological and electrophysiological approaches to define both the effects and mechanisms of neurotoxicity. The use of the multidisciplinary approaches to define a toxicological profile for an agent or class of agents is both a challenge and advantage to the practicing neurotoxicologist. The underlying theory and necessary techniques to define necrotic and apoptotic neural cell death will be presented. The behavioral consequences and neurochemical/molecular biological up-regulations of oxidative stress-induced toxicity will also be described. Toxicologists from academia, government and industry will all benefit from this in-depth description of oxidative stress-induced neurotoxicity and the multidisciplinary approaches used to unravel its mechanism.

Neurotoxicology of Oxidative Stress: The Biochemical Basis of Necrosis and Apoptosis, Sten G. Orrenius, Karolinska Institute, Stockholm, Sweden.

Neuropathological Effects of Oxidative Stress: The Pathophysiology of Necrosis and Apoptosis, Andrew C. Scallet, National Center for Toxidological Research, Jefferson, AR.

Electrophysiological Methods to Assess Oxidative Stress-Induced Neurotoxicity, Toshio Narahashi, Northwestern University, Chicago, IL.

Behavioral Assessment Techniques for Oxidative Stress-Induced Insults, Deborah Cory-Slechta, University of Rochester, Rochester, NY.
Rodent Toxicity and Nongenotoxic Carcinogenesis: Knowledge-Based Human Risk Assessment from Molecular Mechanisms

Chairpersons: Ruth Roberts, AstraZeneca, Ltd., Macclesfield, United Kingdom and William Farland, USEPA, Washington, DC.

Endorsed by the Mechanisms and Risk Assessment Specialty Sections and the Risk Assessment Task Force.

It is necessary to determine whether chemicals or drugs have the potential to pose a threat to human health. Chemicals that can damage DNA are detected in short-term assays but the detection of nongenotoxic carcinogens relies upon bioassays in laboratory animals. However, there are marked rodent-human species differences in response to nongenotoxic carcinogens, questioning the relevance of rodent data for human risk assessment. This course aims to provide useful background on rodent nongenotoxic carcinogenesis, then to illustrate, by example, how knowledge of the molecular mechanisms of rodent nongenotoxic carcinogenesis coupled with an understanding of species differences can assist in knowledge-based human risk assessment. The ability of nongenotoxic carcinogens to cause oxidative stress, induce cell proliferation, suppress apoptosis and activate nuclear receptors will be discussed. Finally, consideration will be given to incorporating mechanism-based information into risk assessment for regulatory purposes.

Regulation of Hepatocyte Proliferation and Apoptosis by Nongenotoxic Carcinogens: Species Differences and Molecular Mechanisms, Ruth Roberts, AstraZeneca, Ltd., Macclesfield, United Kingdom.

Chloroform: View Points on Human Cancer Risk Assessment, Jay I. Goodman, Michigan State University, East Lansing, MI.

Dioxin and Oxidative Stress: Species Differences and Molecular Mechanisms, Howard Schertzer and Timothy Dalton, University of Cincinnati, Cincinnati, OH.

Incorporating Mechanism-Based Information into Risk Assessment for Regulatory Purposes, William Farland, USEPA, Washington, DC.

Advances in Non-Invasive Micrometer and Nanometer Scale Cellular/Tissue Vital Imaging

Chairpersons: Robert C. Burghardt, Texas A&M University, College Station, TX and Martin A. Phibert, University of Michigan, Ann Arbor, MI.

Endorsed by the Molecular Biology Specialty Section.

Non-invasive, real-time imaging tools employing nano-optical/magnetic biosensors and biomarkers to define the function of living cells are among the most significant emerging technologies in the life sciences for toxicology applications. This basic course will identify these new technologies and provide examples of applications ranging from in vivo toxicokinetic monitoring in intact living cells to the detection of gene expression in vivo to increase understanding of the mechanisms of cellular toxicity. Speaker 1 will discuss nano-optochemical sensors that can be used to assess metabolic substrates and ions within cells following toxicant perturbation. Speaker 2 will discuss the real-time analysis of cellular responses in cultured cells and describe instrumentation developed to integrate data acquisition and analysis of toxicant effects on Ca²⁺-mediated signal transduction. Speaker 3 will discuss a significant microscopy advance, multi-photon microscopy, which uses ultrafast infrared laser pulses to image fluorescence signals for the study of subcellular responses within living tissue. Speaker 4 will describe new technology using a non-invasive, real-time imaging system to monitor intact living animals for specific gene induction by compounds. Speaker 5 will discuss a mechanism to obtain experimental results with low variance by production of imaging-induced changes in single animals used as their own controls, including testing for changes on volumetric data sets such as autoradiography and MRI.

Advanced Micrometer to Nanometer Scale Vital Imaging: Practical Nano-OptoChemical Systems, Martin A. Phibert, University of Michigan, Ann Arbor, MI.

Real Time Statistical Analysis of Frequency Encoded Ca²⁺ Signals, Rola Barhoumi, Texas A & M College Station, TX.

Multiple Photon Microscopy: Practical Considerations and Potential Applications in Toxicology, David Piston, Vanderbilt University, Nashville, TN.

Pharmacokinetic Studies via Real Time In Vivo Monitoring of Specific Gene Expression or Biological Processes, Douglas Kawahara, Xenogen Corporation, Alameda, CA.

Role of Multimodality Registration in Animal Studies, Charles R. Meyer, University of Michigan, Ann Arbor, MI.

Tips for Effective Risk Communication

Chairpersons: Mary Jo Miller, Exxon Biomedical Sciences, Inc., Annandale, NJ and George Gray, Harvard School of Public Health, Boston, MA.

Endorsed by the Regulatory Affairs and Legislative Assistance Committee, the Committee on Public Communications and the Risk Assessment Specialty Section.

This basic course provides members with a practical understanding of the importance and necessity of effectively communicating health and environmental risks. Effective risk communication is an essential part of the risk assessment/risk management process. Misguided perceptions of risk
by the public can have significant contrary impacts on regulatory priorities, research initiatives, business development and public health. The first speaker will discuss the changing nature of risk communication and the importance of providing scientific information in context. The next speaker will provide specific tips on how to communicate risk-related issues to reporters and give an overview of the elements of a great news story. The third speaker will discuss the importance of communicating scientific issues to Congress, give an overview of the political process and provide advice to members when visiting Congress. The last speaker will discuss the importance and most effective means of providing accurate risk-based information to the public and provide tips on available tools/resources to assist members in speaking to schools, local communities and special interest groups. A discussion panel including the speakers and invited guests from the press, Congress and USEPA will summarize the key messages from the course and field questions from the floor. The course should be of broad interest to members involved in risk assessment and regulatory issues.

**Opening Remarks**, Mary Jo Miller, Exxon Biomedical Sciences, Inc., Annandale, NJ.

**The Importance of Risk Communication**, George Gray, Harvard Center for Risk Analysis, Boston, MA.

**How to Effectively Talk to the Press**, Deborah Hyman, SOT Public Affairs, Reston, VA.

**Risk Communication and the Legislative Process**, Brad Shurdt, SOT Congressional Fellow, Washington, DC.

**How to Effectively Talk to the Public**, James Bus, Dow Chemical Company, Midland, MI.

**Panel Discussion**, Panelists include: Speakers plus John Timpane, Philadelphia Inquirer, Philadelphia, PA and Linda S. Birnbaum, USEPA, Research Triangle Park, NC.

**Antibodies as Reagents to Evaluate Toxicant-Mediated Signal Transduction Pathways**

**Chairperson**: Richard S. Pollez, Medical University of South Carolina, Charleston, SC.

**Endorsed by the Molecular Biology Specialty Section**.

Signal transduction pathways mediate the effects of many toxicologically important compounds (i.e., dioxins, estrogens, peroxisome proliferators, etc.). To understand how these compounds mediate biological effects, it is necessary to understand the expression, distribution and concentration of the signaling proteins, their interactions and the gene products they regulate. One of the most effective ways to carry out such analyses is with specific antibodies to each of the component proteins. This course will provide a springboard for beginning and established investigators to learn state-of-the-art techniques and strategies involved in the analysis of proteins both in vivo and in vitro. Completion of this course should benefit those interested in establishing the use of antibodies within the laboratory and will also provide enough detail to allow individuals to better critique studies that utilize antibody reagents. Topics to be addressed include: analysis of protein domain structure and design of antibody regents, production and purification of antigens and antibodies, use of enzyme activity and expression, immunoprecipitation to assess protein expression and interaction, use of protein tags, quantitative Western blotting and immunocytochemical methods to assess protein expression and subcellular localization in tissues. Each session will be technique-oriented and presented in a problem-solving format based on real experimental successes and failures.

**Design and Characterization of Antibody Reagents to Study Receptor Proteins**, Richard S. Pollez, Medical University of South Carolina, Charleston, SC.

**Design of Antibody Reagents and Methodologies to Study Toxicant-Induced Proteins**, Thomas R. Sutter, University of Memphis, Memphis, TN.

**Use of Immunoprecipitations and Tag Expression Constructs to Study Protein-Protein Interactions**, Gary H. Perdew, Penn State University, University Park, PA.

**Immunohistochemical Methods for Localizing the Expression of Protein in Tissues and Cells**, Barbara Abbott, USEPA, Research Triangle Park, NC.

**Phototoxicology: Basic Principles of Light, Photobiology and Regulatory Issues**

**Chairpersons**: P. Donald Forbes, Argus Research Laboratories, Inc., Horsham, PA and Paul C. Howard, National Center for Toxicological Research, USFDA, Jefferson, AR.

The phototoxic and carcinogenic properties of solar light have been documented for several years. Increased leisure time in outdoor activities, use of tanning beds and the use of drugs that are photosensitizing, have resulted in increased interest in phototoxicology. This basic course will assist investigators in understanding fundamental issues and techniques in phototoxicology. The first presentation will focus on light characteristics, sources, methods of detection, quantification and photobiology. The reaction of biological systems to light will be the focus of the second and third presentations. Characteristics of photodynamic reactions, phototoxicity, photoallergy, photouging, photogenotoxicity, photomutagenesis and photocarcinogenesis will be presented. Regulatory issues in phototoxicology will be outlined including U.S., European and ICH guidelines and the use of animal models, transgenic animals and in vitro studies. The design of methods and protocol to address phototoxicology issues will be presented from both the regulatory and industrial positions. Toxicologists from industry, government and academia will benefit from exposure to the basic principles, biology and application of phototoxicology.

Acute Photobiological Responses to Light, Frank G. Gerberick, The Procter & Gamble Company, Cincinnati, OH.

Chronic Photobiological Responses to Light, Jay F. Nash, The Procter & Gamble Company, Cincinnati, OH.

Regulatory Aspects of Phototoxicity of Drug Products, Abigail C. Jacobs, USFDA, Rockville, MD.

Toxicokinetics and Physiologically-Based Toxicokinetics in Toxicology and Risk Assessment

PM 13—Basic

Chairperson: Rakesh Dixit, Merck Research Laboratories, West Point, PA.

With the implementation of the International Conference on Harmonization (ICH) Guidelines on Dose Selection for Carcinogenicity Studies and Systemic Exposure, the conventional toxicokinetics (TK) assessment has become an integral part of safety assessment. Toxicokinetic models have received increasing application in dose selection, trans-species comparison of toxicity and in assessing human safety margins of pharmaceutical agents. Physiologically-based toxicokinetic models represent the kinetic uptake and disposition of chemicals using the rates of biochemical reactions, as well as physiological and anatomical characteristics. In the absence of human pharmacokinetics data, these models have been successfully used for extrapolation of toxicokinetics from high dose to low dose and from animals to humans. The objective of this basic course is to describe and compare conventional compartmental toxicokinetics models and physiologically-based toxicokinetics models. Emphasis will be placed on the application of these models in dose selection, ICH guidelines, interpretation of toxicity data and human health risk assessment.

Basic Toxicokinetics Principles and Methodology, James E. Riviere, North Carolina State University, Raleigh, NC.

Physiologically-Based Toxicokinetics Models, Kannan Krishnan, University of Montreal, Medicine du Travail et Hygiene du Milieu, Montreal, Canada.

Integration of Toxicokinetics in Safety Assessment, Rakesh Dixit, Merck Research Laboratories, West Point, PA.

Toxicokinetics and Physiologically-Based Models: Utility in Chemical and Pharmaceutical Risk Assessment, Melvin E. Andersen, Colorado State University, Fort Collins, CO.

Metal Exposure and Toxicity of the Respiratory Tract

PM 14—Advanced

Chairpersons: Daniel L. Morgan, National Institute of Environmental Health Sciences, Research Triangle Park, NC and Michael P. Waalkes, National Cancer Institute at National Institute of Environmental Health Sciences, Research Triangle Park, NC.

Endorsed by the Inhalation and Metals Specialty Sections.

Environmental and occupational inhalation exposures to metal vapors, fumes and particulates are associated with a number of diverse and debilitating respiratory diseases. The diverse nature of metal-induced pulmonary diseases is due in part to the wide range of physicochemical properties of metals and metal compounds. The molecular mechanisms by which metals cause pulmonary disease are not clear, but metals can induce a variety of effects ranging from aberrant gene expression, inappropriate signal transduction to enhanced or perturbed apoptosis. This course will focus on the mechanisms by which inhaled metals cause acute inflammatory lung diseases, such as metal fume fever, as well as acute/chronic respiratory diseases such as asthma pulmonary fibrosis and cancer of the respiratory tract. This course will have wide appeal for investigators in the fields of metal and inhalation toxicology, carcinogenesis mechanisms, occupational medicine and immunotoxicology.

Acute Pulmonary Toxicity of Metals, Terry Gordon, New York University Medical Center, New York, NY.

Metal-Induced Pulmonary Fibrosis, James C. Bonner, National Institute of Environmental Health Sciences, Research Triangle Park, NC.

Metal-Induced Asthma, Stephen H. Gavett, USEPA, Research Triangle Park, NC.

Metals and Cancer of the Respiratory Tract, Janet M. Benson, Lovelace Respiratory Research Institute, Albuquerque, NM.

Safety Pharmacology and Risk Assessment

PM 15—Basic

Chairpersons: Lewis B. Kinter, AstraZeneca, Ltd., Wayne, PA and Alan S. Bass, Pharmacia & Upjohn, Inc., Kalamazoo, MI.

Endorsed by the Comparative and Veterinary and the Regulatory and Safety Evaluation Specialty Sections.

Safety Pharmacology (SP) identifies unanticipated drug effects on critical organ functions. These studies contribute directly to risk assessment/management in human volunteers/patients, particularly in the design of initial (Phase I) clinical trials. Recognizing these contributions, the International Conference on Harmonization (ICH) accepted SP in 1998 for standardization of international guidelines defining basic (core)
evaluations and points to consider for design and conduct of SP studies. The instructors will focus upon the impact of the proposed ICH Safety Pharmacology guidelines for toxicologists and will address in detail the likely core cardiovascular, respiratory, and central nervous system evaluations. The course will be of broad interest to both academic and industrial scientists engaged in animal research and will present a timely overview of safety pharmacology for toxicologists.


Safety Pharmacology Core Evaluations (1): The Cardiovascular/ Cardiac Assessment, R. Dustan Sarazan, Eli Lilly & Company, Greenfield, IN.

Safety Pharmacology Core Evaluations (2): The Pulmonary/ Respiratory Assessment, Dennis J. Murphy, SmithKline Beecham Pharmaceuticals, King of Prussia, PA.

Safety Pharmacology Core Evaluations (3): The Central Nervous System/Neuromuscular Assessment, Joel L. Mattson, Dow AgroScience, Indianapolis, IN.

Perspective on the Future of Safety Pharmacology, Alan S. Bass, Pharmacia & Upjohn, Inc., Kalamazoo, MI.

cDNA Microarrays: Technology Development and Toxicogenomic Applications, Emile Nuwaysir, National Institute of Environmental Health Sciences, Research Triangle Park, NC.

Statistical Analysis of Microarray Data, Peter Saama, Michigan State University, East Lansing, MI.

The Application of Philosophy to Risk Assessment, Management and Communication

Chairperson: Marc Saner, Consultancy for Environmental Science and Policy, Ottawa, Ontario, Canada.

Offered in cooperation with the Society of Environmental Toxicology and Chemistry (SETAC).

The debate generated by public concerns over modern science and technology has become increasingly polarized between "hard-core scientists" and the "hysterical public." Such polarization threatens the autonomy of science, as well as the development of useful technology. The ability to clearly conceptualize the relation between science and values and to systematically express this distinction in a dialogue are the best ways to address this problem. This basic course, using the context of human and environmental toxicology, will help participants influence and effectively participate in this important debate through better understanding of environmental ethics, a discipline within applied philosophy providing a systematic account of the moral relations between human beings and our natural environment. It incorporates topics ranging from animal welfare to the justification of environmental protection goals. The goal of this course is to provide the participants with a balanced assessment of the role of environmental ethics within risk evaluation, management and communication. Participants will be provided with an overview of the interface between science and values (ethics), an introduction into environmental ethical theories and examples of application of this material to concrete issues within risk evaluation, management and communication.

Why Ethics?, Marc Saner, Consultancy for Environmental Science and Policy, Ottawa, Ontario, Canada.

What Exactly is "Ethics" and What is its Significance Today?, Marin Gillis, Department of Philosophy, University of North Florida, Jacksonville, FL.

An Introduction to Environmental Ethics, Marc Saner, Consultancy for Environmental Science and Policy, Ottawa, Ontario, Canada.

Hands-On Illustration of the Theoretical Material and a Discussion, Marin Gillis, Department of Philosophy, University of North Florida, Jacksonville, FL.

Application to Risk Evaluation: the Risk/Ethics Boundary, Marc Saner, Consultancy for Environmental Science and Policy, Ottawa, Ontario, Canada.

Toxicogenomics in the Trenches

Chairperson: Tim Zacharewski, Michigan State University, East Lansing, MI.

Endorse by the Molecular Biology Specialty Section.

Toxicogenomics has emerged as a new discipline that integrates genomics (the study of all genes encoded by an organism's DNA) and bioinformatics with toxicology to assess and elucidate the mechanisms of action of known and suspected toxicants. The suite of bioinformatics tools and resources that are essential for this research will be covered in the first talk. Hybridization of mRNA to hundreds of complementary cDNAs/expressed sequence tags (ESTs) provides a method to monitor the totality of gene expression following chemical exposure; design, generation and use of such arrays of cDNAs on membrane filters and glass slides will be the topic of the second and third talk, respectively. The final presentation, which is more advanced, will examine the difficult nature of analyzing the data generated from such experiments in a rigorous statistical fashion. This course will be of particular interest to those investigators who are considering incorporating genomic technologies into their research programs.

Basic Bioinformatics: From Sequence Analysis to Genome Analysis, William B. Mattes, Pharmacia & Upjohn, Inc., Kalamazoo, MI.

Toxicogenomic Studies Using cDNA Arrays on Membranes, Timothy R. Zacharewski, Michigan State University, East Lansing, MI.
Society of Toxicology
39th Annual Meeting

Program Descriptions

SATURDAY, MARCH 18

SATURDAY, MARCH 18
1:30 PM – 3:00 PM
PENNSYLVANIA CONVENTION CENTER
ROOM 1051B

2000 LEADERSHIP ORIENTATION FOR COMMITTEE MEMBERS

If you are currently or will next year be a member of an SOT committee, please make plans now to attend the 2000 Leadership Orientation Workshop scheduled for 1:30 PM Saturday, March 18. All SOT members serving on committees are strongly encouraged to attend. With new committee assignments taking effect on May 1, 2000, the workshop is intended to provide guidance and answer questions that new members and chairs may have. The SOT strategic plan, administrative practices and procedures (e.g., budgets) and other important information for new chairs or persons are just a few of the areas to be covered. The meeting also serves as an opportunity for committees to get a head start on setting priorities for the year. Therefore, in order for the workshop to be a success, it is imperative that as many committee members as possible attend. For more information, contact SOT Headquarters.

SATURDAY, MARCH 18
3:00 PM – 4:00 PM
PHILADELPHIA MARRIOTT
SALON LII

MEDIA TRAINING I: WHAT TO DO WHEN THE MEDIA CALLS (FREE)

By K Films Communications of Washington, DC.

Learn to control the message and the media! This workshop is lively, fun, creative, challenging and loaded with critical information. This seminar is for beginning and advanced media savvy toxicologists. Registration is free. The Media Training Workshop will be held at the Philadelphia Marriott. All attendees will receive a free reference guide.

SATURDAY, MARCH 18
4:00 PM – 6:00 PM
PHILADELPHIA MARRIOTT
SALON LII

MEDIA TRAINING II: ON-CAMERA TRAINING FOR TOXICOLOGISTS (FREE)

Learn to develop and deliver your message to the media on camera! These sessions will be held to help toxicologists hone their skills for delivering key messages during crises and other tense situations. The hour-long Saturday workshop will be held in a large group setting with a few attendees being selected for on-camera interviews.

SUNDAY, MARCH 19

SUNDAY, MARCH 19
8:00 AM – 5:00 PM
PHILADELPHIA MARRIOTT
SALON LII

MEDIA TRAINING II: ON-CAMERA TRAINING FOR TOXICOLOGISTS ($75)

This workshop will be held hourly starting at 8:00 AM with a break from 12:00 NOON – 1:00 PM. The last workshop will begin at 4:00 PM.

Learn to develop and deliver your message to the media on camera! These sessions will be held to help toxicologists hone their skills for delivering key messages during crises and other tense situations. The one-hour small group training sessions allow for each participant to be trained and critiqued on camera. The registration fee is $75 for all participants. All attendees of the one-hour workshop will receive a free videotape of their interview.

SUNDAY, MARCH 19
8:00 AM – 4:30 PM
PHILADELPHIA MARRIOTT
SALON I

UNDERGRADUATE EDUCATIONAL PROGRAM FOR VISITING STUDENTS

Chairperson: Michael Waalkes, NIEHS-NCI, Research Triangle Park, NC.

Sponsored By: The Education Committee and Education Subcommittee for Minority Initiatives.

The objective of this program is to introduce minority undergraduate students to toxicology and to encourage preparation for graduate study.
and pursuit of careers in the discipline. This program will promote interaction of the students with their peers and SOT members. The field of toxicology will be introduced in a series of special lectures.

Sunday, March 19
8:00  INTRODUCTION TO TOXICOLOGY
9:15  SPECIAL TOXICOLOGY LECTURES
12:00 LUNCH AND NETWORKING
1:30  WHAT IS GRADUATE SCHOOL?
2:30  MEET WITH TOXICOLOGY PROGRAM DIRECTORS
4:00  WRAP-UP

SUNDAY, MARCH 19
5:00 PM—6:30 PM
PENNSYLVANIA CONVENTION CENTER
GRAND HALL

WELCOMING RECEPTION

Greet your colleagues and plan your itinerary at the Welcoming Reception, which will be held at the Pennsylvania Convention Center. Enjoy light snacks and complimentary soda provided by SOT and sponsors—cash bars will also be available.

SUNDAY, MARCH 19
6:30 PM—7:30 PM
PENNSYLVANIA CONVENTION CENTER
ROOM 304/UP

25-YEAR MEMBER RECEPTION

Have you been a member of the Society for 25 years (or perhaps many more)? If so, you will be recognized at a group at the SOT 2000 Annual Meeting’s 25-Year Member Reception, which will be held at the Pennsylvania Convention Center.

Please consider joining us at the Annual Meeting so we can extend our gratitude for the solid foundation on which the Society has grown.

SUNDAY, MARCH 19
7:00 PM—9:00 PM
PHILADELPHIA MARriott
SALON H

STUDENT/POST-DOCTORAL FELLOW RECEPTION

All students and post-docs are invited to attend a complimentary reception, which will be held at the Philadelphia Marriott hotel immediately following the Welcoming Reception. Complimentary food and soda will be provided by SOT and sponsors—a cash bar will also be available. Meeting badges are required.

MONDAY MORNING, MARCH 20

MONDAY MORNING, MARCH 20
8:30 AM—9:30 AM
PENNSYLVANIA CONVENTION CENTER
BALLROOM

PLENARY LECTURE: GRASSROOTS ADVOCACY IN ACTION

Lecturer: Francis Visco, National Breast Cancer Coalition

The National Breast Cancer Coalition (NBCC), a grassroots advocacy organization, believes that breast cancer activists bring a unique perspective to the research process and must be involved in all levels of research decision-making in order to reach the ultimate goal of eradicating breast cancer. Fran Visco, NBCC President, will discuss the history of the breast cancer advocacy movement and the progress made as a direct result of NBCC’s efforts.

NBCC’s experience indicates that when breast cancer advocates become collaborators with the research community, they contribute insights from their experiences with the disease and help guide the direction and pace of breast cancer research. The partnership of advocates and scientists will speed the progress toward mutual goals: true early detection, a cure and, most important, prevention of this deadly disease.

This collaboration must include women with breast cancer in all of the decision-making bodies, oversight committees, monitoring panels and study sections concerned with breast cancer issues. This involvement needs to permeate the research process—research design, peer review, program oversight, data monitoring and acceleration of viable concepts from the bench to the bedside.

Including advocates in every phase of the research process has many benefits, not the least of which is our experience with the day-to-day realities of breast cancer treatment, quality of life and access issues. In addition, advocates can help bridge the gap between the research community and the public. For example, activists help communicate the importance of clinical trials to the affected community, enabling trials to increase their enrollment of eligible candidates. Over time, important work has been accomplished by collaboration.

The National Breast Cancer Coalition believes that by thinking, talking and planning together in an atmosphere of understanding, respect and shared commitment, advocates and scientists can create a powerful synergy and hasten achievement of our mutual goal: ending the breast cancer epidemic.
SYMPOSIUM SESSION: HUMAN-HEALTH AND ECOLOGICAL IMPACT OF HARMFUL ALGAL BLOOMS

Sponsored By: The Neurotoxicology and Risk Assessment Specialty Sections

Chairpersons: Robert C. MacPhail, USEPA, Research Triangle Park, NC and Peter S. Spencer, Oregon Health Sciences University, Portland, OR.

Harmful algal blooms (HABs) refer to a broad array of toxic organisms that can trigger health effects in both wildlife and humans. HABs can be found in ponds, lakes, streams, estuaries and oceans. Interest in HABs research has been sparked by the observation that HAB events are increasing world-wide in both frequency and spatial extent, thereby increasing exposure potential and risks to vertebrate and invertebrate species alike. HABs can produce toxins, of remarkable molecular complexity, that can damage a number of organ systems. Moreover, many HABs produce neurotoxins whose mode of action is so specific they have proved to be valuable research tools to probe the nervous system and its functions. Other HAB toxins (e.g., Pfiesteria spp.), on the other hand, are still poorly understood. Most of what is known about HAB toxicity has been derived from acute poisoning episodes and/or laboratory exposures; the possibility of chronic effects resulting from acute, episodic or long-term exposure is largely a matter of speculation. This symposium will elaborate our current understanding of HABs, the toxins they produce, their target organs and their mode(s) of action in both humans and wildlife.

#18 9:30 HUMAN HEALTH AND ECOLOGICAL IMPACT OF HARMFUL ALGAL BLOOMS. R. C. MacPhail1 and P. S. Spencer2. USEPA, Research Triangle Park, NC and Oregon Health Sciences University, Portland, OR.

#19 9:40 BREVETOXINS ARE HUMAN NEUROTOXINS THAT ARE ACTIVE ORALLY, BY INJECTION, AND BY INHALATION. D. G. Baden. University of North Carolina, Wilmington, NC.

#20 10:10 HUMAN-HEALTH AND ECOLOGICAL IMPACT OF CYANOBACTERIA. W. W. Cornish. Wright State University, Dayton, OH.


#22 11:10 HUMAN-HEALTH AND ECOLOGICAL IMPACT OF PFIESTERIA TOXIN(S). J. Burkholder. NCSU, Raleigh, NC.

SYMPOSIUM SESSION: MOLECULAR MECHANISMS OF CHEMICAL TERATOGENESIS

Sponsored By: The Reproductive & Developmental Specialty Section

Chairpersons: Peter G. Wells, University of Toronto, Toronto, Ontario, Canada and Phillip E. Mirkes, University of Washington, Seattle, WA.

Although 50 years have passed since the thalidomide tragedy left thousands of infants born with severe malformations, only recently have a variety of biochemical and molecular biological approaches begun to reveal the underlying mechanisms and risk factors for chemical teratogenesis. This symposium provides a timely update of four approaches which, while diverse in technical repertoire and mechanistic thrust, all focus upon teratological mechanisms in the conceptus, providing both corroborating results and novel insights. First is the role of reactive oxygen species and oxidative macromolecular damage in teratogenesis and the contribution of embryonic antioxidant enzymes and DNA repair in modulating teratogenic risk. The second investigates the teratological significance of alterations in gene expression and signal transduction pathways regulating conceptal cell cycle checkpoint activation, DNA repair and apoptosis. A subsequent approach focuses on the signaling pathways modulating apoptotic cell death in the developing embryo and how their perturbation by xenobiotics may lead to teratogenesis. Finally, recent comprehensive techniques in molecular biology, including DNA microarrays, are used to examine the complex pattern of changing gene expression in developing embryos and the role that xenobiotic-initiated alterations in these expression patterns may play in teratogenesis.

#23 9:30 MOLECULAR MECHANISMS OF CHEMICAL TERATOGENESIS. P. G. Wells, University of Toronto, Toronto, Ontario, Canada.


#27 11:05 ALTERED GENE EXPRESSION PATTERNS TO PREDICT AND UNDERSTAND CHEMICAL TERATOGENESIS. R. Finnell, G. D. Bennett and J. G. van Waes. University of Nebraska Medical Center, Omaha, NE. Sponsor: P. G. Wells.

11:35 GENERAL DISCUSSION.
Monday Morning, March 20
9:30 AM - 10:45 AM
Pennsylvania Convention Center
Room(5) 103AB

Roundtable Session: Are There Autoimmune Consequences of Toxicant Exposure in Human Populations?

Sponsored By: The Immunotoxicology Specialty Section

Chairpersons: Kathleen E. Rodgers, University of Southern California, Los Angeles, CA and Michael A. Lynes, University of Connecticut, Storrs, CT.

Numerous studies have addressed the influence of environmental toxicants, medical devices and ethical pharmaceuticals on the potentiating, initiation and/or exacerbation of human autoimmune disease. While some pharmaceuticals have been shown to contribute to autoimmune-like disease that may be reversed when exposure to the drug is removed, the ability of environmental toxicants or medical devices to contribute to autoimmune disease is still a matter of considerable debate.

Animal models of autoimmune disease have been successfully used as screens for the contribution of toxicants to the development of disease and to explore specific pathogenetic mechanisms, but human epidemiological studies have been less successful in connecting toxicant exposure with autoimmune disease. This difficulty may arise from several facts. First, individual human autoimmune diseases are relatively rare, making the association of toxicant exposure with a specific disease more difficult. Symptoms associated with autoimmune disease also can vary widely between individuals, making diagnosis of a specific autoimmune disease less certain. Moreover, a variety of potential susceptibility genes segregate in the human population, adding an additional variable to this analysis. Finally, it is difficult to establish cohorts with consistent exposure for epidemiological evaluation.

Panelists will address these issues from a variety of standpoints, providing insights into the methodologies used to assess these diseases, the types of ongoing studies that address elements of the issues described above and the prospects for resolving these important areas of investigation.

This roundtable should provide research scientists, clinicians and epidemiologists with an opportunity to consider a range of issues related to toxicant-induced autoimmunity.

#28 9:30 ARE THERE AUTOIMMUNE CONSEQUENCES OF TOXICANT EXPOSURE IN HUMAN POPULATIONS? K. E. Rodgers and M. A. Lynes.
1University of Southern California, Los Angeles, CA and 2University of Connecticut, Storrs, CT.


#30 10:15 CONSEQUENCES OF OCCUPATIONAL AND ENVIRONMENTAL EXPOSURES IN THE DEVELOPMENT OF AUTOIMMUNE DISEASES. D. M. Ozenoff, Boston University, Boston, MA. Sponsor: K. E. Rodgers.


11:25 General Discussion.

Monday Morning, March 20
9:30 AM - 10:45 AM
Pennsylvania Convention Center
Room(5) 202AB

Platform Session: Carcinogenesis

Chairpersons: Deodatta Roy, University of Alabama, AL and John Whysner, American Health Foundation, Valhalla, NY.


#34 10:00 CHEMICAL INDUCTION OF LIVER TUMORS AND PRESTAGES IN THE AVIAN IN VIVO CARCINOGENICITY ASSAY (IOCA) IN LESS THAN 24 DAYS. H. Enzmann1, K. D. Brunnenmann2, M. Rosenbruch1, M. Iatropoulos3, G. Schulte1 and G. M. Williams3. 1Bayo AG, Institute of Toxicology, Wuppertal, Germany, 2American Health Foundation, Valhalla, NY and 3New York Medical College, Valhalla, NY.

#35 10:15 THE USE OF A PHARMACOGENETIC MOUSE MODEL TO ASSESS MATERNAL AND FETAL SUSCEPTIBILITY TO THE CARCINOGENIC EFFECTS OF COMPLEX MIXTURES OF POLYCYCLIC AROMATIC HYDROCARBONS. K. A. Rozent1, M. D. Mitchell2 and E. H. Weyand3. 1Joint Graduate Program in Toxicology, Rutgers University, Piscataway, NJ and 2Searle, St. Louis, MO.

### Poster Discussion Session: Developmental Immunotoxicology

**Chairpersons:** Ralph J. Smialewicz, USEPA, Research Triangle Park, NC and John B. Barnett, West Virginia University, Morgantown, WV.

**Displayed:** 9:30 AM – 11:45 AM

**Discussed:** 10:30 AM – 11:45 AM

#### #41
**Effect of Perinatal/Juvenile Exposure to Hepachlor on Adult Immune, Reproductive and Neural Function.**
R. J. Smialewicz¹, W. C. Williams², C. B. Copeland³, T. J. Shafer⁴, C. A. Meacham⁵, M. W. Harris⁶, D. Oversstreet², B. J. Davis² and R. E. Chapin⁷.
¹NHEERL/EPA, Research Triangle Park, NC and ²NIEHS/NIH, Research Triangle Park, NC.

#### #42
**Developmental Exposure to TCDD and Mercuric Chloride in Autoimmune-Prone MRL/lpr Mice.**
D. A. Smith and D. R. Germolec. Laboratory of Toxicology, NIEHS/NIH, Research Triangle Park, NC.

| #37  | 10:45 | INCREASED CELL PROLIFERATION AND HEPATOCELLULAR CANCER IN POLYCHLORINATED BIPHENYL-EXPOSED SPRAGUE DAWLEY RATS. J. Whyssner. American Health Foundation, Valhalla, NY. |
| #38  | 11:00 | BIOCHEMICAL BASIS FOR THRESHOLDS IN PCB-MEDIATED CARCINOGENESIS. J. F. Brown Jr., K. M. Fish, J. B. Silkooworth and R. A. Mayes. General Electric Corp R&D, Schenectady, NY. |
| #39  | 11:15 | INFLUENCE OF NEONATAL STILBENE ESTROGEN EXPOSURE ON ESTROGEN RESPONSIVE GENES IN TESTIS OF HAMSTERS. Q. Cai and D. Roy. University of Alabama at Birmingham, Birmingham, AL. |
| #40  | 11:30 | DRAMATIC SYNERGISM OF EXCESS SOYBEAN INTAKE WITH IODINE DEFICIENCY ON THE DEVELOPMENT OF RAT THYROID PROLIFERATIVE LESIONS. A. Nishikawa¹, T. Ikeda¹, H. Nakamura¹, M. Miyauchi¹, T. Inazawa¹, H. Y. Son¹, F. Furukawa¹, S. Kimura² and M. Hirose¹. ¹Division of Pathology, National Institute of Health Sciences, Tokyo, Japan and ²Showa Women’s University, Tokyo, Japan. Sponsor: T. Shirai. |

#### #43
**Prenatal Diethylstilbestrol Exposure Alters IFN-β Interferon Levels.**

#### #44
**Neonatal Exposure to Propylthiouracil (PTU) Induces a Shift in Lymphoid Cell Subpopulations in the Developing Postnatal Male Rat Spleen and Thymus.**
A. A. Rooney, S. De Bellefeuille, M. Fourrier, J. Bernier and D. G. Cyr. INRS-Institut Armand Frappier, Pointe-Claire, Quebec, Canada.

#### #45
**Neonatal Exposure to Cadmium (Cd) Produces Both Short and Long Term Effects on NK Function and Mitogenic Response of Rat Splenocytes and Thymocytes.**
A. A. Rooney, S. Pillet, D. G. Cyr and M. Fourrier. INRS-Institut Armand Frappier, Pointe-Claire, Quebec, Canada.

#### #46
**Hematotoxic Effects of Prenatal Exposure of Mice to Chlordane.**
S. V. M. Dodson, K. S. Landreth, D. A. Pilet, W. Zhao, L. F. Gibson and J. B. Barnett. West Virginia University, Morgantown, WV.

#### #47
**Reduction of Spleen Cellularity by Low-Dose Maternal Exposure to 2,3,7,8-Tetrachlorodibenzo-β-Dioxin (TCDD) in Rats.**
K. Nohara¹, H. Fujimaki¹, H. Ushio¹, M. Kijima¹, T. Kobayashi¹, S. Tsukumo², Y. Miyabara³, H. Sone¹, C. Tohyama¹ and J. Yonemoto¹. ¹National Institute for Environmental Studies, Tsukuba, Japan and ²CREST-JST, Kawaguchi, Japan.

#### #48
**Embryonic Windows of Increased Vulnerability to PB-Induced Immunotoxicity During Avian Development.**

#### #49
**Characterization of an Approach to Developmental Immunotoxicology Assessment in the Rat Using SRBC as the Antigen.**
G. S. Ladies¹, S. C. Nicastro¹, C. Smith¹, T. L. Bunn², R. R. Dietert¹, P. K. Anderson¹, C. M. Wiescinski¹ and M. P. Holzopple¹. ¹The DuPont Co. Haskell Laboratory, Newark, DE, ²Cornell University, College of Veterinary Medicine, Ithaca, NY and ³Dow Chemical Company, Midland, MI.

**MONDAY MORNING, MARCH 20**

**9:30 AM – 10:45 AM**

**PENNSYLVANIA CONVENTION CENTER ROOM S1204C**

**POSTER DISCUSSION SESSION: XENOBIOTIC REGULATED TRANSCRIPTION**

*Chairpersons: Richard S. Pollenz, Medical University of South Carolina, Charleston, SC and Michel Charbonneau, INRS-Sante, Pointe Claire, Canada.*

*Displayed: 9:30 AM – 11:45 AM*

*Discussed: 10:30 AM – 11:45 AM*

| #52 | IDENTIFICATION OF ESTROGEN RECEPTOR ISOFORMS IN MAMMARY CELLS: MODULATION BY 1,1-DICHLORO-2,2-BIS (CHLOROPHENYL)ETHYLENE (DDE), M. Charbonneau, M. É. Fortier, D. Cyr and J. Bernier. INRS-Institut Armand-Frappier, Human Health Research Center, Université du Québec, Pointe-Claire, Quebec, Canada. | 
| #54 | A CCAAT/ENHANCER BINDING PROTEIN (C/EBP) SITE ALONG WITH CREB BINDING PROTEIN (CBP) PARTICIPATE IN NEGATIVE REGULATION OF RAT GST-1a IN VASCULAR SMOOTH MUSCLE CELLS BY BENZO[α]PYRENE, Y. Chen and K. S. Ramos. Texas A&M University, College Station, TX. | 
| #55 | IDENTIFICATION OF A DOMAIN RESPONSIBLE FOR THE NEGATIVE FUNCTION OF RTPRNA IN AH RECEPTOR SIGNALING, B. M. Necheva and R. S. Pollenz, Medical University of South Carolina, Charleston, SC. | #57 | THE ARYL HYDROCARBON RECEPTOR/TRANSCRIPTION FACTOR (AHR) AND THE REL A NUCLEAR FACTOR-κB SUBUNIT COOPERATE TO TRANSLATE THE c-myc PROMOTER, S. A. Quadri, D. W. Kim, L. Gazoulian, G. E. Sonenshein and D. H. Sherr. Boston University Medical Center, Boston, MA. | 
| #58 | CROSSTALK BETWEEN THE PEROXISOME PROLIFERATOR-ACTIVATED RECEPTOR α AND PROTEIN KINASE C SIGNALING PATHWAYS, J. P. Gray and J. P. Vandenberg-Huewel. The Pennsylvania State University, University Park, PA. | 

**MONDAY MORNING, MARCH 20**

**9:30 AM – 12:30 PM**

**PENNSYLVANIA CONVENTION CENTER EXHIBIT HALL A**

**POSTER SESSION: RESPIRATORY TOXICOLOGY: MODELS, METHODS, & SAFETY EVALUATION**

*Chairpersons: Charles G. Plopper, University of California-Davis, Davis, CA and Dale W. Porter, NIOSH, Morgantown, WV.*

*Displayed: 9:30 AM – 12:10 PM*

*Attended: 9:30 AM – 11:00 AM*

| #60 | A METHOD FOR HARVESTING RESPIRATORY/TRANSITIONAL EPITHELIAL CELL RNA FROM THE ANTERIOR NASAL PASSAGES OF RATS, S. D. Hester, D. C. Wolf, G. B. Benavides and K. T. Morgan. US Environmental Protection Agency, East Carolina University, School of Medicine, Dep. Anatomy & Cell, Research Triangle Park, Durham, NC. | 
| #61 | MAGNETIC RESONANCE IMAGING (MRI), IMMUNOLOGY AND BIOCHEMISTRY OF MURINE NASAL AIRWAYS EXPOSED TO 2,4-TOLUENE DISOCYANATE (TDI), A. J. Wiethehoff, S. R. Govil, W. E. Brown, and J. R. Harkema. Carnegie Mellon University, Pittsburgh, PA and Michigan State University, East Lansing, MI. |
A SIMPLE MODEL FOR INTERSPECIES TISSUE DOSE COMPARISONS FOR VAPORS DEPOSITED IN THE NASAL CAVITY. C. B. Frederick. Roehm and Haas Co., Spring House, PA.

BIOCHEMICAL AND PROLIFERATIVE CHANGES IN RESPIRATORY TISSUES OF RATS EXPOSED TO METHYL tert-BUTYL ETHER. L. V. Radziius and R. A. Schatz. Northeastern University, Boston, MA.

THE RELATIONSHIP OF PROTEIN CARBONYL LEVELS TO INFLAMMATORY RESPONSES IN BRONCHOALVEOLAR LAVAGE FLUID IN RATS, MICE, AND HAMSTERS FOLLOWING INHALED PIGMENTARY TITANIUM DIOXIDE. E. E. Reveles, E. Bermudez, J. B. Mangum, B. Asgharian and J. J. Evett. Chemical Industry Institute of Toxicology. Research Triangle Park, NC.


PULMONARY TOXICITY STUDY OF LUNAR AND MARTIAN DUST SIMULANTS INTRATACHEALLY INSTILLED IN MICE. C. Lam, J. T. James, J. A. Latch, A. Holian and R. McCluskey. 1Wyle Laboratories, Houston, TX, 2Medical Operations, NASA Johnson Space Center, Houston, TX, 3Pulmonary Department, University of Texas, Houston, TX and 4Department of Environmental and Occupational Health, University of South Florida, Tampa, FL.


COMPARISON OF PULMONARY RESPONSE TO INHALED AND INTRATACHEALLY INSTILLED DIESEL EXHAUST PARTICULATE. N. H. Al-Humaidi, P. D. Siegel, J. Y. C. Ma, W. G. Jones, M. W. Barger, D. M. Lewis and J. K. H. Ma. 1NIOSH/HEDI. Morgantown, WV, 2NIOSH/DRDS, Morgantown, WV and 3The School of Pharmacy, West Virginia University, Morgantown, WV.

CHRONIC INHALATION OF ROOM-AGED CIGARETTE SIDE-STREAM SMOKE (RSS) AND DIESEL ENGINE EXHAUST (DEE) IN RATS - EFFECTS ON LEUKOCYTE SUBPOPULATIONS IN BLOOD AND BRONCHOALVEOLAR LAVAGE FLUID (BALF). B. Friederichs, W. Stimm and H. J. Haussmann. INIBIO, Cologne, Germany.


CLEARANCE OF DEPOSITED AEROSOLS FROM YOUNG BEAGLE DOGS. R. J. Herschman, S. J. Rothenberg, R. M. Behin, W. J. Ehrhart, D. DeWitt, S. D. Lieb and C. S. Godin. 1Primedia Argus Research, Horsham, PA and 2Scintipro Incorporated, Indianapolis, IN.

AIR POLLUTION AND ELEMENTARY SCHOOL ABSENTEEISM. L. Chen, B. L. Jennison, W. Yang and S. T. Omave. 1University of Nevada, Environmental Sciences & Health Grad. Program, Reno, NV, 2Washoe County District Health Department, Reno, NV, 3Bureau of Health Planning & Statistics, Nevada State Health Division, Carson City, NV.

PARTICULATE AIR POLLUTION AND HOSPITAL ADMISSIONS FOR CHRONIC OBSTRUCTIVE PULMONARY DISEASE IN RENO, NEVADA. L. Chen, W. Yang, B. Jennison and S. T. Omave. 1University of Nevada, Reno, NV, 2Bureau of Health Planning and Statistics, Nevada State Health Division, Carson City, NV and 3Air Quality Management Division, Washoe County District Health Department, Reno, NV.

ASBESTOS AND NON-ASBESTOS FIBER CONTENT IN LUNGS OF KOREAN SUBJECTS WITH NO KNOWN OCCUPATIONAL ASBESTOS EXPOSURE HISTORY. J. J. Yu¹, K. Sakai², N. Hisanaga³, J. D. Park⁴, H. H. Chang⁵, I. H. Kwon⁶, J. H. Han⁷, S. K. Yang⁷, and H. K. Chung⁷.
¹Industrial Safety and Health Research Institute, Taejon, Republic of Korea, ²Nagoya City Public Health Institute, Nagoya, Japan, ³Natl. Institute of Industrial Health, Kawasaki, Japan, ⁴Chung-Ang University, Seoul, Republic of Korea, ⁵Kosin University, Pusan, Republic of Korea, ⁶Natl. Institute of Scientific Investigation, Pusan, Republic of Korea and ⁷Industrial Safety and Health Research Institute, Taejon, Republic of Korea.

DEVELOPMENT OF AEROSOL SAMPLING AND ANALYTICAL METHODS FOR MAN-MADE ORGANIC FIBERS. K. L. Reed, G. L. Kennedy, Jr., M. A. Hartsy and D. B. Warfert. DuPont Haskell Lab, Newark, DE.

COMPARISON OF HISTOPATHOLOGY IN RATS SUBCRONICALLY EXPOSED TO SMOKE FROM CIGARETTES THAT BURN OR PRIMARILY HEAT TOBACCO. P. H. Ayres and A. T. Mosberg. R J Reynolds Tobacco Co., Winston-Salem, NC.

EFFECTS OF THE ADDITION OF FLAVOR INGREDIENTS TO THE TOBACCO ON THE CHEMICAL COMPOSITION AND BIOLOGICAL ACTIVITY OF CIGARETTE SMOKE. E. Roemer¹, K. Rustemeier¹, P. M. Vanscheewijk², T. J. Meisgen¹, D. J. Velt¹, H. Haussmann¹, A. Teredesai² and E. L. Carmines³.
¹INIBIFO, Cologne, Germany, ²CRC, Zaventem, Belgium and ³Phillip Morris USA, Richmond, VA.

THE INFLUENCE OF A MODIFIED PUFFING REGIMEN ON THE YIELDS OF SMOKE CONSTITUENTS FROM ELECTRICALLY HEATED AND CONVENTIONAL RESEARCH CIGARETTES. K. Rustemeier¹, G. Fatkan⁴ and H. J. Haussmann¹. ¹INIBIFO, Cologne, Germany and ²Phillip Morris USA, Richmond, VA.

COMPARISON OF TWO EXPOSURE REGIMENS IN RAT SUBCRONIC INHALATION STUDIES WITH CIGARETTE SMOKE. M. Kaegler¹, A. Teredesai¹, P. Vanscheewijk², P. Terpstra² and B. Gerstenberg².
¹INIBIFO - Institut fuer Biologische Forschung, Koeln, Germany and ²CRC Contract Research Center, Zaventem, Belgium. Sponsor: S. P. Richard.

AGE RELATED ALTERATIONS IN PULMONARY FUNCTION AND PULMONARY LIPID PEROXIDATION AFTER EXPOSURE TO JP-8 + 100 BLEND JET FUEL. R. S. Young and M. L. Witten. University of Arizona, Tucson, AZ.

ACUTE INHALATION TOXICITY OF CIS AND TRANS ISOMERS OF 1,2-DICHLOROETHYLENE IN RATS. D. P. Kelly¹, J. Hansen¹, W. Brock¹, J. Bartter² and H. Burleigh-Flayer². ¹DuPont Co., Haskell Laboratory for Toxicology and Industrial Medicine, Newark, DE and ²PPG Co., Pittsburgh, PA.

IS TOTAL MASS OR MASS OF ALVEOLAR-DEPOSITED AIRBORNE PARTICLES OF BERYLLIUM A BETTER PREDICTOR OF THE PREVALENCE OF DISEASE? A PRELIMINARY STUDY OF A BERYLLIUM PROCESSING FACILITY. M. Kent¹, T. Robins², A. K. Madh², M. Goodman³ and D. J. Paustenbach⁴. ¹Brush Wellman Inc., Elmore, OH, ²University of Michigan, School of Public Health, Department of Environmental Sciences, Ann Arbor, MI, ³Exponent, Oakland, CA, ⁴Exponent, Landover, MD and ⁵Exponent, Menlo Park, CA.

ASSESSMENT OF PERSONAL EXPOSURE OF GAS ATTENDANTS TO METHYLCYCLOPENTADIENYL MANGANESE TRICARBONYL (MMT). M. Keiloun¹, F. Yang³, Y. K. Cha³, F. Gagnon³, M. Rivard³ and J. Zayed³.
¹University of Montreal, Montreal, Quebec, Canada and ²Environment Canada, Burlington, Ontario, Canada. Sponsor: K. Krishnan.


LACK OF ADVERSE EFFECTS FROM SUBCRONIC EXPOSURE OF RATS TO AEROSOLIZED PENTAERYTHRITOL ESTERS. C. A. Schreiner and W. E. Dolley. Mobil Product Stewardship & Toxicology, Paulsboro, NJ.

FURTHER CHARACTERIZATION OF A RAT MODEL OF AMIODARONE-INDUCED PULMONARY TOXICITY (AITP). M. D. Taylor¹, K. Van Dyke¹, L. Bowman², P. R. Miles², V. Castranova³ and M. J. Reardon³. ¹West Virginia University, Morgantown, WV and ²NIOSH/HELD, Morgantown, WV.

FIVE-DAY INHALATION EXPOSURE TO STYRENE HAS TOXIC AND PROLIFERATIVE EFFECTS IN THE LOWER RESPIRATORY TRACT OF THE SPRAGUE DAWLEY RAT. M. T. Sidel and R. A. Schatz. Northeastern University, Boston, MA.


#91 EFFECTS OF EXPIRED CARBON DIOXIDE ON VENTILATION AND AEROSOL DEPOSITION IN GUINEA PIGS UNDERGOING BAROMETRIC PLETHYSMOGRAPHY. E. C. Kornel, G. S. Whitehead and R. L. Carpenter, NHRC/ID, Wright-Patterson AFB, OH.

#92 SELENIUM-TREATED LUNG: VIBRATOME SECTIONING FACILITATION BY GELATIN INFILTRATION. V. K. Nandivadana, R. R. Bell, C. Brady, A. Yalapragada, N. Sheth and J. L. Early, 1Medical University of South Carolina, Charleston, SC and 2Searle, Skokie, IL.

#93 BIOCHEMICAL AND RESPIRATORY CHANGES CAUSED BY BRIEF EXPOSURE TO HIGH CONCENTRATION OF CARBON MONOXIDE AND CARBON DIOXIDE IN AWAKE RATS. Z. Gu, A. Januszkiewicz, C. D. McKinley, M. A. Mayorga, L. M. Stuhmiller and J. H. Stuhmiller, 1JAYCOR, San Diego, CA and 2Walter Reed Army Institute of Research, Washington, DC. Sponsor: N. M. Elsayed.

#94 INTRATHORACAL ADMINISTRATION OF A RECOMBINANT SP-C LUNG SURFACTANT PREPARATION TO CYMOMOLUS MONKEYS: A COMPARISON OF DIFFERENT TECHNIQUES. B. Niggemann, J. Kemkowski, P. Nowak and W. Mueller, 1Covance Laboratories GmbH, Munich, Germany and 2Byk Gulden Institute of Pathology and Toxicology, Hamburg, Germany. Sponsor: J. C. Norris.

#95 INTRATHORACAL ADMINISTRATION OF SYNTHETIC ZEOLITES AND ALUMINAS IN RATS. W. E. Dalley and C. Pulkowski, Mobil Product Stewardship and Toxicology, Paulsboro, NJ.

#96 APPLICATION OF STEPWISE DISCRIMINANT ANALYSIS PROCEDURE FOR THE EVALUATION OF TREATMENTS AGAINST PHOSGENE EXPOSURE IN ANESTHETIZED, VENTILATED, WEANLING SWINE. N. A. Niemuth, F. M. Reid, C. M. Matthews, J. Nagaraja, A. M. Scinto and R. R. Stotts, 1Medical Research and Evaluation Facility, Battelle, Columbus, OH and 2United States Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, MD.

#97 90 DAY INHALATION STUDY OF STAINLESS STEEL WELDING FUME IN SPRAGUE DAWLEY RATS. J. J. Yu, H. K. Chang, J. D. Park, K. H. Chung, J. S. Harr, K. T. Harr, K. S. Song, K. J. Kim and H. K. Chung, 1Industrial Safety and Health Research Institute, Taejon, Republic of Korea, 2Kosin University, Taejon, Republic of Korea, 3Chung-Ang University, Seoul, Republic of Korea and 4Sung Kyun Kwan University, Suwon, Republic of Korea.


#99 BENZENE EXPOSURE ASSESSMENT FOR USE OF A PETROLEUM NAPHTHA METAL PARTS CLEANER. B. Kerger and M. J. Fedoruk, 1HSRI, Tallahassee, FL and 2University of California, Irvine, CA.

#100 SEASONAL CHANGE IN MITE NUMBERS AND INDOOR ALLERGEN CONTENT IN A FINNISH OFFICE ENVIRONMENT. A. T. K. Harju, S. M. A. Pennanen, R. Merikoski and J. Liesivuori, 1Kuopio Regional Institute of Occupational Health, Kuopio, Finland and 2University of Kuopio, Kuopio, Finland. Sponsor: K. Heiskanen.
Society of Toxicology
39th Annual Meeting

MONDAY MORNING, MARCH 28
9:30 AM – 12:30 PM
PENNSYLVANIA CONVENTION CENTER
EXHIBIT HALL A

POSTER SESSION: NEUROTOXICOLOGY OF MONOAMINES

Chairperson: Serrine S. Lau, University of Texas, Austin, TX.
Displayed: 9:30 AM – 12:30 PM
Attended: 11:00 AM – 12:30 PM


#107 OBESITY AS A POTENTIAL RISK FACTOR FOR SENSITIVITY TO NEUROTOXIC INSULT. K. Srinan and J. P. O’Callaghan. CDC-NIOSH, Morgantown, WV.


#109 IS NITRIC OXIDE INVOLVED IN NEURODEGENERATIVE PROCESSES? D. A. Di Monte, J. E. Royland, M. Lavasan and J. W. Langston. The Parkinson’s Institute, Sunnyvale, CA.

#110 UPREGULATION OF PHOSPHORYLATED STAT3 PRECEDES GLIAL INDUCTION IN MPTP-MEDIATED NEUROTOXICITY. M. A. Hebert and J. P. O’Callaghan. Centers for Disease Control Prevention/NIOSH, Morgantown, WV.


#112 THE CYCLODIENE INSECTICIDE HEPTACHLOR ALters DOPAMINE HOMEOStasis. A. A. Garcia, S. E. Ethridge, J. Philhower and G. W. Miller. University of Texas, Austin, TX.

#113 NIGROSTRIAL DOPAMINERGIC TOXICITY INDUCED BY THE PYRETHROID INSECTICIDE DELtamethrin. S. E. Ethridge, A. A. Garcia, J. Philhower and G. W. Miller. University of Texas, Austin, TX.

#114 HYPERTHERMIA-ENHANCED SEROTONIN (5-HT) DEPLETION RESULTING FROM 3-FENFLURAMINE (3-FEN) EXPOSURE DOES NOT EVOKE A GLIAL-CELL RESPONSE IN THE CENTRAL NERVOUS SYSTEM OF RATS. C. W. Stewart and W. Siikker, Jr. 1University of Arkansas for Medical Sciences, Little Rock, AR and 2National Center for Toxicological Research, Jefferson, AR.

#115 ACUTE EFFECTS OF METHYLPHENIDATE ON OPERANT BEHAVIOR IN THE RHEBUS MONKEY. P. P. Morris, M. P. Gillam, C. McCarty and M. G. Paule. Division of Neurotoxicology, NCTR, FDA, Jefferson, AR.
ROLE OF THE TSC-2 TUMOR SUPPRESSOR GENE IN QUINOL-THIOETHER MEDIATED NEPHROCARCINOMAGENICITY. S. S. Lau1, H. S. Yoon1, M. N. Pham1, C. L. Walker2, J. I. Evertt1 and T. J. Monks1. 1Div. of Pharmacol/Toxicol., College of Pharmacy, University of Texas at Austin, Austin, TX, 2University of Texas MD Anderson Cancer Center, Smithville, TX and 3VIIIIT, Research Triangle Park, NC.

THE USE OF VARIANT GLUTATHIONE S-TRANSFERASE GENES TO CONFERENCE PROTECTION AGAINST ALKYLATING AGENTS TO HUMAN HEMATOPOIETIC STEM CELLS. K. Murayama1 and W. E. Fah1. 1Environmental Toxicology Center, University of Wisconsin-Madison, Madison, WI and 2Environmental Toxicology Center and McArdle Laboratory for Cancer Research, University of Wisconsin-Madison, Madison, WI.

INACTIVATION OF PROTEIN DISULFIDE ISOMERASE WITH 1-CHLORO-2,4-DINITROBENZENE. R. S. Koerzel1, T. S. Freley2, M. K. Brown3 and D. J. Reed4. 1Department of Environmental and Molecular Toxicology, Oregon State University, Corvallis, OR and 2Department of Biochemistry and Biophysics, Oregon State University, Corvallis, OR.

CHARACTERIZATION OF THE INTERACTION BETWEEN GLUTAMATE-CYSTEINE LIGASE SUBUNITS. Y. Yang, T. P. Dohmen, H. G. Shertzer and D. W. Nebhet. Center for Environmental Genetics, and Department of Environmental Health, University of Cincinnati Medical Center, Cincinnati, OH.

GENETIC POLYMORPHISMS IN TWO GLUTATHIONE ASSOCIATED GENES AND SUSCEPTIBILITY TO IDIOPATHIC PULMONARY FIBROSIS. J. Shao, C. L. Keener, J. Lurton, F. M. Farin, G. Raghu and T. J. Kavanagh. University of Washington, Seattle, WA.


EFFECT OF INCREASING GSH SYNTHESIS ON RESISTANCE OF HEPA-1 CELLS TO DNA BREAKS CAUSED BY H2O2. S. Shi, D. Botta, C. C. White and T. J. Kavanagh. University of Washington, Seattle, WA.


EXPRESSION OF GLUTATHIONE REDUCTASE (GR), PEROXIDASE (GPX) AND TRANSFERASE (GST) ACTIVITIES IN NUCLEOCLINI OF LIVERS IN MALE AND FEMALE FISCHER 344 RATS. S. Gupta and C. V. Smith. Baylor College of Medicine, Houston, TX.

CLONING AND EXPRESSION OF RAT KIDNEY MITOCHONDRIAL DICARBOXYLATE CARRIER EXHIBITING GLUTATHIONE TRANSPORT ACTIVITY. L. H. Lesh, D. A. Pett and L. H. Mather. Wayne State University School of Medicine, Detroit, MI.

ELEVATED GLUTATHIONE (GSH) POOLS AND γ-GLUTAMLY TRANSPEPTIDASE (GPT) ACTIVITY IN COUMARIN-INDUCED CLARA CELL TOLERANCE. J. Vassallo, S. Curry, M. Purdon, C. Lewis, A. Fisk and L. Lehman-McKeeman. Procter and Gamble Co., Cincinnati, OH.

IN UTERO ETHANOL EXPOSURE PRODUCES DIFFERENTIAL MITOCHONDRIAL GLUTATHIONE DEPLETION IN THE RAT CONCEPTUS. M. J. Beck, C. Harris and M. A. Phibbers. University of Michigan, Ann Arbor, MI.

IN UTERO AND IN VITRO COMPARISON OF ETHANOL EFFECTS ON THE ORGANOGENESIS STAGE RAT CONCEPTUS. S. Akella, M. J. Beck, M. A. Phibbers and C. Harris. University of Michigan, Ann Arbor, MI.

EVALUATION OF CYTOPROTECTIVE PROPERTIES OF EBSELIN (2PHENYL-1,2 BENZISOSOLENAZOL-3-(2H)-ONE) AGAINST CISPLATIN AND DIETHYL-DITHIO-CARBAMATE TOXICITY IN RAT HIPPOCAMPAL ASTROCYTES. D. Hardej and L. D. Tombreto. St. John’s University, Jamaica, NY.
IMPACT OF GSH DEPLETION ON HEPATIC COASH AND COASSG FOLLOWING TREATMENT WITH 4,4'-METHYLENE DIANILINE. T. R. Douglass, V. Santa Cruz, H. Liu1, L. K. Rogers2, C. V. Smith2 and M. F. Kore1. 1University of Texas Medical Branch, Galveston, TX and 2Baylor College of Medicine, Houston, TX.

N-METHYLDITHIOCARBAMATE (NMDC) AND N,N-DIMETHYLDITHIOCARBAMATE (DMDC) DEPLETE GLUTATHIONE THROUGH INDEPENDENT MECHANISMS. R. W. Thompson and W. M. Valentine. Vanderbilt University, Department of Pathology, Nashville, TN.

MECHANISTIC STUDY OF THE ACUTE TOXICITY OF 2-CHLOROACRYLONITRILE. J. Mostowy and F. W. Pochtaruk. Duquesne University School of Pharmacy, Pittsburgh, PA.

THE PROTECTIVE ROLE OF THE α-CLASS GLUTATHIONE S-TRANSFERASE AGAINST OXIDATIVE STRESS. Y. Yang1, J. Cheng1, U. Pandya2, T. Hai1, T. Zhao3, S. S. Singh2, S. Awasthi2 and T. C. Awasthi2. 1The University of Texas Medical Branch, Galveston, TX, 2University of Texas at Arlington, Arlington, TX and 3Baylor College of Medicine, Houston, TX.

GLUTATHIONE DEPLETION AND THE PRODUCTION OF REACTIVE OXYGEN SPECIES IN ISOLATED HEPATOCYTE SUSPENSIONS. M. A. Timenztein, F. A. Nicholls-Gzemski, J. G. Zhang and M. W. Fariss. Department of Pharmaceutical Sciences, College of Pharmacy, Washington State University, Pullman, WA.

INTRACELLULAR S-GLUTATHIONYL ADDUCTS IN HUMAN DROSOPHILALINE CELLS AFTER EXPOSURE TO TOLUENE DIISOCYANATE. R. Clark Lanza1, R. Lemus2, R. W. Langer2 and M. H. Kardon1. 1Department of Cell Biology and Anatomy, Health Sciences Center, University of Arizona, Tucson, AZ and 2Department of Environmental and Occupational Health, University of Pittsburgh, Pittsburgh, PA.

2,3,5-TRIS(GLUTATHION-S-YL) HYDROQUINONE INDUCES CELL TRANSFORMATION IN PRIMARY KIDNEY EPITHELIAL CELLS OF THE EKER RAT. H. S. Yoon1, C. L. Walker2, T. J. Monks1 and S. S. Lau1. 1Div. of Pharm./Toxicol., College of Pharmacy, University of Texas at Austin, Austin, TX and 2University of Texas, MD Anderson Cancer Center, Smithville, TX.

EFFECT OF DIETARY EXPOSURE OF 2,4,6-TRINITROTOLUENE (TNT) ON BIOCHEMICAL PARAMETERS IN NORTHERN BOBWHITE QUAILS (COLLINS VIRGINIANUS). J. K. Vodruk1, R. M. Gogul2, M. S. Johnson3, G. J. Leach1 and G. Reedy1. 1Dynamac Corporation Environmental Services, Aberdeen Proving Grounds, Edgewood, MD, 2Virginia Polytechnic Inst. & State University, Blacksburg, VA and 3US Army CHPPM, Aberdeen Proving Ground, MD.

DETERMINING OXIDIZED AND REDUCED GLUTATHIONE USING THE FLUOROMETRIC PROBE O-PHTHALALIDENHYDE. A. P. Sent1, T. P. Dalton and H. G. Shuster. Department of Environmental Health and Center for Environmental Genetics, University of Cincinnati Medical Center, Cincinnati, OH.


QUANTITATION OF MOUSE GLCL-R AND GLCL-C MRNA AND OTHER GLUTATHIONE-RELATED ENZYMES USING FLUOROMETRIC 5'-NUCLEASE ASSAYS. C. L. Keener, S. D. Quigley, D. Diaz-Lopez, F. M. Farin and T. Kavanagh. Center for Exogenetics and Environmental Health, Department of Environmental Health, University of Washington, Seattle, WA.

FORMATION AND EXPORT OF THE GLUTATHIONE CONJUGATE OF 4-HYDROXYNONEAL (4-HNE) IN FRESHLY ISOLATED HEPATOCYTES. J. F. Reichard, V. Vasilioiu and D. R. Petersen. University of Colorado Health Sciences Center, Denver, CO.

MONDAY MORNING, MARCH 20
9:30 AM – 12:30 PM
PENNSYLVANIA CONVENTION CENTER
EXHIBIT HALL A

POSTER SESSION: METALS

Chairpersons: Robert A. Yokel, University of Kentucky, Lexington, KY and Kyeonghee Monica Lee, Battelle, Richland, WA.

Displayed: 9:30 AM – 12:30 PM

Attended: 11:00 AM – 12:30 PM

IMMUNOHISTOCHEMICAL STAINING OF LEAD BINDING PROTEIN IN HUMAN KIDNEY SECTIONS. M. M. Schaefel1, B. A. Fowler1, E. F. Mudden1, M. M. Akkerman1, S. Papciak2 and S. Broedel1. 1Toxicology Program, University of Maryland, Baltimore, MD and 2Athena Environmental Sciences, Inc., University of Maryland, Baltimore County, Tech. Enterprise Ctr., Baltimore, MD.
#144 CHRONIC POSTNATAL EXPOSURE TO LEAD (Pb) SIGNIFICANTLY ALTERS SERUM LEVELS OF TT4 AND TT3 IN RATS. Q. Zhao, G. Tsao and W Zheng. Division of Environmental Health Sciences, Columbia University, New York, NY.

#145 THE EFFECT OF Pb2+ ON THE STRUCTURE AND FUNCTION OF OSTEOCALCIN. T. L. Dowd, L. Mints, J. F. Rosen and C. Gundberg. 1Montefiore Medical Center, Albert Einstein College of Medicine, Bronx, NY; 2Albert Einstein College of Medicine, Bronx, NY and 3Yale University School of Medicine, New Haven, CT.

#146 EFFECT OF ORAL SUCREME ON GASTROINTESTINAL LEAD ABSORPTION AND RETENTION IN MONKEYS. J. D. Cremin, Jr., M. L. Luck, N. K. Laughton and D. R. Smith. 1University of California, Santa Cruz, CA and 2Harlow Center for Biological Psychology, University Wisconsin, Madison, WI.

#147 SALIVA MONITORING FOR EXPOSURE TO LEAD UTILIZING REAL-TIME MICROFLUIDICS/ELECTROCHEMICAL ANALYSIS. K. D. Thrall, T. S. Poet, Y. Liu, K. K. Weitz and C. Timchalk. Pacific Northwest National Laboratory, Richland, WA.

#148 BONE LEAD DRIVES CHANGE IN SERUM LEAD FROM PRENATAL TO POSTPARTUM PERIOD. M. A. Manalo, S. J. Rothenberg, W. I. Manton, V. S. Kondrashov, R. Cuellar, S. Reyes, F. Khan and A. C. Todd. 1Drew University of Medicine and Science, Los Angeles, CA; 2Drew University of Medicine and Science, Los Angeles, CA and National Institute of Public Health, Cuernavaca, Mexico; 3University of Texas, Richardson, TX and 4Mt. Sinai School of Medicine, New York, NY. Sponsor: M. Soliman.


#151 TOXICOLOGIC IMPACT OF LEAD ON OCCUPATIONALLY EXPOSED CHILDREN AND ADULTS. M. H. Hussain. Osmania University, Hyderabad, India. Sponsor: S. M. Hussain.

#152 APPLICATION OF INDUCTIVELY COUPLED PLASMA MASS SPECTROMETRY TO ASSESS CELLULAR EXPOSURE TO TOXIC METALS. S. Patierno, J. Singh, D. Fritchard, J. McLean and A. Montaser. Departments of 1Pharmacology and 2Chemistry, George Washington University, Washington, DC.

#153 TERATOGENIC EFFECT OF TRIVALENT AND HEXAVALENT CHROMIUM IN RABBITS. O. S. El-Tawil and A. M. Morgan. Forensic Medicine and Toxicology Department, Faculty of Veterinary Medicine, Cairo University, Giza, Egypt.

#154 ALLERGIC CONTACT DERMATITIS-BASED SOIL CRITERIA FOR HEXAVALENT CHROMIUM [Cr(VI)]. T. Zewdie. Massachusetts Department of Environmental Protection, Boston, MA.

#155 EFFECT OF SELENOCYSTEINE METABOLITES ON METHIONINE ADENOSYLTRANSFERASE ACTIVITY IN VITRO. T. Hasegawa, T. Okuno, K. Nakamura and Y. Seko. 1Yamanashi Institute of Environmental Sciences, Fujyoshida, Japan and 2Faculty of Pharmaceutical Sciences, Setsunan University, Hirakata, Japan.

#156 EFFECTS OF INORGANIC AND ORGANIC SELENIUM ON CYTOKINE PRODUCTION AFTER CONTINUOUS SHORT-TERM ORAL EXPOSURE IN MICE. V. J. Johnson, M. Tsunoda and R. P. Sharmu. The University of Georgia, Athens, GA.


| #160 | DISTRIBUTION AND RETENTION OF MERCURY IN METALLOTHIONEIN-NULL MICE AFTER EXPOSURE TO MERCURY VAPOR. M. Yoshihara1, M. Satoh2, A. Yasutake3, A. Shimada4, Y. Sumi1 and C. Tsuchiya2. 1St. Mariana University School of Medicine, Kawasaki, Japan, 2National Institute for Environmental Studies, Tsukuba, Japan, 3National Institute for Minamata Disease, Minamata, Japan and 4Tottori University, Tottori, Japan. |
| #161 | ROLE OF GLUTATHIONE AND METALLOTHIONEIN IN RENAL TOXICITY OF INORGANIC MERCURY. M. Satoh1, A. Shimada2, B. Zhang3 and C. Tsuchiya1. 1National Institute for Environmental Studies, Tsukuba, Japan and 2Tottori University, Tottori-shi, Japan. |
| #162 | METHYL MERCURY'S EFFECTS ON MITOCHONDRIAL DNA IN DEVELOPING RODENT MIDBRAIN. S. Lu, T. Kavanagh and E. M. Faustman. University of Washington, Seattle, WA. |
| #163 | METHYL MERCURY-INDUCED APOPTOSIS IN NEURONAL AND NONNEURONAL CELL LINES THROUGH MICROTUBULAR DISRUPTION. K. Miura1, N. Kida2, S. Hime11, I. Nakagawa1 and N. Imaura1. 1Wako University, Kitasato University, Tokyo, Japan and 2Kitasato University, Tokyo, Japan. |
| #164 | ESTIMATION OF ALUMINUM BIOAVAILABILITY FROM DEGRADABLE CHAFF COUNTERMEASURES USING A PHYSIOLOGICALLY-BASED EXTRACTION TEST. C. L. Wilson, H. M. Zhang, K. Lehman3, T. Carpenter1 and W. K. Alexander1. 1Naval Health Research Center Detachment (Toxicology), Wright-Patterson AFB, OH and 3ManTech Environmental Technology Inc., Wright-Patterson AFB, OH. |
| #165 | BRAIN ALUMINUM CLEARANCE IS SLOW. R. A. Yokel1, S. S. Rhineheimer2, P. Sharma3, D. Elmore1 and P. J. McNamara1. 1College of Pharmacy and Graduate Center for Toxicology, University of Kentucky, Lexington, KY, 2College of Pharmacy, University of Kentucky, Lexington, KY and 3PRIME Lab, Department of Physics, Purdue University, W. Lafayette, IN. |
| #166 | ALUMINUM BIOAVAILABILITY FROM DRINKING WATER IS NOT INFLUENCED BY STOMACH CONTENTS OR WATER HARDNESS. P. J. McNamara1, S. S. Rhineheimer2, R. D. Brauer2, P. Sharma3, D. Elmore3 and R. A. Yokel1. 1College of Pharmacy and Graduate Center for Toxicology, University of Kentucky, Lexington, KY, 2College of Pharmacy, University of Kentucky, Lexington, KY and 3PRIME Lab, Department of Physics, Purdue University, W. Lafayette, IN. |
| #167 | IRON-INDUCED HEPATOTOXICITY: EFFECTS ON NUCLEAR CALCIUM CONCENTRATION AND DNA FRAGMENTATION. L. M. Milchak and J. D. Bricker. Duquesne University, Pittsburgh, PA. |
| #168 | PCR CLONING AND FUNCTIONAL CHARACTERIZATION OF ZEBRAFISH METALLOTHIONEIN GENE PROMOTER. H. M. C. Yan and K. M. Chiu. The Chinese University of Hong Kong, Shatin, Hong Kong Special Administrative Region of China. |
| #170 | METAL INTERACTION WITH PHYSICAL AND CHEMICAL AGENTS IN THE INDUCTION OF CYTGENETIC EFFECTS IN HUMAN LYMPHOCYTES. S. P. Katzis. University of Bridgeport, Bridgeport, CT. |
| #171 | DIFFERENTIAL ABILITY OF TRANSITIONAL METALS TO INDUCE PULMONARY INFLAMMATION. T. M. Rice1, R. W. Clarke1, R. Hauser1, J. Antonini2, J. J. Godleski1 and J. D. Paulauski3. 1Harvard School of Public Health, Department of Environmental Health, Boston, MA and 2NIOSH, Morgantown, WV. |
| #172 | CARCINOGENIC NICKEL INDUCES GENES INVOLVED WITH HYPOXIC STRESS. K. Sainkow1, T. Kluz1, M. Zorodua2 and M. Costa1. 1New York University School of Medicine, New York, NY and 2University of Sassari, Sassari, Italy. |
| #173 | INHIBITION OF HISTONE ACETYLTATION BY NICKEL COMPOUNDS IN S. CEREVISIAE AND MAMMALIAN CELLS. W. Peng, L. Brodsky, M. Zorodua and M. Costa. New York University Medical Center, Tuxedo, NY. |
| #174 | NICKEL COMPOUND-INDUCED TOXICITY AND MORPHOLOGICAL TRANSFORMATION IN 10T1/2 CELLS. K. N. Thakore, A. Verma, S. Ohshina, J. Ramathan, L. Kaspin, F. Clemens and J. R. Landolp, Jr. USC/Norris Comprehensive Cancer Center, USC Schools of Medicine, Los Angeles, CA. |
| #175 | EFFECT OF THE HISTONE DEACETYLASE INHIBITOR TRICHOSTATIN A ON REACTIVATION OF A NICKEL-SILENCED GENE. J. E. Sutherland and M. Costa. New York University School of Medicine, New York, NY. |
ACCUMULATION OF ZINC IN F1 OFFSPRING OF ZINC CHLORIDE TREATED RATS.
M. Brownlow, A. T. Khan, A. Atkinson, T. C. Graham, M. Green, S. Ali and S. Thompson, Tuskegee University, College of Veterinary Medicine, Nursing and Allied Health, Tuskegee, AL. Sponsor: R. R. Dalvi.

EFFECT OF SUBCHRONIC EXPOSURE OF RATS TO ZINC CHLORIDE DURING A BREEDING TRIAL ON HEMATOLOGY, BLOOD CHEMISTRY, ORGAN WEIGHTS, AND HISTOPATHOLOGY.

NITRIC OXIDE INDUCES METALLOTHIONEIN GENE EXPRESSION APPARENTLY BY DISPLACING ZINC BOUND TO MT.
K. Kataki\textsuperscript{1}, J. Liu\textsuperscript{1}, K. Nakajima\textsuperscript{2}, L. Keefer\textsuperscript{1} and M. Wood\textsuperscript{1}.
\textsuperscript{1}NCI at NIEHS, Research Triangle Park, NC, \textsuperscript{2}Osaka Pharmaceutical, Rockville, MD and \textsuperscript{3}NCI, FCDRC, Frederick, MD.

DISTRIBUTION OF ZINC IN TARGET ORGANS OF ZINC CHLORIDE TREATED MICE.

A PRELIMINARY STUDY ON THE TOXICITY OF ZINC ON RAT SPERMATOGENESIS AS DETERMINED BY FLOW CYTOMETRY.
N. K. Doyle, A. T. Han, A. Atkinson, T. C. Graham and J. Hudson, Tuskegee University, College of Veterinary Medicine, Tuskegee, AL. Sponsor: R. R. Dalvi.

NUCLEAR MAGNETIC RESONANCE (NMR) ANALYSIS OF THE INTERACTION OF EXOGENOUS DIVALENT METALS WITH ZINC FINGER MOTIFS IN THE SYNTHETIC ZINC FINGER MODEL.
M. Razmia\textsuperscript{1}, D. A. D'Avignon\textsuperscript{2}, J. Kao\textsuperscript{3} and N. H. Zaval\textsuperscript{1}.
\textsuperscript{1}University of California, Irvine, CA, \textsuperscript{2}Washington University, St. Louis, MO and \textsuperscript{3}University of Rhode Island, Kingston, RI.

A ROLE FOR ZINC IN ANTI-APOPTOTIC ACTION.

MODULATION OF METALLOTHIONEIN MRNA BY ESTRADIOL IN PERIPHERAL BLOOD LEUKOCYTES FROM GREY SEALS.
S. Pillet\textsuperscript{1}, J. Bouquegneau\textsuperscript{2}, L. N. Measures\textsuperscript{1}, M. Fournier\textsuperscript{1} and D. G. Cyril\textsuperscript{1}.
\textsuperscript{1}Université de Liège, Liège, Belgium, \textsuperscript{2}Institut Maurice-Lamontagne, Mont-Joli, Québec, Canada and \textsuperscript{3}INRS-Institut Armand Frappier, Pointe-Clare, Quebec, Canada.

ROLE OF METALLOTHIONEIN AND GLUTATHIONE IN AGE-RELATED CHANGE IN CADMIUM-INDUCED LIVER INJURY IN MALE FISCHER 344 RATS.
L. E. Rickers\textsuperscript{1} and T. Yamano\textsuperscript{2}.
\textsuperscript{1}University of Oklahoma Health Sciences Center, Oklahoma City, OK and \textsuperscript{2}Osaka City Institute of Public Health and Environmental Sciences, Osaka, Japan.

ROLE OF KUPPER CELLS AND INFLAMMATORY CYTOKINES IN THE ATTENUATION OF CADMIUM-INDUCED LIVER INJURY IN SENESCENT MALE FISCHER 344 RATS.
T. Yamano\textsuperscript{1} and L. E. Rickers\textsuperscript{2}.
\textsuperscript{1}Osaka City Institute of Public Health and Environmental Sciences, Osaka, Japan and \textsuperscript{2}University of Oklahoma Health Sciences Center, Oklahoma City, OK.

THE INFLUENCE OF ADVANCED AGE ON THE HEPATOXICITY OF CHLOROFORM (CHCl\textsubscript{3}) AND BROMODICHLOROMETHANE (BDCM) IN MALE F-344 RATS.
T. McDonald, Y. M. Sey and J. E. Simmons, NHEERL USEPA, Research Triangle Park, NC.

DOSE RELATED INCREASE IN LIVER INJURY OF CHLOROFORM IS TEMPERED BY TISSUE REPAIR.
V. S. Vaidya\textsuperscript{1}, M. G. Son\textsuperscript{2}, M. M. Muntaz\textsuperscript{3}, H. Cleveld\textsuperscript{4}, S. N. Murnley\textsuperscript{1} and H. M. Mehendale\textsuperscript{1}.
\textsuperscript{1}Division of Toxicology and Louisiana Institute of Toxicology, The University of Louisiana at Monroe, Monroe, LA, \textsuperscript{2}Burdock Associates, Inc., Vero Beach, FL, \textsuperscript{3}ATSDR, CDC, Atlanta, GA and \textsuperscript{4}ICF Kaiser International, Ruston, LA.

GAVAGE VEHICLE AND VOLUME MODULATION OF CHLOROFORM-INDUCED HEPATOTOXICITY IN MICE.
Y. M. Sey, A. McDonald and J. E. Simmons, NHEERL USEPA, Research Triangle Park, NC.

DIFFERENCE IN RESPONSE OF LIVER AND KIDNEY TO HEPATIC DAMAGE.
Y. C. Kim and H. K. Yim, Seoul National University, Seoul, Republic of Korea.


#193 REGULATION OF INFLAMMATORY MEDIATOR PRODUCTION IN THE LIVER BY TUMOR NECROSIS FACTOR-α (TNF-α) IN CARBON TETRACHLORIDE (CCL4)-INDUCED HEPATOTOXICITY. L. A. Mork1, J. A. Sprowles1, J. H. Chiu1, C. Desqueti1, P. H. Zhang1, M. W. Marins2, D. M. Dambach2, S. K. Durham2, M. A. Gordon2, J. D. Laskin1 and D. L. Laskin1.1Rutgers University, Piscataway, NJ, 2Memorial Sloan Kettering Cancer Center, New York, NY and 3Bristol-Myers Squibb, Princeton, NJ.

#194 INFLAMMATION AND APOPTOSIS IN RAT LIVER INDUCED BY MONOCROTALINE. B. L. Copple, A. Baner, P. E. Ganey and R. A. Roth. Department of Pharmacology and Toxicology, Michigan State University, East Lansing, MI.

#195 IMPORTANCE OF THE CXC CHEMOKINES MIP-2 AND KC FOR NEUTROPHIL-INDUCED LIVER INJURY DURING ENDOXOEMIA. H. Jaeschke1, R. D. Hopper1, J. A. Lawson2, D. G. Remick3 and A. Farhood4. 1University of Arkansas for Medical Sciences, Little Rock, AR, 2Pharmacia & Upjohn, Inc., Kalamazoo, MI, 3University of Michigan, Ann Arbor, MI and 4University of Texas Health Science Center, Houston, TX.


#198 MULTIDRUG RESISTANCE PROTEIN 2 (MRP2) MESSAGE RNA EXPRESSION IN MOUSE LIVER FOLLOWING CHEMICAL INDUCTION OF COMPENSATORY HEPATOCYTOPLER PROLIFERATION IN VIVO. G. E. Hennig1, D. J. McCann2, H. Whiteley1 and J. E. Manautou1. 1Department of Pathobiology, University of Connecticut, Storrs, CT, 2Drug Disp. & Metab. Department, AstraZeneca, Wilmington, DE and 3Department Of Pharmaceutical Sciences, University of Connecticut, Storrs, CT.

#199 HIGH SENSITIVITY OF NRF2 KNOCKOUT MICE TO ACETAMINOPHEN. HEPATOTOXICITY. A. Ennomoto1, K. Itoh2, E. Nagyoshi1, J. Haruta1, T. Kimura1, T. Harada1 and M. Yamamoto2. 1Institute Of Environmental Toxicology, Mitsuoka, Ibaraki, Japan and 2University Of Tsukuba, Ibaraki, Japan. Sponsor: K. Ebino.

#200 INDUCTION OF HEME OXYGENASE (HSP 32) IN HEPATIC MACROPHAGES DURING ACETAMINOPHEN HEPATOTOXICITY. H. Chiu and D. L. Laskin. Rutgers University, Piscataway, NJ.

#201 OVEREXPRESSION OF HEAT SHOCK PROTEINS IN HEPG2 CELLS USING ADENOVIRAL GENE DELIVERY. J. K. Tolson1, R. M. Veelink2 and S. M. Roberts3. 1University of Florida, Gainesville, FL and 2University of Miami, Miami, FL.


#203 PPARγ KNOCKOUT MICE ARE NOT PROTECTED AGAINST ACETAMINOPHEN (APAP) HEPATOTOXICITY BY CLOFIBRATE (CFB) PRETREATMENT. C. Chen1, V. M. Silva1, J. C. Corton2, H. Whiteley3 and J. E. Manautou1. 1Department Pharmaceutical Sciences, University of Connecticut, Storrs, CT, 2Chemical Industry Institute of Toxicology, Research Triangle Park, NC and 3Department Pathobiology, University of Connecticut, Storrs, CT.

#204 CHANGES IN THE EXPRESSION OF MOUSE LIVER PLASMA MEMBRANE PROTEINS INDUCED BY CLOFIBRATE. E. C. Peterson1, D. J. McCann2 and J. E. Manautou1. 1Department Pharmaceutical Sciences, University of Connecticut, Storrs, CT and 2Drug Disp. & Metab. Department, AstraZeneca, Wilmington, DE.
THIAZOLIDINEDIONES PRODUCE SEVERE HEPATIC STEATOSIS IN MICE EXHIBITING INCREASED HEPATIC EXPRESSION OF THE PEROXISOME PROLIFERATOR-ACTIVATED RECEPTOR γ. U. A. Roulston, E. A. Arzpetadian and M. Bedoucha. F. Hoffmann-La Roche AG, Basel, Switzerland.


COMPARATIVE TOXICITY OF THIAZOLIDINEDIONES IN ISOLATED RAT HEPATOCYTES. J. R. Haskins, P. E. Rowe, R. Rallburti and F. A. de la Iglesia. Parke-Davis Pharmaceutical Research, Ann Arbor, MI.

KINETIC DIFFERENCES IN ß-GLUTAMYLTRANSFERASE (GGT) FROM LIVER OF DIABETIC RATS MAY BE DUE TO CHANGES IN CARBOHYDRATE STRUCTURE. P. D. Cornwell, S. V. Park, T. R. Bagwell and J. B. Watkins, III. Indiana University School of Medicine, Bloomington, IN.

DIABETES PROTECTS MICE FROM LETHAL EFFECT OF THIOACETAMIDE HEPATOTOXICITY. K. Shankar, V. S. Vaidya, T. Wang and H. M. Mehendale. The University of Louisiana at Monroe, Monroe, LA.

POTENTIATION OF THIOACETAMIDE-INDUCED LIVER INJURY IN STREPTOTOZOCIN-INDUCED DIABETIC RATS. T. Wang, K. Shankar, M. J. J. Ramesh and H. M. Mehendale. Division of Toxicology, College of Pharmacy and Health Sciences, The University of Louisiana at Monroe, Monroe, LA and 2-Arkansas Children's Hospital, Research Institute, Department of Pediatrics, University of Arkansas for Medical Sciences, Little Rock, AR.


IDENTIFICATION OF RAT HEPATIC PROTEINS ADDED BY MALONDIALDEHYDE AND 4-HYDROXYNONENAL. M. Panagiotidis, S. Luckey, D. Hartley and D. Peterson. 1University of Colorado Health Sciences Center, Denver, CO and 2University of Kansas Medical Center, Kansas City, KS.


COVALENT BINDING OF KETOCONAZOLE IN RAT HEPATIC TISSUE. C. J. Buckholz and R. J. Rodriguez. Oregon State University, College of Pharmacy, Corvallis, OR.

EFFECT OF DIMETHYLNITROSAMINE EXPOSURE IN MICE ON SELECTED MRNA TRANSCRIPTS FROM PERITONEAL, BONE MARROW, AND LIVER CELLS. D. G. Fraser, T. L. Horn, V. R. Lappi, M. S. Rutherford and L. R. Schunk. University of Minnesota, St. Paul, MN.


EFFECT OF CRUCIFEROUS VEGETABLES (CV) ON CAFFEINE METABOLISM IN HUMAN VOLUNTEERS. P. J. Young, D. G. Walters, C. Springall, F. A. Fairweather, F. A. Bowrey, G. Williamson, N. J. Gooderham, A. R. Boobis and B. G. Lake. 1TNQ HBRA International Ltd., Carshalton, United Kingdom, 2Institute of Food Research, Norwich, United Kingdom and 3Imperial College School of Medicine, London, United Kingdom.


Mrp2 IS CRITICAL FOR CHOLESTASIS MEDIATED BY ESTRADIOL-17 β-(D)-GLUCURONIDE (E2G1). M. Yoo and L. Huang. University of Kentucky, Lexington, KY.
BILE ACIDS AFFECT LIVER MITOCHONDRIAL BIOENERGETICS: POSSIBLE RELEVANCE FOR CHOLESTASIS THERAPY. A. P. Rolo and C. M. Palmeira. Center for Neurosciences, Department of Zoology, Portugal.

CYTOTOXIC EFFECTS OF METHYLENE DIAMINE TO PRIMARY CULTURED RAT BILIARY EPITHELIAL CELLS. V. Santa Cruz, T. R. Dugas, H. Liu and M. F. Kanu. The University of Texas Medical Branch, Galveston, TX.

NITRIC OXIDE ABOLISHES POST-NICOTINE DETRIMENTAL IMPACT ON STRESS-INDUCED GASTRIC ULCERS. B. Qiu1, Q. Mei2, W. Wu3, D. Qin4 and C. J. Pfeiffer5. 1Shantou University Medical College, Shantou, China, 24th Military Medical University, Xian, China and 3Department of Biomedical Sciences & Pathology, Virginia Tech, Blacksburg, VA. Sponsor: M. Ehrich.

DECREASE IN SERUM ACTIVITY OF INTESTINE-DERIVED ALKALINE PHOSPHATASE AS A POTENTIAL NON-INVASIVE INDICATOR OF DICLOFENAC-INDUCED ENTEROPATHY. B. K. Shipp1, W. E. Hoffmann2, A. B. West3, A. Bulakumar4, C. R. Arctison5 and M. T. Moslen6. 1University of Texas Medical Branch, Galveston, TX, 2University of Illinois, College of Veterinary Medicine, Urbana, IL, 3New York University Medical Center, New York, NY and 4University of Connecticut, Storrs, CT. Sponsor: P. Johnson.

ENZYMES POLYMORPHISM IN COLON CANCER CASES. K. Goirle1, H. C. Roemer1, C. Roetzl1, R. Thier1, T. Reckritz2, F. Geller1, U. Zorn2 and D. Loehlein2. 1Institute of Occupational Physiology at the University of Dortmund, Dortmund, Germany and 2Department of Surgery, Stadtklinik Dortmund, Dortmund, Germany.

EXPRESSION OF FLAVIN-CONTAINING MONOOXYGENASES IN HUMAN HEPATOCITE. S. Kingevelo1, R. J. Rodriguez2, T. M. Fitz2 and C. L. Miranda1. Oregon State University 1Department of Environment and Molecular Toxicology and 2College of Pharmacy, Corvallis, OR.

PEROXYNITRITE IN ACETAMINOPHEN (APAP)-INDUCED LIVER NECROSIS: DETOXIFICATION BY APAP, J. A. Hinson1, S. L. Michael1, S. G. Ault1, J. C. Gartner2 and S. D. Nelson3. 1University of Arkansas for Medical Sciences, Little Rock, AR and 2University of Washington, Seattle, WA.


PRODUCTION OF A RECOMBINANT 56-KDA SELENIUM BINDING PROTEIN ASSOCIATED WITH ACETAMINOPHEN (APAP) TOXICITY AND COVALENT BINDING. A. M. Lucas1, Y. H. Jung1, M. K. Bruno1, S. E. Shehini2 and S. D. Cohen1. 1University of Connecticut, Storrs, CT and 2Procter & Gamble Co., Cincinnati, OH.

FORMAMIDINE, A NOVEL INHIBITOR OF NITRIC OXIDE PRODUCTION. B. Bilback, D. E. Heck1, D. M. Porterfield1, R. P. Macklow2, P. J. S. Smith2 and J. D. Laskin1. 1Rutgers University, Piscataway, NJ, Marine Biological Laboratory, Woods Hole, MA, 2University of Illinois at Chicago, Chicago, IL and 3UMDN-Robert Wood Johnson Medical School, Piscataway, NJ.

IDENTIFICATION OF OXIDATION PRODUCTS PRODUCED BY MAMMALIAN ALCOHOL DEHYDROGENASE FROM THIODIGLYCOL IN VITRO. A. A. Brinfield1, J. R. Smith1 and M. J. Novak2. 1U.S. Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, MD and 2Walter Reed Army Institute of Research, Silver Spring, MD.

MECHANISM OF INHIBITION OF LUNG CYTOSOL BY DIALYL SULFONE. P. G. Forkert and P. F. Premdas. Queen's University, Kingston, Ontario, Canada.
Society of Toxicology
39th Annual Meeting

#234  EFFECTS OF QUINONE METHIDES ON MOUSE LUNG EPITHELIAL CELL LINES. Y. Sun, R. Kuptcer, J. N. Lemercier and J. A. Thompson, University of Colorado Health Sciences Center, Denver, CO.

#235  SUCCINYLACETONE ELICITS AN OXIDATIVE STRESS RESPONSE IN MOUSE HEPATOMA HEPA-1C1C7 CELLS. M. Z. Dieter, G. G. Oakley and D. W. Nebert, University of Cincinnati Medical Center, Center for Environmental Genetics and Department of Environmental Health, Cincinnati, OH.

#236  ANTIOXIDANT BALANCE AND FREE RADICAL GENERATION IN VITAMIN E-DEFICIENT MICE AFTER DERMAL EXPOSURE TO CUMENE HYDROPEROXIDE. A. A. Shvedova1, E. R. Kisin1, C. Komenin1, R. P. Mason2 and M. B. Kudiska2, 1HELD/NIOSH, Morgantown, WV and 2NIH/NIH, Research Triangle Park, NC.

MONDAY MORNING, MARCH 20
9:30 AM – 12:30 PM
PENNSYLVANIA CONVENTION CENTER
EXHIBIT HALL A

POSTER SESSION: CELL PROLIFERATION/CELL CYCLE

Chairpersons: John J. Reiners, Jr., Wayne State University, Detroit, MI and Anthony B. DeAngelo, USEPA, Research Triangle Park, NC.

Displayed: 9:30 AM – 12:30 PM
Attended: 9:30 AM – 11:00 AM

#236A  THE ARYL HYDROCARBON RECEPTOR LIGANDS MODULATE MCF-10B BREAST EPITHELIAL CELL GROWTH. A. F. Trombino1, T. A. Jenkins1, R. A. Mutulka1, R. L. Neri1 and D. H. Sherr1, 1Boston University School of Medicine and Public Health, Boston, MA and 2USF/PA, Research Triangle Park, NC.

#236B  IDENTIFICATION OF A MEDIATOR OF THE CYTOSTATIC EFFECTS OF 12-O-TETRADECANOYLPHORBOL-13-ACETATE IN HUMAN BREAST MYOEPITHELIAL CELLS. M. Guo, A. Jojakim and J. J. Reiners, Jr. Institute of Chemical Toxicology, Wayne State University, Detroit, MI.

#236C  EFFECTS OF DIETARY GENISTEIN ON UTERINE CELL CYCLE IN RATS: ANALYSIS BY FLOW CYTOMETRY. M. H. Lu, N. Tang, C. C. Weis, C. Moland, S. L. Dial, W. S. Branch and S. A. Ferguson, National Center for Toxicological Research, Jefferson, AR.

#236D  INITIAL DEVELOPMENT OF A MULTISTAGE CANCER MODEL BASED ON SYRIAN HAMSTER EMBRYO (SHE) CELL TRANSFORMATION STUDIES. K. H. Liao1, D. L. Gustafson2, M. H. Fox3, L. S. Chubb3, K. F. Reardon3, and R. S. H. Yang4. 1Department of Chemical & Bioresource Engineering, Colorado State University, Fort Collins, CO and 2Department of Environmental Health, Colorado State University, Fort Collins, CO and 3Department of Radiological Health Sciences, Colorado State University, Fort Collins, CO.

#236E  TRICHOSTATIN AFFECTS CELL PROLIFERATION AND DETOXIFICATION ENZYME ACTIVITY COMPARABLE TO THE DIFFERENTIATING AGENT BUTYRATE IN HUMAN HT29 COLON CARCINOMA CELLS. R. Y. Odom, Y. G. Wirsty, J. Cai, D. P. Jones2 and W. G. Kint1. 1Hourglass School of Medicine, Atlanta, GA and 2Emory University School of Medicine, Atlanta, GA.

#236F  HEPATOMA CELL LINES FROM HUMAN, MOUSE AND RAT SHOW SIMILAR CELL CYCLE RESPONSES WHEN INCUBATED WITH CRUCIFEROUS VEGETABLE-DERIVED CRAMBENE. A. S. Keck and E. H. Jeffery, Nutritional Sciences, Urbana, IL.

#237  CELL-CYCLING EFFECTS FROM IN VITRO EXPOSURE TO SODIUM ARSENITE ON DEVELOPING RAT MIDBRAIN CELLS. E. M. Schneider, R. A. Ponce and E. M. Faustman, University of Washington, Seattle, WA.

#238  INVOLVEMENT OF P21 WAF1/CIP1 IN METHYL-MERCURY-INDUCED CELL CYCLE INHIBITION. M. A. Mendoza, R. A. Ponce, Y. C. Ou and E. M. Faustman, University of Washington, Seattle, WA.


#240  CELL CYCLE DEPENDENT NUCLEAR LOCALIZATION OF METALLOTHIONEIN IN 3T3-L1 FIBROBLAST. M. Apostolova and G. Cherian, University of Western Ontario, London, Ontario, Canada.

#241  C-MYC ANTISENSE PHOSPHORIDIMIDATE MORPHOLINO Oligomers LIMIT RAT LIVER REGENERATION AND CYTOCHROME P450 3A ACTIVITY. V. Aron1, D. Knapp1, B. Smith2, M. Reddy1, D. Stein1, M. Stadfield1, D. Wellner1 and P. Jerson1. 1AVI Biopharma, Corvallis, OR and 2Oregon State University, Corvallis, OR.
EARLY INHIBITION OF HEPATOCYTE PROLIFERATION BY DICHLOROACETIC ACID (DCA) IN THE MALE B6C3F1 MOUSE AND F-344 RAT. A. DeAngelo. US Environmental Protection Agency, Research Triangle Park, NC.


PHENOLIC COMPONENTS OF CIGARETTE TAR INHIBIT DNA SYNTHESIS BY QUENCHING THE TYROSYL RADICAL IN RIBONUCLEOTIDE REDUCTASE. J. M. McCue, K. L. Link, S. S. Eaton and B. M. Freed. University of Colorado Health Sciences Center, Denver, CO and University of Denver, Denver, CO.

MONDAY MORNING, MARCH 20
9:30 AM - 12:30 PM
PENNSYLVANIA CONVENTION CENTER
EXHIBIT HALL A

POSTER SESSION: DISPOSITION/PHARMOKINETICS

Chairpersons: Kelly J. Dix, Research Triangle Institute, Research Triangle Park, NC and Elaina M. Kenyon, USEPA, Research Triangle Park, NC.

Displayed: 9:30 AM - 12:30 PM
Attendees: 11:00 AM - 12:30 PM


COMPARATIVE TOXICOLOGICAL PROFILE OF HIGH AND LOW DOSE PROPANIL USING ACCELERATED MASS SPECTROMETRY. J. B. Barnett, R. Schaffer and J. Vogel. West Virginia University, Morgantown, WV and Lawrence Livermore National Laboratory, Livermore, CA.


PHARMACOKINETIC DATA FROM INTRAVENOUS HIGH DOSE IUPROFEN IN ANESTHETIZED WEANLING SWINE. F. M. Reid, J. W. Kohne, N. A. Niemuth, T. L. Hayes, A. M. Sciuto and R. R. Stotts. Battelle, Columbus, OH and United States Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, MD.
BROMODICHLOOROMETHANE AND DICHLOROACETIC ACID PLASMA PROFILES FOLLOWING DOSED-WATER EXPOSURE USING FVB/N MICE: PRELIMINARY TIME POINT COLLECTION STUDIES. D. L. Reichelderfer1, J. D. Johnson1, B. L. Burback1, S. W. Graves1 and C. Smith3.1 Battelle, Columbus, OH and 2NIHSC, Research Triangle Park, NC. Sponsor: M. R. Hetmanick.

DOSE-DEPENDENT TOXIKINETICS OF MONOCHLORACETIC ACID IN ADULT MALE SPRAGUE DAWLEY RATS AFTER ORAL ADMINISTRATION. S. A. Saghiri1, J. Siegert1 and K. K. Rozman3, 1University of Kansas Med. Center, Kansas City, KS 66160, 2University of Kansas Med. Center, Department of Pharmacology, Toxicology and Therapeutics, Kansas City, KS 66160, Sect. Environ. Toxicol., GSF-Institut für Toxikologie, Neuherberg, Germany.

TISSUE DISTRIBUTION AND EXCRETION STUDIES OF EMISIRINE IN MONKEYS AND RATS. T. B. Grizzle1, L. H. Wang1, M. R. Blum1, C. F. McManus1, F. S. Rousseau1, C. T. Whalen1, D. G. Haisherson2 and G. M. Szech2.1 Triangle Pharmaceuticals, Inc., Durham, NC and 2Covance Laboratories, Inc., Madison, WI.

COMPARATIVE DISTRIBUTION BETWEEN URINE AND BIOLOGICAL TISSUES IN MICE EXPOSED TO ARSENITE. DOSE-DEPENDENT EFFECT. L. M. Del Razo1, E. M. Kenyon1, M. F. Hughes3 and D. J. Thomas4. 1CEMLB, UNC Chapel Hill, Chapel Hill, NC and 2NIHSC, USEPA, Research Triangle Park, NC.

TISSUE DISTRIBUTION OF ARSENITE (AsIII) AND ITS METHYLATED METABOLITES IN MICE. E. M. Kenyon1, L. M. Del Razo2 and M. F. Hughes1. 1NIHSC, EPA, Research Triangle Park, NC and 2CEMLB, University of North Carolina, Chapel Hill, NC.

STEADY-STATE DISPOSITION OF ARSENATE IN THE MOUSE. M. F. Hughes1, E. M. Kenyon1, B. C. Edwards1, C. T. Mitchell1, K. L. Rust1, L. Del Razo2 and D. J. Thomas3. 1NIHSC, EPA, Research Triangle Park, NC and 2Center For Environmental Medicine And Lung Biology, University of North Carolina, Chapel Hill, NC.

METABOLISM AND PHARMACOKINETICS OF RODA IN ALBINO AND PIGMENTED RATS. W. J. Fasano, R. Valentine and S. R. Frame. The DuPont Company, Haskell Laboratory for Toxicology and Industrial Medicine, Newark, DE.

DISTRIBUTION OF 2,4-DICHLOROPHENOXYACETIC ACID (2,4-D) IN THE RAT AFTER LOW-DOSE, CHRONIC ADMINISTRATION. T. A. Patterson1, W. Stikker2, J. B. Binrend3, H. Duhart1, G. Lipe1, G. Newport1, J. A. Sandberg1 and C. S. Kim2. 1Division of Neurotoxicology, National Center for Toxicological Research/FDA, Jefferson, AR and 2Division of Toxicological Research, Center for Food Safety and Applied Nutrition/FDA, Laurel, MD.


THE EFFECT OF CO-EXPOSURE TO GASOLINE VAPOR ON THE TOXIKINETICS OF METHYL-TERT. BUTYL ETHER. J. M. Benson, B. M. Tibbets and J. R. Krone. Lovelace Respiratory Research Institute, Albuquerque, NM.

UPTAKE AND ELIMINATION OF METHYL TERT. BUTYL ETHER (MTBE) AND TERT. BUTYL ALCOHOL (TBA) IN HUMAN SUBJECTS BY THE ORAL ROUTE OF EXPOSURE. J. Prah1, D. Ashley2, T. Leavens2, S. Borshoff2 and M. Case1. 1USEPA, Research Triangle Park, NC, 2CDC, Atlanta, GA and 3CIT, Research Triangle Park, NC.

1,1,1,3,3,3-HEXACHLOROPROPAIIP METABOLISM AND DISTRIBUTION IN MALE AND FEMALE SPRAGUE DAWLEY RATS, S. J. Sumner, B. Asgharian, K. Roberts, T. A. Moore and T. R. Fennell. Chemical Industry Institute of Toxicology, Research Triangle Park, NC.

TOXIKINETICS OF HEXACHLOROBENZENE IN FEMALE RATS. E. J. Little1, R. Moore2, R. Harris3, T. Morton4 and D. Overstreet2. 1Midwest Research Institute, Kansas City, MO and 2NIHSC, Research Triangle Park, NC. Sponsor: M. L. Cunningham.

USING PHARMACOKINETIC MODELING AND MONTE CARLO METHODS TO IMPROVE ESTIMATED BIOCONCENTRATION FACTORS AND HALF-LIVES FOR SUBSTITUTED DIPHENYL-\(\alpha\)-PHENYLENEDIAMINES IN CARP. C. R. Kirman\(^{1}\), T. F. Long\(^{1}\), A. P. Leber\(^{2}\), S. M. Hays\(^{3}\) and M. L. Gargioli\(^{1}\). McLaren-Hart/ChemRisk, Cleveland, OH, \(^{2}\)Goodyear, Akron, OH and \(^{3}\)Exponent, Boulder, CO.

MATERNAL AND FETAL DISPOSITION OF A PHOSPHOROXYTHIOATE Oligonucleotide, \(^{3}H\)-ISIS 2105, FOLLOWING 3-HOUR OR 7-DAY INTRAVENOUS INFUSION TO PREGNANT RATS. N. V. Soucy\(^{1}\), J. P. Riley\(^{1}\), M. V. Templeton\(^{1}\), R. S. Geary\(^{2}\), A. A. Peyster\(^{3}\) and O. G. Khatsenko\(^{2}\). \(^{1}\)San Diego State University, San Diego, CA and \(^{2}\)ISIS Pharmaceuticals, Inc., Carlsbad, CA.

GF120918 ENHANCES THE CNS PENETRATION OF AMPRENAVIR IN SPRAGUE DAWLEY RATS. J. E. Edwards\(^{1}\), K. Meredith\(^{2}\) and P. J. McNamara\(^{1}\). \(^{1}\)University of Kentucky, Graduate Center for Toxicology, Lexington, KY; \(^{2}\)Glaxo Wellcome, Inc., Research Triangle Park, NC.

DOSE DEPENDENT METABOLISM OF BENZOFLEX-\(^{5}\)5 PLASTICIZER IN RATS. L. G. L. Knight\(^{1}\), D. Shaw\(^{1}\), B. C. Mayo\(^{1}\) and J. P. McBriarty\(^{2}\). \(^{1}\)Huntingdon Life Sciences Limited, Huntingdon, United Kingdom and \(^{2}\)Svisco Chemical Corporation, Rosemont, IL. Sponsor: R. J. Hurting.

ROLE OF AH RECEPTOR ON HEPATIC SEQUESTRATION AND DISPOSITION OF DIOXIN—STUDIES USING THE AH RECEPTOR-KNOCKOUT MICE. J. J. Diliberto\(^{1}\), B. D. Abbot\(^{2}\) and L. S. Birnbaum\(^{1}\). \(^{1}\)ETD, \(^{2}\)RTD, NHEERL USEPA, Research Triangle Park, NC.

DISTRIBUTION OF 2,2'-BIS(4-CHOROPHENYL)-1,1-DICHLOROETHYLENE (pp'DDE) IN FETAL RATS. B. R. Sparrow and M. J. Devito. NHEERL USEPA, Research Triangle Park, NC.

COMPARATIVE DISPOSITION OF PROPARGYL ALCOHOL (PAL) IN MALE F-344 RATS AND B6C3F1 MICE. K. J. Dix, D. P. Coleman, N. F. Gaudette, A. P. Stanley and A. R. Jeffcoat. Research Triangle Institute, Research Triangle Park, NC.

PHARMACOKINETICS OF INHALED MANGANESE PHOSPHATE IN MALE SPRAGUE DAWLEY RATS FOLLOWING SUBACUTE (14-DAY) EXPOSURE. D. Vitek, B. A. Wong, O. R. Moss and D. C. Dornan. Chemical Industry Institute of Toxicology, Research Triangle Park, NC.

TOXICOKINETICS OF DOSE DEPENDENT THIOBENZAMIDE HEPATOTOXICITY AND TISSUE REPAIR RESPONSES. H. M. Mehdadeh, V. S. Vaidya and R. A. Hill. Division of Toxicology and Preclinical Sciences, College of Pharmacy and Health Sciences, The University of Louisiana at Monroe, Monroe, LA.


HEPATIC SULFOTRANSFERASE ACTIVITY IN MALE RATS CHRONICALLY EXPOSED TO ETHANOL AS PART OF HIGH AND LOW CARBOHYDRATE DIETS INFUSED VIA TOTAL ENTERAL NUTRITION (TEN). M. J. J. Ronis, C. Mercado, D. Holdier, C. Weatherford and T. M. Baugher. Arkansas Children's Hospital Research Institute, Little Rock, AR.

ROLE OF PREGNENOLONE-16A-CARBONITRILE (PCN)-INDUCED EXPRESSION OF MRP2 IN THE ENHANCED PLASMA DISAPPEARANCE AND BILIAKY EXCRETION OF DIBROMOSULFOPHTHALIC (DBSP) D. R. Johnson and C. D. Klaassen. University of Kansas Medical Center, Kansas City, KS.


ALTERATION OF METABOLISM FOR PERCHLOROETHYLENE AND 1,1,1,2-TETRACHLOROETHANE AFTER CARBON TETRACHLORIDE PRETREATMENT IN B6C3F1 MICE. D. Mahle, R. Godfrey, G. Butler and J. Fisher. ManTech Environmental Inc., Dayton, OH and AFRL/HEST, Wright-Patterson AFB, OH.


TOXICOKINETIC-TOXICODYNAMIC RELATIONSHIPS IN TWO CASES OF CYANIDE POISONINGS. F. J. Baud1, S. W. Borron2, M. Debray1 and C. Bismuth.1 1Réanimation Médicale et Toxicologique, University Paris VI, Paris, France; 2École de Santé Publique, Université de Paris VII, Paris, France.

**MEDICAL RESEARCH COUNCIL (MRC) LECTURE: CONTROLLING P53**

Lecturer: David Lane, CRC Laboratories, Department of Biochemistry, University of Dundee, M9/SWB Complex, Dow Street, Dundee, Scotland.

When normal cells and tissues are exposed to a wide range of toxic, mutagenic or growth stimuli levels of the p53 tumour suppressor protein rise rapidly. The induced p53 can trigger apoptotic and growth inhibitory responses by regulating specific gene expression. The level of p53 is controlled post translationally. In unstressed cells, p53 is rapidly turned over by ubiquitination and proteasomal degradation. The MDM2 protein acting as an E3 ligase mediates the critical recognition event that targets p53 for degradation. The MDM2 protein forms part of a critical feedback control pathway as the MDM2 gene is targeted for transcription by p53.

Different signals act independently to induce the stabilisation and activation of p53. Certain chemotherapeutic drugs and UV radiation act by inhibiting the production of MDM2 mRNA whilst ionising radiation acts through DNA damage activated protein kinases. Growth signals act through the induction of the synthesis of the protein p14ARF. This small protein binds to MDM2 and prevents it degrading p53. The p53 pathway can be experimentally activated in normal cells by blocking p53-MDM2 interaction. The p53 pathway plays a major role in the cellular response to toxic stimuli. Recent studies using p53 reporter mice have shown the extreme sophistication of the differential regulation of the response within individual organs and tissues. Since nearly all human tumours show genetic alternations in the p53 pathway, its normal function must play a key role in tumour suppression. Understanding of the control of the p53 pathway is suggesting new approaches to the selective inhibition of the growth of tumour cells.

**MONDAY AFTERNOON, MARCH 20**

**MONDAY AFTERNOON, MARCH 20**

**SOCIETY OF TOXICOLOGY 39TH ANNUAL MEETING**

#284 1:30 PM - 4:30 PM
PENNSYLVANIA CONVENTION CENTER
ROOM(5) 201ABC

**INNOVATIONS IN APPLIED TOXICOLOGY SESSION:**

**TOXICOLOGY IN THE NEXT MILLENNIUM: TOXICOCENOMICS AND PROTEOMICS**

**Sponsored By:** The Molecular Biology Specialty Section
Chairpersons: I. Y. Rosenblum, Schering-Plough Research Institute, Lafayette, NJ and J. Carl Barrett, National Institute of Environmental Health Sciences, Research Triangle Park, NC.

Progress in the Human Genome Initiative has opened the doors to opportunities in toxicology never before imagined. The identification of large numbers of expressed genes has driven the development of technologies to investigate global changes in the expression patterns of both the messages and protein products from those genes. These emerging areas of genomics and proteomics, respectively, hold the promise of unraveling the complexity of the regulation of gene expression in normal tissues in normal states of growth and development and differentiating those expression patterns from gene expression patterns found following exposure to various agents associated with specific mechanisms of cellular toxicity. The identification of such information could allow for truly powerful, rapid, high throughput in vitro screens for toxicity as well as identification of specific patterns diagnostic of specific mechanisms of toxicity associated with in vivo exposures to animals and humans. This rapidly emerging area of science is extremely timely for all toxicologists in all venues, academic, industrial, pharmacological and regulatory, and should be of utmost interest to all the members of the Society of Toxicology.

#287 1:30 TOXICOLOGY IN THE NEXT MILLENNIUM: TOXICOCENOMICS AND PROTEOMICS. I. Y. Rosenblum1 and J. Barrett2. 1Schering-Plough Research Institute, Lafayette, NJ and 2National Institutes of Environmental Health Sciences, Research Triangle Park, NC.

#288 1:40 MICROARRAY TECHNOLOGY IN MOLECULAR TOXICOLOGY. R. Paules, National Institute of Environmental Health, Research Triangle Park, NC. Sponsor: J. C. Barrett.

#289 2:10 USE OF GENE EXPRESSION PROFILING IN PREDICTIVE TOXICOLOGY. D. Mendrick, Gene Logic, Inc., Gaithersburg, MD.

#291 3:10 THE USE OF PROTEOMICS IN MOLECULAR TOXICOLOGY. M. J. Cunningham¹, G. Holt², C. Moyser³ and M. Egerton¹. Incyte Pharmaceuticals, Palo Alto, CA and ³Oxford GlycoSciences, Oxford, United Kingdom.

#292 3:40 PHARMACEUTICAL PROTEOMICS. S. Steiner. Large Scale Biology Corp., Rockville, MD.

4:10 GENERAL DISCUSSION.

MONDAY AFTERNOON, MARCH 20
1:30 PM – 4:30 PM
PENNSYLVANIA CONVENTION CENTER
ROOM(S) 204AB

SYMPOSIUM SESSION: VALUES AND LIMITATIONS OF TRANSGENIC ANIMALS IN IMMUNOTOXICOLOGY

Sponsored By: The Immunotoxicology and Mechanisms Specialty Sections

Chairpersons: Debra L. Laskin, Rutgers University, Piscataway, NJ and Allen E. Silverstone, SUNY Health Science Center, Syracuse, NY

During the past few years there has been increasing use of transgenic animals in elucidating mechanisms of cellular function and more recently in evaluating the potential toxicity and/or carcinogenicity of xenobiotics. While the availability of these animals has advanced our understanding of biochemical, cellular and physiological processes, the results need to be interpreted with caution. Null mice lacking particular genes or transgenics overexpressing genes often develop compensatory mechanisms that alter their responsiveness and confound interpretation of normal function and response. This is particularly true in the immune system where there are multiple and cooperative pathways mediating host defense. Also important is the concept that the response of transgenic animals to a xenobiotic may vary with the genetic background of the animal. This symposium is focused on looking at diverse models of transgenic animals including mice lacking or overexpressing inflammatory and growth factor genes encoding for mediators such as tumor necrosis factor-α, nitric oxide synthase, superoxide dismutase and transforming growth factor-β's that have been developed and utilized for evaluating tissue injury, apoptosis, receptor activity and carcinogenesis. In each of these systems the values and limitations of the technology will be discussed. Attempts will also be made to compare and contrast the results obtained with transgenic animals to those generated using pharmacologic antagonists, anti-sense expression and monoclonal antibodies.

#293 1:30 VALUES AND LIMITATIONS OF TRANSGENIC ANIMALS IN TOXICOLOGY. D. L. Laskin¹ and A. E. Silverstone². ¹Rutgers University, Piscataway, NJ and ²SUNY Health Science Center, Syracuse, NY.

#294 1:40 STUDIES ON THE ROLE OF INFLAMMATORY MEDIATORS IN CHEMICALLY-INDUCED TOXICITY. TRANSGENIC MODELS VERSUS PHARMACOLOGIC APPROACHES. D. L. Laskin. EOHSI, Rutgers University, Piscataway, NJ.

#295 2:10 RADIATION CHIMERAS AND TRANSGENIC KNOCK-OUTS AS TOOLS TO DEFINE IMMUNE SYSTEM TARGETS FOR DIOXIN RECEPTOR AND ESTROGEN RECEPTOR ACTIVATION. A. E. Silverstone. SUNY Health Service Center, Syracuse, NY.

#296 2:40 USING TRANSGENICS AND OTHER APPROACHES TO STUDY REGULATION OF ANTIGEN-SPECIFIC T CELL APOTOPSIS BY GLUCOCORTICOIDS. J. D. Ashwell. Laboratory of Immune Cell Biology, NIH, Bethesda, MD. Sponsor: A. Silverstone.


4:10 GENERAL DISCUSSION.

MONDAY AFTERNOON, MARCH 20
1:30 PM – 4:30 PM
PENNSYLVANIA CONVENTION CENTER
ROOM(S) 108A

WORKSHOP SESSION: AIRBORNE PATIＣULATE MATTER: PHYSICO-CHEMICAL CHARACTERISTICS AND HUMAN EXPOSURE ISSUES RELATED TO HEALTH EFFECTS RESEARCH AND ASSESSMENT

Sponsored By: The Inhalation Specialty Section

Chairpersons: Judith A. Graham, USEPA, Research Triangle Park, NC and Joe L. Mauderly, Lovelace Respiratory Research Institute, Albuquerque, NM.

Exposure to particulate matter (PM) is associated with excess mortality and morbidity, especially in individuals with cardiopulmonary disease. These epidemiologic findings are the cornerstone of EPA’s revision of the PM National Ambient Quality Standards to include PM less than 2.5 microns. Uncertainties in the available information caused the US Congress to stimulate research by having the National Academy of Sciences identify key information needs and by significantly increasing research budgets. Of the several areas of research needed, the ones on
mechanisms of the effect(s) and characterization of the causal PM (and perhaps co-occurring gases) are crucial. Key hypothesis for causative factors are: mass, size, number, surface area, chemistry, co-occurring gases, or some combination of them. Many toxicologists are engaging in research on these topics. One major difficulty is understanding the complex nature of PM as a prelude to designing the most effective studies. This workshop is designed to provide background on the nature of PM and exposures. Both aspects are important. Knowing the physico-chemical nature of key classes of PM is basic. For example, there are major differences between ultrafine, fine and coarse mode particles in addition to size. Biological components might also have important influences. Information on co-occurring gases is also a major element. Even if the ambient air were perfectly understood, it still is essential to characterize what fractions people are exposed to.

#299 1:30 AIRBORNE PARTICULATE MATTER: PHYSICO-CHEMICAL CHARACTERISTICS AND HUMAN EXPOSURE ISSUES RELATED TO HEALTH EFFECTS RESEARCH AND ASSESSMENT. J. A. Graham1 and J. M. Maderly2.
1USEPA, Research Triangle Park, NC and 2Lovelace Respiratory Research Institute, Albuquerque, NM.


#301 2:05 WHAT HAVE GASES GOT TO DO WITH IT? E. Fujita. Desert Research Institute, Reno, NV. Sponsor: J. Graham.


4:05 PANEL DISCUSSION: Joe L. Maderly. Lovelace Respiratory Research Institute, Albuquerque, NM.

MONDAY AFTERNOON, MARCH 20
1:30 PM - 4:30 PM
PENNSYLVANIA CONVENTION CENTER
ROOMS 1& 209AB

WORKSHOP SESSION: TOXICOLOGY FOR KIDS, PART II: THE CLASSROOM EXPERIENCE

Sponsored By: The K-12 Education Sub-Committee

Chairpersons: Charlene A. McQueen, The University of Arizona College of Pharmacy, Tucson, AZ and Garold S. Yost, University of Utah, Salt Lake City, UT.

One of the long-range goals of the Society of Toxicology is to increase awareness and understanding of toxicology. One effective strategy is to encourage toxicologists to become involved in K-12 and community education. In 1999, the K-12 Education Subcommittee and the Education Committee sponsored a workshop on this topic. This year’s workshop builds on the 1999 presentations by focusing on activities and materials that SOT members can use, giving concrete examples of educational do’s and don’ts. The program is designed to give the perspective of scientists who have gone into the classroom or community and survived as well as to explore the powerful synergism of the scientist-teacher relationship. The purpose of the workshop is to provide examples of specific approaches, educational tools and demonstrations of proven techniques that will enable toxicologists to give effective presentations.

#304 1:30 TOXICOLOGY FOR KIDS: THE CLASSROOM EXPERIENCE. C. A. McQueen1 and G. S. Yost2.
1The University of Arizona, Tucson, AZ and 2University of Utah, Salt Lake City, UT.

#305 1:35 TOXICOLOGY: QUESTIONS AND ANSWERS. C. A. McQueen and S. Hines. The University of Arizona, Tucson, AZ.

#306 2:05 GET THE LEAD OUT! M. O. Deveski. Wayne State University, Detroit, MI.

#307 2:35 GOING TOXIC IN THE MIDDLE SCHOOL CLASSROOM. M. I. Haasch. University of Maryland, Solomons, MD.

#308 3:05 THE TEACHER-MENTOR RELATIONSHIP: HOW TO BRING TOXICOLOGY INTO THE MIDDLE SCHOOL CLASSROOM. A. T. Williams. Northern Middle School, Owings, MD. Sponsor: M. I. Haasch.

3:35 DEMONSTRATORS. Keith R. Solomon, University of Guelph, PERIL; Debbie Lowenthal and Jon Sharpe, University to Washington, Tox in a Box; Holly Sherburne, Oregon State University, Exploring Environmental Issues: Focus on Risk; Stefani Hines, University of Arizona, Chemicals and Human Health; and Mary Dereski, Wayne State University, Get the Lead Out.

MONDAY AFTERNOON, MARCH 20
1:30 PM - 4:30 PM
PENNSYLVANIA CONVENTION CENTER
ROOMS 1& 209AB

PLATFORM SESSION: PESTICIDES

Chairpersons: Durisada Desaiiah, University of Mississippi Medical Center, Jackson, MS and Theodore A. Slotkin, Duke University Medical Center, Durham, NC.

#309 1:30 SENSITIVITY OF NEURONAL NITRIC OXIDE SYNTHASE TO LINDANE. D. Desaiiah1, A. Vann2, and J. Cameron2. 1University of Mississippi Medical Center, Jackson, MS and 2Jackson State University, Jackson, MS.
Society of Toxicology
39th Annual Meeting


#311 2:00 PESTICIDE TRANSPORT MEDIATED BY THE MULTIDRUG RESISTANCE-ASSOCIATED PROTEIN (MRP). T. E. Tribull and L. J. Bannin. Clemson University, Department of Environmental Toxicology, Pendleton, SC.

#312 2:15 CHARACTERIZATION OF OLFACTORY MUCOSAL TUMORS INDUCED IN RATS BY CHRONIC DIETARY ADMINISTRATION OF ALACHLOR. M. B. Center1, D. M. Burman1, M. W. Dingeldein1 and B. Bolog1. 1Department of Environmental Health, University of Cincinnati, Cincinnati, OH and 2Department of Pathology, Amgen, Thousand Oaks, CA.

#313 2:30 CHANGES IN CAMP-DEPENDENT KINASE ACTIVITY AND EXPRESSION OF Ca2+/CAMP RESPONSE ELEMENT BINDING PROTEIN (CREB) IN THE BRAINS OF NEONATAL RATS EXPOSED TO CHLORPYRIFOS. D. A. Jett, R. V. Navoa and R. Beckles. Johns Hopkins University, Baltimore, MD.

#314 2:45 NON-NEURONAL TARGETS FOR DEVELOPMENTAL EXPOSURE TO CHLORPYRIFOS: HEPATIC CELL SIGNALING. J. T. Auman, F. J. Seidler and T. A. Slotkin. Duke University Medical Center, Durham, NC.

#315 3:00 CHLORPYRIFOS AND CELL SIGNALING: EXPRESSION OF PHOSPHORYLATED CA2+/CAMP RESPONSE ELEMENT BINDING PROTEIN (CREB) IN PC12 CELLS. R. V. Navoa, R. Schub and D. A. Jett. Johns Hopkins University, Baltimore, MD.

#316 3:15 MECHANISM FOR DEVELOPMENTAL-NEUROTOXICITY OF CHLORPYRIFOS: REACTIVE OXYGEN OR GENE TRANSCRIPTION? T. L. Crampton, F. J. Seidler and T. A. Slotkin. Duke University Med Ctr, Durham, NC.

#317 3:30 CHLORPYRIFOS TARGETS MACROMOLECULE SYNTHESIS IN C6 GLIOMA CELLS. S. J. Garcia, F. J. Seidler and T. A. Slotkin. Duke University Medical Center, Durham, NC.

#318 3:45 BEHAVIORAL DEFICITS AFTER EXPOSURE OF NEONATAL RATS TO THE INSECTICIDE, CHLORPYRIFOS. K. Dang, F. J. Seidler and T. A. Slotkin. Duke University Medical Center, Durham, NC.

4:00 GENERAL DISCUSSION.

MONDAY AFTERNOON, MARCH 20
1:30 PM - 4:30 PM
PENNSYLVANIA CONVENTION CENTER
ROOM(S) 202AB

PLATFORM SESSION: TCDD

Chairpersons: Arnold J. Schecter, University of Texas-Houston School of Public Health, Dallas, TX and Russell S. Thomas, McArdle Laboratory for Cancer Research, Madison, WI.


#320 1:45 SYNERGISTIC ACTIVATION OF AH RECEPTOR-DEPENDENT GENE EXPRESSION BY ACTIVATORS OF PROTEIN KINASE C. E. M. Khan and M. S. Denison. University of California, Davis, CA.

#321 2:00 ROLE OF THE ARYL HYDROCARBON RECEPTOR (AHR) IN THE ANTIESTROGENIC EFFECTS OF TCDD IN THE MOUSE UTERUS. D. L. Buchanan1, T. Sato1, R. E. Peterson2 and P. S. Cooke1. 1University of Illinois, Champaign-Urbana, IL and 2University of Wisconsin, Madison, WI.

#322 2:15 THE ROLE OF RETINOIDS IN DIOXIN TOXICITY. H. Håkansson, National Institute of Environmental Medicine, Karolinska Institutet, Stockholm, Sweden.

#323 2:30 MICROARRAY ANALYSIS OF IMMEDIATE EARLY GENE EXPRESSION IN RESPONSE TO 2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (TCDD). D. E. Heck. Rutgers University, Piscataway, NJ.

#324 2:45 DIOXIN INDUCED CHANGES IN GLOBAL EXPRESSION AS MEASURED USING EST FREQUENCY AND CDNA MICROARRAYS: IDENTIFICATION OF A SECOND GENE BATTERY. R. S. Thomas1, D. R. Rank2, S. G. Penn2, G. M. Zastrow1, Y. Z. Gu1, E. Glover1, M. K. Bunger1, S. Jovanovic1 and C. A. Bradfield1. 1McArdle Cancer Research Laboratory, Madison, WI and 2Molecular Dynamics, Sunnyvale, CA.

#325 3:00 MECHANISM OF INHIBITION OF TCDD-INDUCED GENE EXPRESSION BY ADENOVIRUS ONCOPROTEIN E1A253: ROLE OF COADAPTOR PROTEINS IN AHR FUNCTION. C. L. Jones and M. S. Denison. University of California, Davis, CA.

#326 3:15 TRANSIENT EXPRESSION OF CYP1A1 IN RAT EPITHELIAL CELLS CULTURED IN SUSPENSION. S. A. Monk, M. S. Denison and R. H. Rice. University of California, Davis, CA.
39th Annual Meeting

Monday Afternoon, March 20
1:30 PM – 4:30 PM
Pennsylvania Convention Center
Room(s) 204C

Poster Discussion Session: Mechanisms of Developmental Toxicity

Chairpersons: Thomas A. Gasiewicz, University of Rochester, Rochester, NY and Steven D. Holladay, Virginia Polytechnic Institute, Blacksburg, VA.

Displayed: 1:30 PM – 4:30 PM
Discussed: 2:30 PM – 4:30 PM

#327  3:30  MAXILLARY AND MANDIBULAR OSTEOLINGVIVE PERIODONTAL SQUAMOUS PROLIFERATION IN MINK FED 3,3',4,4',5-PENTACHLOROBIPHENYL OR 2,3,7,8-TETRACHLOROBENZOP-DIODOXIN. J. A. Rotheram1, D. S. Rosenstein2, S. J. Bursian3 and R. J. Auken1. 
1Department of Veterinary Pathology, Michigan State University, East Lansing, MI. 2Department of Small Animal Clinical Sciences, Michigan State University, East Lansing, MI. 3Department of Animal Science, Michigan State University, East Lansing, MI.

#328  3:45  DIOXIN CONGENERS IN TISSUES OF VIETNAMESE LIVING IN THE NORTH AND SOUTH OF VIETNAM FROM 1970 THROUGH 1999 FROM AGENT ORANGE AND OTHER SOURCES. A. Schreiber1, L. C. Dai2, J. Constable1, O. Paepke3 and P. Fuerst3. 1University Texas School of Public Health, Dallas, TX. 2Vietnam Red Cross and Hanoi Medical School, Hanoi, Viet Nam. 3Harvard Medical School, Boston, MA.

4:00  General Discussion.

#331  4:30  ALTERATIONS IN ESTROGEN RECEPTOR (ER), ER B, AND LACTOFERRIN (LF) EXPRESSION IN REPRODUCTIVE TRACT TISSUES FOLLOWING TREATMENT WITH GENISTEIN OR DIETHYLSTILBESTROL (DES) DURING DEVELOPMENT. R. R. Newbold1, E. Padilla Banks1, J. L. Hagelberger1, J. F. Course2 and W. N. Jefferson3. 1Laboratory of Toxicology, National Institute of Environmental Health Sciences, Research Triangle Park, NC and 2Laboratory of Reproductive and Developmental Toxicology, National Institute of Environmental Health Sciences, Research Triangle Park, NC. Sponsor: M. L. Cunningham.

#332  4:45  MOLECULAR AND CELLULAR PATHOGENESIS OF 5-AZA-2'-DEOXYCYTIDINE-INDUCED MURINE HINDLIMB DYSPHOMORPHOGENESIS. S. Branch1 and G. Henry-Sam1. 1North Carolina State University, Department of Toxicology, Raleigh, NC and 2Xavier University of Louisiana, College of Pharmacy, New Orleans, LA.

#333  5:00  MATERNAL IMMUNOSTIMULATION PROTECTS AGAINST URETHANE-INDUCED CLEFT PALATE. L. V. Sharova, R. M. Gogal, P. Sura and S. D. Holladay, Virginia-Maryland Regional College of Veterinary Medicine, Virginia Tech, Blacksburg, VA.


#335  5:30  EVALUATION OF THE PEROXYNITRITE PATHWAY IN PHENOTYP EMBRYOTOXICITY USING INDUCIBLE NITRIC OXIDE SYNTHASE (INOS) KNOCKOUT MICE IN EMBRYO CULTURE. S. Kaspinov1, S. J. Wiley2 and P. G. Wells1. 1Faculty of Pharmacy, University of Toronto, Toronto, Ontario, Canada. 2Department of Surgery, University of Toronto, Toronto, Ontario, Canada.

#336  5:45  REACTIVE OXYGEN SPECIES IN DEVELOPMENTAL MARCHYL MERCURY NEUROTOXICITY. M. A. Polunus and K. R. Reuhl. Rutgers University, USA, NJ.
#337

#338

#339
FEMALE PREDOMINANCE AMONG CD-I MOUSE FETUSES WITH ARSENIC-INDUCED EXENCEPHALY. C. A. Lammon and R. D. Hood. University of Alabama, Tuscaloosa, AL.

#340

#341

#342

#343

#344
RECONSTRUCTION OF LIFETIME LEAD EXPOSURE FROM QUESTIONNAIRE, X-RF MEASUREMENTS, AND BIOKINETIC MODELING. J. M. Gorell1, E. L. Peterson1, B. A. Rybicki2, D. R. Chettle3 and J. G. Pounds3. 1Henry Ford Health System, Detroit, MI, 2McMaster University, Hamilton, Ontario, Canada and 3Wayne State University, Detroit, MI.

#345

#346
SUBCHRONIC HEALTH EFFECT LEVELS FOR CHILDMHOOD EXPOSURE TO ARSENIC. J. S. Tsuji, R. A. Schoof and G. C. Hook. Exponent, Bellevue, WA.

#347
DETERMINATION OF A HUMAN ACUTE NO OBSERVED ADVERSE EFFECT LEVEL (NOAEL) FOR COPPER. K. A. Poirier1, M. Araya2, L. M. Klevay1, J. J. Stair2, F. H. Nielsen2, P. Robson2, M. C. McGoldrick3 and S. R. Bakers1. 1Tera, Cincinnati, OH, 2Universidad de Chile, Santiago, Chile, 3USDA, Grand Forks, ND, 4University of Ulster, Coleraine, United Kingdom and 5International Copper Association, New York, NY.

#348

#349
POSTER SESSION: HALOGENATED HYDROCARBONS

Chairpersons: Herbert Wiegand, Heinrich-Heine University, Duesseldorf, Germany and Richard F. Seegal, New York State Department of Health, Albany, NY.

Displayed: 1:30 PM - 4:30 PM

Attended: 1:30 PM - 3:00 PM

#350 IMMUNOCHEMICAL DETECTION OF TRICHLOROACETYLATED PROTEINS IN TETRACHLOROETHENE-TREATED AUTOIMMUNE-PRONE MICE. S. M. Green, M. F. Khan, B. S. Kaphalia and G. A. S. Ansari, University of Texas Medical Branch, Galveston, TX.

#351 TRICHLOROETHYLENE INDUCED FORMIC ACID EXCRETION LEADS TO KIDNEY DAMAGE IN THE MALE FISHER RAT. T. Green, J. L. Dow and J. R. Foster, AstraZeneca Central Toxicology Laboratory, Macclesfield, United Kingdom. Sponsor: E. A. Lock.

#352 TRICHLOROETHYLENE INDUCED VITAMIN B12 AND FOLATE DEFICIENCY LEADS TO INCREASED FORMIC ACID EXCRETION IN THE RAT. J. L. Dow and T. Green, AstraZeneca Central Toxicology Laboratory, Macclesfield, United Kingdom. Sponsor: E. A. Lock.

#353 TOXICOKINETICS OF MONOCHLOROACETIC ACID IN ADULT MALE SPRAGUE DAWLEY RATS AFTER DERMAL APPLICATION. J. Siegrist1, S. A. Saghiri2 and K. K. Rozman2. 1University of Kansas Med. Center, Department of Pharmacology, Toxicology and Therapeutics, Kansas City, KS and 2University of Kansas Med. Center, Department of Pharmacology, Toxicology and Therapeutics; Kansas City, KS; Section of Environmental Toxicology, GSF-Institut für Toxikologie, Neuherberg, Germany.

#354 RENAL MITOCHONDRIAL ACONITASE FROM TETRAFLUOROACETYL-CYSTEINE-TREATED RATS IS COVALENTLY MODIFIED BY DIFLUOROTHIOACETYL FLUORIDE AND POSSESSSES DECREASED ACTIVITY. E. A. James1, S. P. Gygi2, M. L. Adams1, S. D. Nelson1 and S. A. Bruschi1. 1Department of Medicinal Chemistry, University of Washington, Seattle, WA and 2Department of Molecular Biotechnology, University of Washington, Seattle, WA.

#355 POLYCHLORINATED BIPHENYLS ENHANCE INTRACELLULAR CALCIUM THROUGH PURINERGIC RECEPTOR ACTIVATION IN HUMAN MACROPHAGES. M. Deinhardt1, D. Desai2 and H. Wiegand2. 1Med. Inst. Neur. Hyg. Heinrich Heine University Duesseldorf, Duesseldorf, Germany and 2Department Neurology, University Mississippi Medical Center, Jackson, MS.

#356 COPLANAR PCB CONGENERS ARE UTEROTROPIC IN PRE-PUBERTAL RATS. R. F. Seegal. Wadsworth Center, NYSDOH, Albany, NY.

#357 INSULIN RELEASE FROM RIN1MSF CELLS PRODUCED BY POLYBROMINATED AND POLYCHLORINATED BIPHENYLS (PBBS AND PCBS), M. A. Wagner and L. J. Fischer. Michigan State University, East Lansing, MI.

#358 REACTIVITY OF HALOGENATED AND NON-HALOGENATED DIOXYBIPHENYLS IN VITRO AND IN CELLS IN CULTURE. G. Ludewig1, H. J. Lehmler2, R. Bovin2, A. Srinivasan2 and L. W. Robertson2. 1Department Nutrition & Food Science, University of Kentucky, Lexington, KY and 2Grad. Center for Toxicology, University of Kentucky, Lexington, KY.

#359 RELATIVE POTENCY VALUES FOR INDIVIDUAL POLYCHLORINATED BIPHENYL CONGENERS FOLLOWING SUBCHRONIC DIETARY EXPOSURE. E. Fattore1, I. Chu2, C. Trossvik1 and H. Håkansson1. 1National Institute of Environmental Medicine, Karolinska Institute, Stockholm, Sweden and 2Health Protection Branch, Tunney’s Pasture, Ottawa, Ontario, Canada.


#362 STRUCTURE ACTIVITY RELATIONSHIPS BETWEEN SELECTED POLYCHLORINATED BIPHENYL CONGENERS AND METABOLITES TOWARDS ACTIVATION OF RYANOIN RECEPTOR TYPE 1. P. W. Wong1, E. Mai2, L. G. Hansen1, C. E. Garner1 and L. N. Pashley1. 1University of California, Davis, CA and 2University of Illinois, Urbana, IL and 3DuPont Pharmaceuticals Company, Newark, DE.
#363 MECHANISM OF INHIBITION OF STIMULATED NEUTROPHIL DEGRANULATION BY 2,2',4,4'-TETRACHLOROBIPHENYL. P. E. Ganey¹, J. Olivero-Verbel² and B. V. Madhukar². ¹Department of Pharmacology and Toxicology, Institute for Environmental Toxicology and National Food Safety and Toxicology Center, Michigan State University, East Lansing, MI and ²Department of Pediatrics and Institute for Environmental Toxicology, Michigan State University, East Lansing, MI.

#364 A COMMON ELECTROTOPOLOGICAL MOTIF AMONG ORGANOCHLORINE COMPOUNDS THAT ACTIVATE NEUTROPHILS. J. Olivero-Verbel and P. E. Ganey. Department of Pharmacology and Toxicology, Inst. for Environmental Toxicology and National Food Safety and Toxicology Center, Michigan State University, East Lansing, MI.

#365 HEMOGLOBIN ADDUCTS OF POLYCHLORINATED BIPHENYLS AS POTENTIAL BIOMARKERS OF EXPOSURE. N. Tampal¹, S. Myers², D. Perez¹ and L. Robertson¹. ¹University of Kentucky, Lexington, KY and ²University of Louisville, Louisville, KY.

#366 COVALENT BINDING OF BENZO[A]PYRENE, 4-CHLOROBIPHENYL AND 3,3',4,4'-TETRACHLOROBIPHENYL TO NUCLEAR MACROMOLECULES IN FEMALE MICE. D. Perez, N. Tampal and L. W. Robertson. University of Kentucky, Lexington, KY.


#368 ROLE OF CYTOCHROME P450 INDUCTION AND LIPID PEROXIDATION IN 3,3',4,4'-TETRACHLOROBIPHENYL (PCB-77) AND 2,2',4,4',5,5'-HEXACHLOROBIPHENYL (PCB-153)-INDUCED TOXICITY IN LIVER OF MALE RATS. Z. A. Fadhel¹, Z. Lu², L. W. Robertson² and H. P. Glauner². ¹Jordan University for Women, Amman, Jordan and ²University of Kentucky, Lexington, KY.

#369 PCB METABOLITES: CYTOTOXICITY, GLUTATHIONE DEPLETION AND INHIBITION OF TOPOISOMERASE II. A. Srinivasan, L. W. Robertson and G. Ludwig. University of Kentucky, Lexington, KY.

MONDAY AFTERNOON, MARCH 20
1:30 PM - 4:30 PM
PENNSYLVANIA CONVENTION CENTER
EXHIBIT HALL A

POSTER SESSION: NEUROTOXICOLOGY OF METALS

Chairpersons: Harold Kominskey, Jr., Xavier University of Louisiana, New Orleans, LA and Evelyn C. Tiffany-Castiglioni, Texas A&M University, College Station, TX.

Displayed: 1:30 PM - 4:30 PM

#370 CONTRIBUTION OF RYANO DINE-SENSITIVE Ca²⁺ POOL TO METHYLMERCURY (MeHg)-INDUCED CHANGES IN [Ca²⁺], IN RAT CEREBELLAR GRANULE NEURONS. M. Sanchez, T. L. Stringfellow and W. D. Atchison. Michigan State University, East Lansing, MI.

#371 METHYLMERCURY (MEH) ALTERS MITOCHONDRIAL CALCIUM HOMEOSTASIS IN RAT CEREBELLAR GRANULE NEURONS. T. L. Stringfellow and W. D. Atchison. Michigan State University, East Lansing, MI.

#372 ASSESSMENT OF INTEGRIN PROTEIN EXPRESSION IN PC-12 CELLS AFTER METHYLMERCURY EXPOSURE. J. E. Royland and S. Padilla. USEPA, Research Triangle Park, NC.

#373 TOXICITY OF THE CO-CONTAMINANTS 137CESIUM AND MERCURY ON THE DEVELOPING NEURON. L. Fahey McGrath¹, K. G. Roberts² and K. R. Reuhl³. ¹University of Medicine and Dentistry of New Jersey-Robert Wood Johnson Medical School, Environmental and Occupational Health Sciences Institute, Piscataway, NJ and ²Joint Graduate Program in Toxicology, Rutgers University, Piscataway, NJ.

#374 MICE WITH METALLOTHIONEIN-III OVER-EXPRESS IN BRAIN: COMPARISON TO C57BL/6 MICE IN BEHAVIORAL EFFECTS OF METHYL MERCURY (MEH). C. Wang and H. L. Evans. NYU School of Medicine, New York, NY.

#375 EFFECTS OF PROTEIN-DEFICIENT NUTRITION DURING PREGNANCY AND DEVELOPMENT ON DEVELOPMENTAL HINDLimb CROSSING DUE TO METHYL MERCURY INTOXICATION. S. K. Chakrabarti and C. Bai. Université de Montréal, Montréal, Quebec, Canada.

#376 INHIBITORS OF ASTROCYTIC EXCITATORY AMINO ACID TRANSPORTER FUNCTION ALSO DECREASE MRNA LEVELS. J. W. Allen and M. Aschner. Wake Forest University School of Medicine, Winston-Salem, NC.
FOREIGN METALLOTHIONEIN-I (MT-1) EXPRESSION BY TRANSIENT TRANSFECTION IN MT-1 AND MT-11 NULL ASTROCYTES CONFRONS INCREASED PROTECTION AGAINST ACUTE METHYLERYCURY CYTOTOXICITY. M. Aschner1, C. P. Yao1, J. W. Allen1, L. A. Mucku1 and K. H. Tan1. 1Wake Forest University School of Medicine, Winston-Salem, NC and 2Winston-Salem State University, Winston-Salem, NC.

METAL AND RADIATION-INDUCED TOXIC NEUROPATHY (TN) IN TWO NAVAJO SISTERS. J. F. Rosen and P. Mushok. Albert Einstein College of Medicine and Children's Hospital at Monteforte, Bronx, NY.

EFFECT OF NEONATAL LEAD EXPOSURE ON THE DEVELOPMENT OF CORTICAL COLUMNS IN THE RODENT BARREL FIELD. M. A. Wilson, M. V. Johnston, G. W. Goldstein and M. E. Blue. Kennedy Krieger Institute and Johns Hopkins University School of Medicine, Baltimore, MD. Sponsor: J. Bressler.

TIME- AND REGION-SPECIFIC CHANGES IN AMINO ACID NEUROTTRANSMITTERS IN RATS EXPOSED TO LOW LEVEL LEAD. Y. Gedeon and A. L. Jodlau. Texas Southern University, Houston, TX.

BLOCKADE OF NMDA RECEPTORS IN CORE BUT NOT SHELL OF NUCLEUS ACCUMBENS MIMICS LEAD (PB) EFFECTS ON LEARNING. D. A. Corr-Schletta, M. Bauder and B. J. Brocket. University of Rochester Medical School, Rochester, NY.

SYNAPTIC TRANSMISSION MEDIATED BY GLUTAMATE AND GABA IS DECREASED IN RATS EXPOSED TO LEAD (PB2+) IN VIVO. M. D. Santos1, E. F. R. Pereira1, M. E. M. Braga1, M. K. Nihei2, M. Alkondom1, E. X. A. Albalquerque1 and T. R. Guiltarte2. 1Department Pharmacol Exp Ther. University of Maryland School of Medicine, Baltimore, MD and 2Dept Environmental Health Science, Johns Hopkins Univ, School Hygiene & Public Health, Baltimore, MD.


EFFECTS OF DIVALENT CATIONS ON [3H]-MK-801 BINDING TO THE N-METHYL-D-ASPARTATE (NMDA) RECEPTOR OF RAT BRAIN. T. Ma and J. K. Ho. University of Mississippi Medical Center, Department of Pharmacology & Toxicology, Jackson, MS.

LEAD INDUCES PKC-MEDIATED PHOSPHORYLATION OF 45 KDA PROTEIN IN ISOLATED NERVE TERMINALS. C. D. Toscano1 and F. A. X. Schanne2. 1Johns Hopkins University, Baltimore, MD and 2St. John's University, Jamaica, NY.

CHRONIC DEVELOPMENTAL LEAD (PB) EXPOSURE INCREASES PHOSPHORYLATED FORMS OF RAT HIPPOCAMPAL PROTEIN KINASE C (PKC). S. M. Lasley1, M. A. Hebert2, M. E. Gilbert3 and J. P. O'Callaghan3. 1University of Illinois College of Medicine, Peoria, IL, 2Centers for Disease Control - NIOSH, Morgantown, WV and 3USEPA, Research Triangle Park, NC.

PB EXPOSURE MODULATES EGR-1 DNA-BINDING BOTH IN VIVO AND IN VITRO. R. Reddy1 and N. H. Zawoia2. 1Savannah State University, Savannah, GA and 2University of Rhode Island, Kingston, RI.


OXIDATIVE STRESS IN EMBRYONIC RAT HIPPOCAMPAL NEURONS INDUCED BY LEAD IS REVERSED BY ASTROCYTE/NEURON INTERACTIONS. C. A. Ferguson and G. A. Audesirk. University of Colorado at Denver, Denver, CO.

LEAD (PB) TARGETS GPR78, A MOLECULAR CHAPERONE, IN C6 RAT GLIOMA CELLS. Y. Qian, E. D. Harris, Y. Zheng and E. Tiffany-Castiglioni. Texas A&M University, College Station, TX.


INHIBITORY EFFECT OF LEAD (PB) ON THE UPTAKE OF THYROXINE BY THE PERFUSED OVINE CHOROID PLEXUS (CP). W. Zheng1, R. Deane2, J. E. Preston2 and M. B. Segal3. 1Columbia University, New York, NY, 2University of Greenwich, London, United Kingdom and 3King's College London, London, United Kingdom.
#394  COMPARISON OF CYTOTOXICITIES INDUCED BY Mn(II) OR Mn(III) IN VITRO. G. Tsao, Q. Zhao and W. Zheng, Division of Environmental Health Sciences, Columbia University, New York, NY.

#395  COMPARATIVE TOXICO_DYNAMIC OF MANGANESE CHLORIDE (MnCl₂) AND METHYLCYCLOPENTADIENYL MANGANESE TRICARBONYL (MMT) IN MALE SPRAGUE DAWLEY RATS. H. Kim¹, Q. Zhao² and W. Zheng². ¹Drug Met. & Pharmacokinetics, Smithkline Beecham, King of Prussia, PA and ²Division of Environmental Health Sciences, Columbia University, New York, NY.

#396  MEDIA COMPOSITION AFFECTS MTT UPTAKE BY PRIMARY RAT ASTROCYTES IN RESPONSE TO MANGANESE EXPOSURE. E. A. Malecki and J. R. Connor. Penn State College of Medicine, Hershey, PA.

#397  OLFATORY TRANSPORT OF INHALED MANGANESE SULFATE TO THE BRAIN IN MALE CD RATS. K. A. Brenneman, B. A. Wong, M. A. Buccellato, E. R. Costa, E. A. Gross and D. C. Dorman. Chemical Industry Institute of Toxicology, Research Triangle Park, NC.


#399  THE NEUROTOXIC EFFECTS OF MANGANESE IN A RAT MODEL OF PRE-PARKINSONISM. R. H. Gwiazda, D. Lee, J. Sheridan and D. R. Smith. Environmental Toxicology, University of California, Santa Cruz, CA.

#400  THE NEUROBIOLOGICAL EFFECTS OF MANGANESE EXPOSURE IN A RODENT MODEL OF PRE-PARKINSONISM. R. D. Witholt, R. H. Gwiazda and D. R. Smith. Environmental Toxicology, University of California, Santa Cruz, CA.


#402  ASSESSMENT OF BIOACCUMULATION, HISTOPATHOLOGY AND NEUROBEHAVIORAL DAMAGE IN PORTACAVAL ANASTOMOSIS RATS EXPOSED TO MANGANESE PHOSPHATE DUST: A PILOT STUDY. L. Normandin¹, F. Salehi¹, R. F. Butterworth², S. Fadali¹, G. Kennedy², G. Carrier³, D. Tapi³ and J. Zayed¹. ¹University of Montreal, Montreal, Quebec, Canada, ²Neuroscience Research Unit, Montreal, Quebec, Canada and ³Mechanical Engineering Department, Montreal, Quebec, Canada. Sponsor: K. Krishnan.

#403  BIOACCUMULATION AND NEUROBEHAVIORAL EFFECTS OF INHALED MANGANESE DUST IN RATS. A. St-Pierre⁴, L. Normandin¹, G. Carrier², R. F. Butterworth², G. Kennedy¹, S. Fadali¹ and J. Zayed¹. ¹University of Montreal, Montreal, Quebec, Canada, ²Neuroscience Research Unit, Montreal, Quebec, Canada and ³Mechanical Engineering Department, Montreal, Quebec, Canada. Sponsor: K. Krishnan.

#404  UPTAKE OF SOLUBLE MANGANESE CHLORIDE VIA NOSE-ONLY INHALATION THROUGH THE OLFACTORY BULB. P. G. Grant¹, G. Bench¹, J. L. Lewis² and K. K. Divine³. ¹Lawrence Livermore National Laboratory, Livermore, CA, ²University of New Mexico, Albuquerque, NM and ³Inhalation Toxicology Research Institute, Albuquerque, NM.

#405  PROCONVULSANT EFFECT OF CHRONIC ARSENIC IN MICE. D. De La Cruz¹, M. Gonzebati², C. Rios³ and M. Perez³. ¹Instituto Nacional de Neurologia y Neurocirugia, Mexico, ²Instituto de Investigaciones Biomedicas, UNAM, Mexico and ³Instituto de Fisiologia Celular, UNAM, Mexico.

#406  MORPHOLOGICAL ALTERATIONS AND ENHANCED LIPID PEROXIDATION IN BRAIN REGIONS OF RAT AFTER PERINATAL COMBINED EXPOSURE TO CADMIUM AND DEXAMETHASONE. M. Mendez-Armenta¹, R. Barrozo-Moguel¹ and J. Villeda-Hernandez¹. ¹Lab Neuromorphology Cellular and ²Department of Neurochemistry, Instituto Nacional de Neurologia y Neurocirugia, M.V.S., Mexico.

#407  THE EFFECTS OF ADRENALECTOMY ON TRIMETHYLITIN-INDUCED HIPPOCAMPAL INJURY IN RATS. M. Sadamatsu¹, H. Imai², T. Nishimura³, M. Kage⁴ and K. Kato⁴. ¹Department of Psychiatry, St. Luke's International Hospital, Chuo, Japan, ²Regional Environment Division, National Institute for Environmental Studies, Tsukuba, Japan, ³Division of Cortical Function Disorders, National Institute of Neuroscience, NCNP, Kodaira, Japan and ⁴Department of Neuropsychiatric, Graduate School of Medical Sciences, University of Tokyo, Bunkyo, Japan. Sponsor: Y. Aoki.
TRIMETHYL tin AND LPS INDUCE DISTINCT PATTERNS OF CYTOKINE AND CHEMOKINE EXPRESSION IN R AT HIPPOCAMPUS: LACK OF AN ASSOCIATION WITH INJURY-INDUCED GLOISIS. A. R. Little and J. P. O’Callaghan. CDC/NIOSH, Morgantown, WV.

ORAL TREATMENT OF MICE WITH SODIUM SELENITE BUT NOT SELENOMETHIONINE INCREASES DOPAMINE METABOLITES IN THE STRIATUM. M. Tsuoda, V. J. Johnson and R. P. Sharma. The University of Georgia, Athens, GA.

A QSAR-TYPE PBPK MODEL FOR INHALED CHLOROETHENES. M. O. Fouchécourt and K. Krishnan. Université de Montréal, Montréal, Québec, Canada.

PBPK MODELING OF ESTRADIOL DURING ESTROUS CYCLE AND ITS RELATIONSHIP TO UTEROTROPIC EFFECTS IN RATS. C. Enmond and K. Krishnan. Université de Montréal, Montréal, Québec, Canada.

PHYSIOLOGICAL MODELING OF HUMAN EXPOSURE TO CONTAMINANTS IN AMBIENT ENVIRONMENT AND FOOD CHAIN. C. Blanchette and K. Krishnan. Université de Montréal, Montréal, Québec, Canada.

PBPK MODELING AND EXTRAPOLATION OF PHARMACOKINETIC INTERACTIONS FROM SIMPLE TO COMPLEX CHEMICAL MIXTURES. R. Tardif, S. Haddad, G. Charest-Tardif and K. Krishnan. Université de Montréal, Montréal, Québec, Canada.

DERIVATION OF CHEMICAL-SPECIFIC ADULT-CHILDREN SAFETY FACTORS USING A PHYSIOLOGICAL MODELING APPROACH. K. Price and K. Krishnan. Université de Montréal, Montréal, Canada.

A SIMPLE METHOD FOR UNCERTAINTY ANALYSIS IN PBPK MODELS. S. Said and K. Krishnan. Université de Montréal, Montréal, Québec, Canada.

AN ALGEBRAIC APPROACH FOR CONDUCTING SENSITIVITY AND VARIABILITY ANALYSES IN HUMAN PBPK MODELS. K. Krishnan and M. O. Fouchécourt. Université de Montréal, Montréal, Québec, Canada.


PROBABILISTIC DISTRIBUTIONS FOR PBPK MODEL PARAMETERS. S. M. Hays1, M. Bauchet2, G. C. Hook1, Y. Lowney1, C. R. Kirman3 and D. J. Pautenbush4. 1Exponent, Boulder, CO, 2Exponent, Bellevue, WA, 3ChemRisk, Cleveland, OH and 4Exponent, Menlo Park, CA.

AN ADVANCED PBPK MODEL INPUT SYSTEM AND DATA REPOSITORY FOR COMPLEX MODELS WITH EXPORT FOR THE ACSL MODEL ENGINE. F. W. Power1, J. N. Bianco2, A. Ruiz1, J. Licitra3 and J. Ventresca4. 1Anteon Corporation, Las Vegas, NV, 2USEPA, Las Vegas, NV and 3For the Anteon Corporation, Las Vegas, NV.
APPLICATION AND USE OF DOSE ESTIMATING EXPOSURE MODEL (DEEM) FOR ROUTE TO ROUTE DOSE COMPARISONS AFTER EXPOSURE TO TRICHLOROETHYLENE (TCE). C. S. Scott¹, J. N. Blancato², J. W. Power³ and J. W. Fisher⁴. ¹USEPA, Washington, DC, ²USEPA, Las Vegas, NV, ³Anteon Corporation, Las Vegas, NV and ⁴Armstrong Laboratory, Wright-Patterson AFB, OH.

APPLICATION AND USE OF DOSE ESTIMATING EXPOSURE MODEL (DEEM) FOR DOSE COMPARISONS AFTER EXPOSURE TO TRICHLOROETHYLENE (TCE). J. N Blancato¹, F. W. Power² and J. W. Fisher³. ¹USEPA, Las Vegas, NV, ²Anteon Corporation, Las Vegas, NV and ³Armstrong Laboratory, Wright-Patterson AFB, OH.

UNCERTAINTY ANALYSIS OF TCE USING THE DOSE ESTIMATING EXPOSURE MODEL (DEEM) IN ACSL. A. M. Tseng¹, R. N. Brown², F. W. Power¹, J. N. Blancato³ and C. W. Scott³. ¹Anteon Corporation, Las Vegas, NV, ²USEPA, Las Vegas, NV and ³USEPA, Washington, DC.

DOES CHLOROFORM CONFORM TO HABER’S INHALATION RULE FOR DIFFERENT RAT AGES?: A PHYSIOLOGICALLY BASED PHARMACOKINETIC (PBPK) MODELING APPROACH. D. Liston, J. E. Simmons, W. Boyes, P. Bushnell and M. V. Evans. EPA NHEERL, Research Triangle Park, NC.

INCORPORATION OF STRAIN- AND AGESPECIFIC INPUT PARAMETERS INTO A PHYSIOLOGICALLY-BASED PHARMACOKINETIC (PBPK) MODEL FOR CHLOROFORM (CHCl₃). J. R. Morin¹, M. V. Evans² and J. E. Simmons³. ¹ESE, UNC, Chapel Hill, NC and ²NHEERL, USEPA, Research Triangle Park, NC.

AN APPROACH TO OPTIMIZE GAS UPTAKE EXPERIMENTS TO IMPROVE PARAMETER ESTIMATION. J. H. Overton and M. V. Evans. USEPA, Research Triangle Park, NC.

COMPARATIVE ANALYSIS OF SOFTWARE FOR PHYSIOLOGICALLY BASED PHARMACOKINETIC MODELING: SIMULATION, OPTIMIZATION, AND SENSITIVITY ANALYSIS. M. R. Easterling¹, M. V. Evans² and E. M. Kenyon². ¹Curriculum in Toxicology, University of North Carolina, Chapel Hill, NC and ²USEPA, Research Triangle Park, NC.

A FAMILY APPROACH FOR ESTIMATING REFERENCE DOSES/CONCENTRATIONS FOR SERIES OF RELATED ORGANIC CHEMICALS. J. G. Teeguarden¹, T. Tyler², M. E. Andersen³ and H. A. Barton⁴. ¹K. S. Crump Group, Research Triangle Park, NC, ²Union Carbide Corporation, Danbury, CT, ³Colorado State University, Fort Collins, CO and ⁴Health Effects Research Laboratory, USEPA, Research Triangle Park, NC.

QUANTITATIVE EVALUATION OF THE PHARMACOKINETIC INTERACTIONS BETWEEN TRICHLOROETHYLENE (TCE), TETRACHLOROETHYLENE (PERC), AND 1,1,1-TRICHLOROETHANE (MCE) USING GAS UPTAKE STUDIES AND PBPK MODELING. I. Dobrev, M. E. Anderson and R. S. H. Yang. Department of Environmental Health, Colorado State University, Fort Collins, CO.

IN VITRO TO IN VIVO Extrapolation of Benzene (Bz) Metabolism for PBPK Modeling of Bz and Its Metabolites in Mice. P. M. Schlosser¹, C. E. Cole¹,² and H. T. Tran². ¹Chemical Industry Institute of Toxicology, Research Triangle Park, NC and ²Department of Mathematics, NCSU, Raleigh, NC.

PRELIMINARY PHYSIOLOGICALLY-BASED PHARMACOKINETIC (PBPK) MODELING FOR GENESTIN DOSIMETRY IN RATS AND HUMANS. M. G. Zager¹,², P. M. Schlosser¹ and H. T. Tran². ¹Chemical Industry Institute of Toxicology, Research Triangle Park, NC and ²Department of Mathematics, North Carolina State University, Research Triangle Park, NC.

PHYSIOLOGICALLY-BASED PHARMACOKINETIC AND TWO STAGE CLONAL GROWTH MODELING OF CHLOROBENZENE-INDUCED PRENEOPLASTIC FOCI WITHIN THE ITO MEDIUM-TERM BIOASSAY. Y. C. Ou¹, M. E. Andersen¹, R. B. Conolly², R. S. Thomas³, Y. Xu¹, D. L. Gustafson² and R. S. H. Yang¹. ¹Environmental Health Department Colorado State University, Fort Collins, CO, ²Chemical Industry Institute of Toxicology, Research Triangle Park, NC, ³McArdle Laboratory for Cancer Research, University of Wisconsin, Madison, WI and ⁴School of Pharmacy, University of Colorado, Fort Collins, CO.

PHYSIOLOGICAL PHARMACOKINETIC MODEL REDUCTION APPLIED TO HUMAN RISK ASSESSMENT. X. Wang¹, M. J. DeVito², K. B. Bischoff³ and L. S. Birnbaum². ¹InnaPhase Co., Philadelphia, PA, ²USEPA, Research Triangle Park, NC and ³University of Delaware, Newark, DE.
INCORPORATING A VALIDATED PBPK MODEL FOR THE EMBRYOTOXICITY OF 5-FUOROURACIL. R. W. Setzer and R. S. DeWoskie. USEPA, Research Triangle Park, NC.

DEVELOPMENT OF A PHYSIOLOGICALLY BASED PHARMACOKINETIC MODEL FOR ANTHRAQUINONE IN MALE AND FEMALE RATS AFTER SINGLE INTRAVENOUS AND ORAL DOSES AND CHRONIC DOSING IN FEED. G. M. Blumenthal, M. C. Kohn, F. M. Parham, R. L. Melnick, R. D. Irwin and C. J. Porter. NIEHS, Research Triangle Park, NC.


COMPARISON OF IN VITRO AND IN VIVO KINETICS OF TETRACHLORO-BENZYLTOULENES (UGILEC 141) AND PCBs. H. J. Kramer1, H. Drenth1, R. H. L. Fleuren1, M. VandenBerg1 and J. Delongh3. RITOX, Utrecht, Netherlands. 3LAP&P Consultants, Leiden, Netherlands.

ORGAN-SPECIFIC DIFFERENCES IN BASE-EXCISION REPAIR FOLLOWING ACUTE TREATMENT WITH BENZ(α)PYRENE. T. J. Stedfast1, F. Cardoso-Peleuc2, C. G. Hover1, R. D. Harbison1, J. Sanchez-Ramos2. 1Department of Environmental and Occupational Health, College of Public Health, University of South Florida, Tampa, FL. 2Department of Neurology, College of Medicine, University of South Florida, James A. Haley Veteran's Hospital, Tampa, FL.

DEVELOPMENT OF A PHYSIOLOGICALLY BASED PHARMACOKINETIC MODEL FOR ETHYLENE GLYCOL AND ITS MAJOR METABOLITE, GLYCOLIC ACID. R. A. Corley1, K. K. Weitz, R. A. Gies and K. D. Thrail. Battelle, Pacific Northwest Division, Richland, WA.

BIOLOGICALLY-BASED PHARMACOKINETIC MODELING OF UPTAKE AND INTRACELLULAR ACIDIFICATION OF ORAL EPITHELIAL CELLS INDUCED BY VINYL ACETATE EXPOSURE FROM DRINKING WATER. R. Sarangapani1, J. Teegarden1, A. Jarabek1, J. Morris1, R. Valentine2, M. S. Bogdanoff4 and M. E. Andersen5. 1K. S. Crump Group, ICF Consulting, Research Triangle Park, NC. 2National Center for Environmental Assessment, Research Triangle Park, NC. 3University of Connecticut, Storrs, CT. 4DuPont Haskell Laboratory, Newark, DE and 5Colorado State University, Fort Collins, CO.

PRELIMINARY DEVELOPMENT OF A PHYSIOLOGICALLY BASED PHARMACOKINETIC MODEL FOR PERCHLORATE IN ADULT HUMANS. E. Merrill1, J. Fisher2 and D. Mattie3. OpTech, Inc., Dayton, OH and 2AFRL/HEST, Wright-Patterson AFB, OH.


TRICHLOROACETATE TISSUE DOSIMETRY AND PPARα-MEDIATED LIVER CANCER INDUCTION BY TRICHLOROETHYLENE AND PERCHLOROETHYLENE. H. A. Barton1, P. R. Gentry2 and H. J. Clewell, III2. USEPA, NHEERL, Research Triangle Park, NC and 2ICF Consulting/KS Crump Group, Ruston, LA.
POSTER SESSION: CYTOCHROME P450

Chairpersons: Laurence S. Kaminsky, New York State Department of Health, Albany, NY and Stephen E. Welty, Baylor College of Medicine, Houston, TX.

Displayed: 1:30 PM - 4:30 PM

Attended: 3:00 PM - 4:30 PM

#447 DIALLYL SULFIDE PROTECTS AGAINST ALCOHOL ENHANCED ACETAMINOPHEN HEPATOTOXICITY IN CyP2E1(-/-) MICE. J. F. Sinclair, 1,2,3, J. G. Szkaa, 4, S. G. Wood, 1, F. Gonzalez, 5, E. H. Jeffery, 6, S. A. Wrightson 7 and W. J. Bement 1 and P. R. Sinclair 1,2,3. VA Medical Center, 1White River Junction, VT and 4Salt Lake City, UT, 2Biochem 3Pharma-Tox, Dartmouth Medical School, Hanover, NH, 4NIH, Bethesda, MD, 5Department of Food Science/Human Nutrition, University of Illinois, Urbana, IL and 7Department of Drug Disp., Lilly Research Labs, Indianapolis, IN.

#448 HETEROLOGOUS EXPRESSION STRATEGIES OF THE CYTOCHROME P450 2F FAMILY ENZYMES. K. W. Skorodos and G. S. Yost. University of Utah, Salt Lake City, UT.


#451 EFFECTS OF 2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN AND DI-INDOLYL METHANES ON CYTOCHROME P450 1A1, 1B1 AND 19 IN H295R HUMAN ADRENOCORTICAL CARCINOMA CELLS. M. vandenBerg 1, L. Slohbe 1, S. Safe 2 and J. T. Sanders 3. 1RITOX, Utrecht, Netherlands and 2Texas A&M, College Station, TX.

#452 DEVELOPMENTAL REGULATION OF ADIPOGENESIS, CYP1B1, AND THE ARYL-HYDROCARBON RECEPTOR IN MOUSE EMBRYO FIBROBLASTS. P. R. Hanlon, L. G. Ganem, L. Zhang, W. Zheng and C. R. Jefcoate. UW-Madison, Madison, WI.

#453 PAH/METAL MIXTURES: EFFECT ON PAH INDUCTION OF CYP1A2 IN CULTURED HUMAN HEPATOCYTES. L. S. Kaminsky and D. D. Vakharia. NY State Department of Health, Wadsworth Center, NY.

#454 IDENTIFICATION OF CYP2C9 AS THE MAJOR HUMAN LIVER MICROSOMAL LINOLEIC ACID EPOXYGENASE. A. J. Droper 1 and B. D. Hammock 2. 1Bucknell University, Lewisburg, PA and 2University of California, Davis, CA.

#455 INDUCTION OF HEPATIC MICROSOMAL CYP1A ACTIVITY BY CYHALOTHРИN. A. Anadon, M. R. Martinez-Larraga, M. Martinez, M. J. Diaz, M. A. Martinez, M. T. Frejo and M. Tafur. Complutense University, Madrid, Spain.


#457 EXPRESSION AND STEROID HYDROXYLATION ACTIVITY OF A CYP3A-LIKE PROTEIN IN CHANDEL CATFISH PROXIMAL AND DISTAL INTESTINE. Z. Lou 1, M. Celandner 2 and M. O. James 3. 1University of Florida, Gainesville, FL and 2Goteborg University, Goteborg, Sweden.


#459 COMPARISON OF CYTOCHROMES P450 1B1, 1A1, AND 1A2 PROTEIN EXPRESSION IN LIVER AND LUNG MICROSOMES FROM SMOKERS AND NONSMOKERS. J. Y. Ho, S. M. Bandiera, M. Kawai and T. K. H. Chung. University of British Columbia, Vancouver, British Columbia, Canada.

#460 SUPERIORITY OF MIDAZOLAM AS A PROBE FOR ASSESSING CYP 3A4 ACTIVITY IN THE HUMAN ENDOTOXIN MODEL. S. I. Shedlofsky 1, R. T. Tosliiva 1, K. T. Rockich 2, C. R. Cunningham 1, D. E. Goeger 3 and R. A. Blouin 2. 1VA Hospital & University of Kentucky College of Medicine, Lexington, KY, 2University of Kentucky College of Pharmacy, Lexington, KY and 3University of Texas Medical Center, Galveston, TX.

#461 INDUCTION OF CYP1A1 AND CYP1A2 IN THE HUMAN LUNG. C. Wei 1, R. Cacavale 2, E. Weyand 1, P. Thomas 1 and M. M. Iba 1. 1Rutgers University, Piscataway, NJ and 2St. Peter’s University Medical Center, New Brunswick, NJ.

DIFFERENTIAL INDUCTION OF MOUSE CYP2A5 AND CYP2J BY PYRAZOLE. Q. Xie, Y. Zhang, Q. Y. Zhang, J. Gu, T. Su, L. S. Kaminisky and X. Ding. Wadsworth Center, New York State Department of Health; School of Public Health, State University of New York at Albany, Albany, NY.

IDENTIFICATION OF THE HEPATIC CYTOCHROMES P450 THAT CATALYZE COUMARIN 3,4-EPOXIDATION AND 3-HYDROXYLATION. S. L. Born, D. Caudill, K. L. Filer and M. P. Pudon. The Procter & Gamble Company, Cincinnati, OH.

INHIBITION OF CYTOCHROME P450 6D1 BY ALKYLNLAURENES, METHYLENE DIOXYARENES AND OTHER SUBSTITUTED AROMATICS. J. G. Scott, M. Foroozesh, N. E. Hopkins, T. A. Alefantis and W. L. Alworth. 1Cornell University, Ithaca, NY; 2Xavier University, New Orleans, LA; 3Millisaps College, Jackson, MS and 4Tulane University, New Orleans, LA.

INSULIN DESTABILIZES CYP2E1, BUT NOT CYP2B1 OR CYP3A, MRNA IN PRIMARY CULTURED RAT HEPATOCYTES. K. J. Woodcroft and R. F. Novak. Institute of Chemical Toxicology, Wayne State University, Detroit, MI.


IN VIVO IH636 GRAPE SEED PROANTHOCYANIDIN EXTRACT (GSP) EXPOSURE INHIBITS MOUSE LIVER MICROSOMAL CYP4502E1-DEPENDENT ANILINE HYDROXYLATION IN VITRO. D. Bagchi, I. Hickey, H. Parikh and S. D. Ray. 1Creighton University Health Sciences Center, Omaha, NE and 2AMS College of Pharmacy, Long Island University, Brooklyn, NY.

INDUCTION OF CYTOCHROME P450A1A IN HUMAN HEPATOMA HEPG2 CELLS BY 6-NITROCHRYSENE. T. H. Ueng and R. M. Chen. Institute of Toxicology, College of Medicine, National Taiwan University, Taipei, Taiwan Republic of China.


SQUALASTEN 1-INDUCIBLE CYP2B1 TRANSCRIPTION IS NOT MEDIATED THROUGH STEROID RESPONSIVE ELEMENT BINDING PROTEIN (SREBP), T. A. Kocarek and N. A. Mercer. Institute of Chemical Toxicology, Wayne State University, Detroit, MI.

RELATIVE ROLES OF CYP2E1 AND CYP1A2 IN MOUSE UROPOPHRYA CAUSED BY ACETONE: IS THIS A MODEL OF PORPHYRIA CUTANEA Tarda, N. Gorman1,2, H. S. Walton1,2, W. J. Bemmel1, J. G. Szakacs2, F. J. Gonzalez2, D. W. Nebert2, J. E. Sinclair1,2,3 and P. R. Sinclair1,2,3. 1VA Med. Center, White River Junction, VT, 2Biochem. and 3Pharmacology/Toxicology, Dartmouth Medical School, Hanover, NH, 4VA Med. Center, Salt Lake City, UT, 5NCL, Bethesda, MD and 6Department of Environmental Health, University of Cincinnati Med. Ctr., Cincinnati, OH.

ALCOHOL CAUSES HEPATIC STEATOSIS AND ENHANCES ACETAMINOPHEN HEPATOTOXICITY IN Cyp2e1(-/-) MICE. J. F. Sinclair, J. G. Szakacs, S. G. Wood, H. S. Walton, F. Gonzalez, E. H. Jeffrey, S. A. Wrighton, W. J. Bemmel and P. R. Sinclair. 1VA Medical Center, White River Junction, VT and 2Salt Lake City, UT. 3Biochem. and 4Pharma./Tox., Dartmouth Medical School, Hanover, NH, 5National Institutes of Health, Bethesda, MD, 6Department Food Science/Human Nutrition, University of Illinois, Urbana, IL and 7Department Drug Disp., Lilly Research Labs, Indianapolis, IN.

STUDIES WITH TRANSGENIC MICE ON THE ROLE OF CYP2E1 IN 1,1-DICHLOROETHYLENE- AND 1,2-DICHLOROETHANE- INDUCED TOXICITY IN MICE. H. Lu, F. Boudroc, K. Reuhl and C. Yang. College of Pharmacy, Rutgers, The State University of New Jersey, Piscataway, NJ.

PROTECTION AGAINST TCDD-INDUCED TOXICITY AND PORPHYRIA IN C57BL/6 CYP1A2 (-/-) KNOCKOUT MICE. A. G. Smith1, P. R. Sinclair1, D. W. Nebert1 and T. Dalton3. 1MRC Toxicology Unit, University Leicester, Leicester, United KinGDom, 2VA Med. Center, White River Junction and Dartmouth Med. School, Hanover, NH and 3Department Environmental Health, University Cincinnati Med. Center, Cincinnati, OH.

EFFECTS OF HYPEROXIA ON LUNG INJURY AND CYTOCHROME P4501A1 EXPRESSION IN WILD TYPE AND AHR RECEPTOR (AHR) KNOCKOUT MICE. B. Moorthy, X. L. Couroucli and S. E. Welty. Baylor College of Medicine, Houston, TX.

CYTOCHROME P4501B1 MEDIATES INDUCTION OF BONE MARROW CYTOTOXICITY AND PRE-LEUKEMIA CELLS IN MICE TREATED WITH 7,12-DIMETHYLBENZA[A]ANTHRACENE. S. M. Heidel1, P. S. MacWilliams1, W. M. Rainitz2, W. M. Dashwood1, J. T. M. Buters3, F. J. Gonzalez4, M. C. Larsen1, N. Galvan1, C. J. Czuprynski1 and C. R. Jeffcoate1. 1University of Wisconsin, Madison, WI, 2Oregon State University, Corvallis, OR, 3Technical University of Munich, Munich, Germany and 4National Cancer Institute, Bethesda, MD.


EPITOPE MAPPING OF CYP2B1 MONOCLONAL ANTIBODIES AND CONFIRMATION BY ELISA USING SYNTHETIC PEPTIDES. B. Parimo1, R. Y. Coter2 and P. E. Thomas1. 1Laboratory of Cancer Research, College of Pharmacy, Rutgers University, Piscataway, NJ and 2Department of Biochemistry and Microbiology, Cook College, Rutgers University, Piscataway, NJ. Sponsor: M. M. Iba.

CLOTRIMAZOLE (CTMZ) AND KETOCONAZOLE (KTZ) AS POTENT AND SELECTIVE INHIBITORS OF RAT CYP 3A1/2 AND 2B1/2 ENZYMES. V. K. Turan1, V. M. Mishin2 and P. E. Thomas2. 1Joint Graduate Program in Toxicology, Rutgers University / UMDNJ RWJ, Piscataway, NJ and 2Laboratory for Cancer Research, College of Pharmacy, Rutgers University, Piscataway, NJ. Sponsor: M. M. Iba.

EFFECTS OF ALBENDAZOLE TREATMENT ON HEPATIC CYTOCHROME P450 (CYP450) EXPRESSION IN THE RAT. J. Astenza1, R. E. Reyes-Reyes2, V. Dorado-Gonzalez2 and J. J. Esponsoa-Aguirre1. 1Instituto de Investigaciones Biomédicas, Universidad Nacional Autónoma de México, Mexico, D. F., Mexico and 2Unidad de Investigación en Salud Infantil, Instituto Nacional de Pediatría, México, D. F., Mexico. Sponsor: A. Albores.

KINETICS OF 3-METHYLLINDEL OXYGENATION/DEHYDROGENATION BY CYTOCHROME P450 ENZYMES. D. L. Lanca1, C. L. Crespi2 and G. S. Yard1. 1University of Utah, Salt Lake City, UT and 2Gentest Corporation, Woburn, MA.
THE EFFECT OF DEXAMETHASONE ON THE HALF-LIFE OF CYPE21 MRNA IN PRIMARY CULTURED RAT HEPATOCYTES. M. S. Hafner and R. F. Novak. Wayne State University, Detroit, MI.

SPECIES, STRAIN AND TISSUE SPECIFIC CYPIA1 INDUCTION IN MICE EXPOSED TO TOBACCO SMOKE. M. F. Wolfe, J. T. Thompson and H. R. Wüschti. University California Davis, Davis, CA.

MODULATION OF RAT PULMONARY CYTOCHROME P450A1 (CYP1A1) EXPRESSION BY HYPEROXIA. X. I. Cunoracil, S. E. Welty, R. S. Geske, N. A. Patel and B. Moorthy. Baylor College of Medicine, Houston, TX.

SPECIFIC CYTOCHROME P450 INDUCTION IN FEMALE B6C3F1 MICE COMPARED TO FISCHER 344 RATS FOLLOWING PRETREATMENT OF 4-VINYL CYP0DHEXENE OR ITS TOXIC EPIDENE METABOLITES. S. M. Fontaine, P. B. Hoyet and I. G. Sipes. The University of Arizona, Tucson, AZ.

N-ALKYLPATOPORPHYRIN IX FORMATION IN RAT HEPATIC MICROSOMES AFTER INTERACTION WITH PORPHYRINOGENIC XENOBIOTICS. S. G. W. Wong and G. S. Marks. Department of Pharmacology and Toxicology, Queen's University, Kingston, Ontario, Canada. Sponsor: T. E. Massey.

ALTERATION OF PARATHION AND CHLORPYRIFOS DESULFURATION BY METHOXYPHONY IN VITRO. L. A. Cook, H. W. Chambers, J. E. Chambers. Center for Environmental Health Sciences, College of Veterinary Med., Mississippi State University, MS and Department of Entomology, Mississippi State University, MS.

EXPRESSION OF CYPE21 IN ISOLATED OVARIAN FOLLICLES OBTAINED FROM B6C3F1 MICE. E. A. Cannady, J. G. Sipes and P. B. Hoyet. University of Arizona, Tucson, AZ.


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POSTER SESSION: HUMAN RISK ASSESSMENT

Chairpersons: Curtis C. Dary, USEPA, Las Vegas, NV and George V. Alexeeff, CAL-EPA, Oakland, CA.

Displayed: 1:00 PM - 4:30 PM

Attended: 1:00 PM - 3:00 PM

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WORST-CASE BENZENE EXPOSURE SCENARIO FROM DIESEL LOCOMOTIVE EXHAUST IN A ROUNDHOUSE. A. K. Madl and D. J. Paustenbach. Exponent, Oakland, CA and Exponent, Menlo Park, CA.

ESTIMATION OF LUNG CANCER RISK IN POPULATION LIVING IN THE VICINITY OF ALUMINIUM SMELTERS IN QUEBEC. A. Vyskocil and C. Vina. Université de Montréal, Dép. de Médecine du Travail et d’Hygiène du Milieu, Montréal, Quebec, Canada.


HUMAN HEALTH RISK ASSESSMENT OF TOLUENE DIAMINE ISOMERS FROM POLYURETHANE FOAM USED IN AN IMPLANTABLE MEDICAL DEVICE. K. Kenepohl1, D. Ridley2, A. B. Kerr1 and J. M. Daniels1. 1Cannex Health Sciences International, Mississauga, Ontario, Canada and 2Cannex Health Sciences International, Bridgewater, NJ.

ASSESSMENT OF RISK FROM DIOXIN IN TAMPOSNS. L. W. Schroeder and T. H. Umbrecht. Center for Devices and Radiological Health, USFDA, Rockville, MD.


ESTIMATION OF MARGINS OF EXPOSURE: A PRELIMINARY RISK ASSESSMENT FOR OCTAMETHYLCYCLOTETRAISLOXANE (D4) BASED ON REPRODUCTIVE TOXICITY STUDIES IN SPRAIGUE DAWLEY RATS. A. M. Shippe1, C. Van Ladingham1 and R. Meeks2. 1The K S Crump Group, Inc. Ruston, LA and 2Dow Corning Corporation, Midland, MI.

USE OF PBPK/PD MODELS AND FOLIAR TRANSFER COEFFICIENTS IN ASSESSING REENTRY INTO PESTICIDE TREATED CITRUS AND TURF. J. B. Knoel1, C. C. Dary2, G. T. Patterson3 and J. N. Biancatto2. 1State University of New York at Buffalo, Buffalo, NY, 2USEPA, Human Exposure and Atmospheric Sciences Division, Las Vegas, NV and 3Medical Toxicology Branch, California Department of Pesticide Regulation, Sacramento, CA.

A PHYSIOLOGICALLY BASED PHARMACOKINETIC MODEL FOR METHYL TERT-BUTYL ETHER IN HUMANS. A. S. C. Licato1, W. Dekant2 and S. J. Borghoff3. 1Biomathematics Graduate Program, Research Triangle Park, NC, 2University of Wurzburg, Wurzburg, Germany and 3Chemical Industry Institute of Toxicology, Research Triangle Park, NC.


ESTIMATES OF HUMAN EXPOSURE TO PCBs AND ASSOCIATED HEALTH RISKS FROM DIETARY SEAFOOD EXPOSURE. N. L. Judd1, D. A. Kalman1, R. Sechen1 and K. A. Toz2. 1University of Washington, Seattle, WA and 2Tulalip Tribes, Marysville, WA. Sponsor: E. M. Feustman.

ART MATERIALS RISK ASSESSMENT FOR DYED PAPER PRODUCTS. I. S. Chaudhuri and M. Garcia. ENSR Corporation, Acton, MA.


#521 A PROPOSAL FOR INCORPORATING ORAL BIOAVAILABILITY IN HUMAN HEALTH RISK ASSESSMENTS. L. J. Scarano1, J. M. DeSesso2 and C. F. Jacobson2. 1USEPA, Washington, DC and 2Mitretek Systems, McLean, VA.


**MONDAY AFTERNOON, MARCH 20**
1:30 PM – 4:30 PM
PENNSYLVANIA CONVENTION CENTER
EXHIBIT HALL A

**POSTER SESSION: APOPTOSIS**

**Chairpersons:** Stanley Barone, Jr., USEPA, Research Triangle Park, NC and Craig E. Thomas, Eli Lilly & Company, Greenfield, IN.

**Displayed:** 1:30 PM - 4:30 PM
**Attended:** 3:00 PM - 4:30 PM

#523 CHARACTERIZATION OF FURAN-MEDIATED APOPTOTIC AND NECROTIC CELL DEATH IN ISOLATED RAT HEPATOCYTES. S. A. Ploch, T. Melhuish, V. Wong and G. L. Kedderis. Chemical Industry Institute of Toxicology, Research Triangle Park, NC.

#524 PROTECTIVE EFFECTS OF D-TAGATOSE AND D-FRUCTOSE AGAINST CYCLOSPORINE A-INDUCED APOPTOSIS IN RAT HEPATOCYTES. S. Grub1, U. A. Boelsterli2, W. E. Trommer3 and A. Wolf4. 1Novartis Pharma AG, Experimental Toxicology, Basel, Switzerland, 2F. Hoffmann-La Roche Pharma AG, Nonclinical Drug Safety, Basel, Switzerland and 3University of Kaiserslautern, Kaiserslautern, Germany.

#525 ENHANCED PANL eBULAR HEPATOTOXICITY TO ACETAMINOPHEN IN BCL-2 OVEREXPRESSING TRANSGENIC MICE. M. L. Adams1, R. H. Pierce2, N. Fausto3, S. D. Nelson4 and S. A. Bruschi5. 1Department of Medicinal Chemistry, University of Washington, Seattle, WA, 2Department of Pathology, Wright-Patterson Medical Center, Wright-Patterson AFB, OH and 3Department of Pathology, University of Washington, Seattle, WA.

#526 THE ROLE OF APOPTOSIS IN PHENOBARBITAL MODULATION OF COCAINE-INDUCED LIVER DAMAGE. D. J. Price1, C. A. Muro-Cacho2 and R. D. Harbison1. 1Department of Environmental and Occupational Health, College of Public Health, Tampa, FL and 2Department of Pathology, College of Medicine, University of South Florida, Tampa, FL.

#527 EFFECTS OF GALACTOSAMINE AND TNF-α ON CASPASE-MEDIATED APOPTOSIS IN ISOLATED RAT HEPATOCYTES. T. K. Baker and M. A. Carfagna. Eli Lilly and Company, Greenfield, IN.

#528 EFFECT OF PS3 STATUS ON 7H-DIBENZ[o, G]CARBAZOLE-INDUCED APOPTOSIS AND CLONOGIC SURVIVAL. T. J. O'Brien, J. R. Schneider, K. R. Mitchell and D. Warshawsky. University of Cincinnati Medical Center, Cincinnati, OH.


#530 DOXORUBICIN-INDUCED HEPATOTOXICITY MAY INVOLVE APOPTOTIC CELL DEATH BY MODULATING EXPRESSION OF BCL-XL AND PS3. S. D. Ray1, G. Balasubramanian2, W. N. Ratna1, R. R. Raja1, V. R. Reid1, C. S. Reddy3 and D. Bagchi1. 1Div. of Pharmacology & Toxicology, Long Island University, Brooklyn, NY, 2Div. of Vet. Biomedical Sciences, University of Missouri, Columbia, MO and 3Creighton University College of Pharmacy & Allied Health Professions, Omaha, NE.

#531 OXIDATIVE STRESS IN KERATINOCYTES: ROLE IN APOPTOTIC SIGNALING. V. E. Kagan1, Y. Y. Tyurina1, V. A. Tyurina1, K. Kawai1, J. P. Fabstak1, C. Kamminen2, V. Castranova2 and A. A. Silvedona2. 1Department of EOH & Pharmacology, University of Pittsburgh, Pittsburgh, PA and 2HELD/NIOSH, Morgantown, WV.

#532 ENHANCED GLUTATHIONE BIOSYNTHESIS RETARDS APOPTOSIS IN SPITE OF CASPASE-3 ACTIVATION IN HEP-1 CELLS OVEREXPRESSING GLUTAMATE-CYSTEINE LIGASE. D. Botta, C. C. White, C. M. Kreis and T. J. Kavanagh. University of Washington, Seattle, WA.

#533 COMPARATIVE IN VITRO STUDIES OF CADMIUM AND ARSENIC-INDUCED APOPTOSIS IN RENAL TUBULE EPITHELIAL CELLS. B. A. Fowler, K. S. Squibb, M. Akkerman and E. Madden. Program in Toxicology, University of Maryland, Baltimore, MD.
| #534 | ACRYLAMINE ENHANCES MECHLORETHAMINE-INDUCED APOPTOSIS. J. C. Kern and J. P. Kehler. The University of Texas at Austin, Austin, TX. |
| #536 | CELLULAR GLUTATHIONE STATUS MODULATES PC3-BREAST CANCER STRESS RESPONSE AND APOPTOSIS IN PORCINE ENDOTHELIAL CELLS. R. M. Slim, M. Toborek, L. W. Robertson, H. J. Lehmler and B. Hennig. Department of Nutrition and Food Science, Graduate Center for Toxicology and Department of Surgery, University of Kentucky, Lexington, KY. |
| #537 | 3-METHYLINDOLE (3MI) CAUSES BOTH APOPTOSIS AND NECROSIS IN CULTURED HUMAN LUNG CELLS. W. K. Nichols, J. I. Bossio and G. S. Yost. University of Utah, Salt Lake City, UT. |
| #541 | ROLE OF BCL-2 AND BCL-X, IN MITOCHONDRIAL PERMEABILITY TRANSITION INDUCED BY THE RADIOSENSITIZER CI-1010. T. J. Miller¹, M. L. Hann¹, R. B. Tjalkens¹, L. Dethloff² and M. A. Philberli¹. ¹University of Michigan, Ann Arbor, MI and ²Parke-Davis Pharmaceutical Research, Ann Arbor, MI. |
| #542 | DYSREGULATION OF C095-MEDIATED APOPTOSIS BY MERCURY. M. J. Whitekus, B. S. Chelladurai, A. J. Rosenberg and M. J. McCabe, Jr. Wayne State University. Institute of Chemical Toxicology, Detroit, MI. |
| #543 | METHYLmercuriC CHLORIDE AFFECT NEURONAL APOPTOSIS IN PC12 CELLS IN A DOSE- AND NGF-DEPENDENT FASHION. D. K. Parran¹, L. D. White² and S. Barone, Jr.² ¹Curriculum in Toxicology, University of North Carolina, Chapel Hill, NC and ²Neurotoxicology Division, NHEERL, USEPA, Research Triangle Park, NC. |
| #545 | INVOLVEMENT OF NMDA-RESPONSIVE NEURONS IN STAUROSPORINE AND OXYGEN/GLUCOSE DEPRIVATION-INDUCED CELL DEATH. C. E. Thomas and D. A. Mayle. Lilly Research Labs, Greenfield, IN. |
| #547 | ROLE OF CYTOCHROME C IN CYANIDE-INDUCED APOPTOTIC CELL DEATH. P. G. Ganasekar¹, G. T. Race⁴, J. L. Borowitz¹ and G. E. Isom². ¹Purdue University, West Lafayette, IN and ²Texas Southern University, Houston, TX. |
| #548 | DIETHYLTHIOCARBAMATE INDUCES APOPTOSIS IN RAT HIPPOCAMPAL ASTROCYTES. J. A. Miocker-Audrain and L. D. Trombetta. St. John’s University, Jamaica, NY. |
| #549 | DOPAMINE AND CYANIDE-INDUCED NEURONAL APOPTOSIS IN RAT MESENCEPHALON CULTURES. D. C. Jones, P. G. Ganasekar, J. L. Borowitz and G. E. Isom. MCMC, Purdue University, West Lafayette, IN. |
| #550 | PYRIDOSTIGMINE-INDUCED CEREBELLA GRANULAR CELL DNA FRAGMENTATION VIA LOSS OF MITOCHONDRIAL MEMBRANE POTENTIAL AND ACTIVATION OF CASPASE-LIKE PROTEASES. L. Li, P. G. Ganasekar, J. L. Borowitz and G. E. Isom. MCMC, Purdue University, West Lafayette, IN. |
| #551 | METABOLITES OF CHLORPYRIFOS INDUCE APOPTOSIS IN PC12 CELLS. K. P. Dus¹, S. Barone, Jr² and L. D. White² ¹Curriculum in Toxicology, University of North Carolina, Chapel Hill, NC and ²Neurotoxicology Division, NHEERL, USEPA, Research Triangle Park, NC. |

PARTICIPATION OF THE P53 PROTEIN ON THE MEMBRANE EXPRESSION OF FAS IN THE GC-2SPD(TS) GERM CELL LINE. J. H. Richburg and H. Gao. College of Pharmacy, University of Texas, Austin, TX.

DIFFERENTIAL SENSITIVITY OF YOUNG AND ADULT FAS+/-MUTANT GLD MICE TO MONO-(2-ETHYLMENXYL) PHTHALATE (MEHP)-INDUCED TESTICULAR GERM CELL APOPTOSIS. C. J. Giammona, J. H. Richburg and A. Nanez. College of Pharmacy, University of Texas, Austin, TX.


DICLOFENAC-INDUCED NEPHROTOXICITY MAY INVOLVE OXIDATIVE STRESS AND MASSIVE GENOMIC DNA FragmentATION IN VIVO. E. J. Hickey, V. R. Reid, W. N. Raina, R. R. Raje and S. D. Ray. Division of Pharmacology, Toxicology and Medical College of Pharmacy & Health Sciences, Long Island University, Brooklyn, NY.

HPLC ANALYSIS OF CYTOCHROME C USING 393NM DETECTION. M. J. Picklo, V. Q. Nguyen, J. Zhang, T. J. Montine and D. G. Graham. Vanderbilt University Medical Center, Nashville, TN.


MONDAY AFTERNOON, MARCH 20
1:30 PM — 4:30 PM
PENNSYLVANIA CONVENTION CENTER
EXHIBIT HALL A

POSTER SESSION: HYPERSENSITIVITY

Chairperson: Barbara Jean Meade, NIOSH, Morgantown, WV.
Displayed: 1:30 PM - 4:30 PM
Attendee: 1:30 PM - 3:00 PM


IMMUNOMODULATION BY MEDICINAL DRUGS ASSOCIATED WITH ANAPHYLAXIS IN HUMANS: SELECTIVE INDUCTION OF TH-2 RESPONSES DURING PRIMARY IMMUNE STIMULATION IN MICE. D. E. Amacher, B. W. Gutter, R. Lariviere and L. W. Updyke. Pfizer, Inc., Groton, CT.


ALLERGENICITY OF HAZELNUT PROTEINS IN THE BROWN NORWAY RAT MODEL OF FOOD ALLERGY. J. Laugée and C. Meredith. TNO Bibra International Ltd., Cashelton, United Kingdom. Sponsor: B. G. Lake.

EVALUATION OF HUMAN CONTACT ALLERGENS IN THE MURINE LOCAL LYMPH NODE ASSAY. C. A. Ryan1, G. F. Gerberick, L. W. Cruse1, D. A. Basketter1, L. J. Lee2, L. Blakie2, R. J. Dearman1, E. V. Warbrick3 and I. Kimber3. The Procter & Gamble Company, Cincinnati, OH. 2SEAC Toxicology Group, Unilever Research, Sharnbrook, United Kingdom and 3AstraZeneca Central Toxicology Laboratory, Macclesfield, United Kingdom.


UTILITY OF THE LLNA FOR THE INVESTIGATION OF THE IMPACT OF VEHICLE MATRIX ON SKIN SENSITIZATION POTENCY. L. Blakie1, D. A. Basketter1, E. V. Warbrick2, R. J. Dearman2 and I. Kimber2. 1SEAC Toxicology Unit, Unilever Research Colworth, Sharnbrook, United Kingdom and 2AstraZeneca Central Toxicology Laboratory, Macclesfield, United Kingdom.

QUANTITATIVE ESTIMATION OF SKIN SENSITIZING POTENCY USING THE LOCAL LYMPH NODE ASSAY. D. A. Basketter1, L. Blakie1, C. A. Ryan2, G. F. Gerberick2, R. J. Dearman3 and I. Kimber3. 1SEAC Toxicology Unit, Unilever Research Colworth, Sharnbrook, United Kingdom. 2Procter & Gamble, Cincinnati, OH and 3AstraZeneca Central Toxicology Laboratory, Macclesfield, United Kingdom.

PRIMARY EAR IRRITATION AND LYMPH NODE HYPERPLASIA INDUCED BY CONTACT ALLERGENS AND IRITANTS IN THE MURINE LOCAL LYMPH NODE ASSAY. J. Blumel1, P. Ulrich2, J. Streich2, M. Buchs2 and H. W. Voehr1. 1Bayer AG, Wuppertal, Germany and 2Novartis Pharma AG, Basel, Switzerland. Sponsor: A. Wolf.


UTILIZATION OF SAR AND THE MURINE LOCAL LYMPH NODE ASSAY (LLNA) TO ASSESS THE SENSITIZATION POTENTIAL OF HAIR COLORANTS. R. S. Grabarz1, W. E. Dressler1, O. T. Macina2 and R. K. Sharma1. 1Bristol-Myers Squibb Worldwide Beauty Group Research and Development, Stamford, CT and 2Department of Environmental and Occupational Health, University of Pittsburgh, Pittsburgh, PA.

A TWO-TIERED MURINE LOCAL LYMPH NODE ASSAY TO IDENTIFY CONTACT PHOTOALLERGIC POTENTIAL. P. Ulrich1, J. Blumel2, J. Streich1, M. Buchs1 and H. W. Voehr2. 1Novartis Pharma AG, Basel, Switzerland and 2Bayer AG, Wuppertal, Germany. Sponsor: A. Wolf.


ASSESSMENT OF A MODIFIED LOCAL LYMPH NODE ASSAY TO EVALUATE THE IRRITANCY/SENSITIZATION POTENTIAL OF CHEMICALS EXPOSED TO BREACHED SKIN. H. L. Glass1, K. P. Baran2 and B. J. Meade3. 1National Institute for Occupational Safety and Health, Morgantown, WV and 23M Corporation, St. Paul, MN.

DERMAL SENSITIZATION EVALUATION OF MALEIC ANHYDRIDE AND SUBSEQUENT REACTION MATERIALS USED IN THE DEVELOPMENT OF A NOVEL SYNTHETIC FIBER. S. M. Glaza1, R. W. Kapp, Jr.2 and D. E. Strother3. 1Covance Laboratories Inc., Madison, WI. 2BioTox, Richmond, VA and 3BP Amoco Chemicals Inc., Arlington, VA.

TOPICAL EXPOSURE OF MICE TO RESPIRATORY SENSITIZING ACID ANHYDRIDES STIMULATES THE EXPRESSION OF INTERLEUKIN 5. I. R. Humphreys, R. J. Dearman and I. Kimber. AstraZeneca Central Toxicology Laboratory, Macclesfield, United Kingdom.
#579 CYTOKINES FROM BRONCHOALVEOLAR LAVAGES AND THEIR IN VITRO PRODUCTIONS IN ASTHMATIC RATS INDUCED BY TOLUENE DIOXYCARBONATE.
K. Zheng1, M. Aizum1i, H. Todori1i, D. Nong2, T. Moroka3 and H. Yamamoto1. 1University of the Ryukyu School of Medicine Department of Preventive Medicine, Nishihara, Japan, 2University of the Ryukyu School of Medicine Department of Otorhinolaryngology, Nishihara, Japan and 3University of the Ryukyu School of Medicine First Department of Pathology, Nishihara, Japan. Sponsor: T. Yoshiida.


#581 THE ROLE OF TUMOR NECROSIS FACTOR (TNF) IN AIRWAY REACTIVITY TO TOLUENE DIOXYCARBONATE (TDL). J. M. Matheson1, R. W. Lange2, R. Lemus3, M. H. Karol3 and M. I. Laster3. 1NIOSH, Morgantown, WV, 23M Pharmaceuticals, St. Paul, MN and 3University of Pittsburgh, Pittsburgh, PA.

#582 FURTHER EXPERIENCE WITH THE ASSESSMENT OF THE RESPIRATORY SENSITIZING POTENTIAL OF PROTEINS USING THE MOUSE INTRANASAL TEST. R. W. R. Crevel1, L. Blaikie1, D. A. Baskette1 and K. L. White1. 1SEAC Toxicology Unit, Unilever Research Colworth, Sharnbrook, United Kingdom and 2Medical College of Virginia, Richmond, VA.

#583 ALLERGIC INFLAMMATION AND ENZYME SPECIFIC IgE, IgG1, IgE ANTIBODY TO VARIOUS ENZYMES IN THE MOUSE INTRANASAL TEST (MINT). J. S. Parris1, F. D. Clark1, A. S. Fic1, K. Sarlo1, J. A. McCay1, V. L. Peache2, Y. L. Veloso2 and K. L. White3. 1The Procter and Gamble Company, Cincinnati, OH and 2Immunotox, Inc., Richmond, VA.

#584 ASPIRATION (ASP) INTRanasal (IN) INSTALLATION LEAD TO COMPARABLE IMMUNE RESPONSES TO ALCALASE IN BDF1 MICE. E. D. Clark, J. S. Parris, P. A. Horn, M. K. Robinson and K. Sarlo. The Procter and Gamble Company, Cincinnati, OH.

#585 STUDY ON THE ALLERGENIC POTENTIAL OF A FIRE-EXTINGUISHER POWDER AT TWO TIME POINTS IN BROWN NORWAY RATS. H. G. Hoymann, M. Hecht, A. Emmendorfer and H. Muhle. Fraunhofer Institute of Toxicology and Aerosol Research, Hannover, Germany.

#586 DEVELOPMENT AND VALIDATION OF AN IMMUNOEZYMOMETRIC ASSAY FOR TOTAL MURINE IGE: APPLICATION TO THE IDENTIFICATION OF RESPIRATORY HYPERSENSITIVITY POTENTIAL IN C57BL/6J AND BALB/C MICE. J. A. Little, L. McLoughlin, P. R. Ryle and S. A. Allan. Huntingdon Life Sciences, Huntingdon, United Kingdom. Sponsor: R. J. Harding.

#587 INFLUENCE OF TOPICAL EXPOSURE TO RESPIRATORY AND CONTACT ALLERGENS ON SERUM IgE LEVELS IN THE BROWN NORWAY RAT. E. V. Warbrick, R. J. Dearman and J. Kimber. AstraZeneca Central Toxicology Laboratory, Macclesfield, United Kingdom.

#588 TRIMELLITIC ANHYDRIDE (TMA) INDUCED RESPIRATORY HYPERSENSITIVITY IN THE GUINEA PIG DOES NOT DIFFER IN SEXUALLY IMMATURE OR MATURE ANIMALS OF EITHER GENDER. C. P. Larsen and J. F. Regal. University of Minnesota, Duluth, Duluth, MN.


#590 A STUDY OF LATEX ALLERGY USING THE NATIONAL HEALTH AND NUTRITION EXAMINATION SURVEY. A. Exuzides1, B. Finley1 and D. Cher1. 1Exponent, Menlo Park, CA and 2Exponent, Oakland, CA.

MONDAY EVENING, MARCH 20
4:30 PM — 5:30 PM
PENNSYLVANIA CONVENTION CENTER
ROOM(S) 1AB

PLACEMENT SERVICE SEMINAR: KEEPING YOUR CAREER IN GEAR

Chairperson: Lois Lehman-McKeeman, The Procter & Gamble Company, Cincinnati, OH.

New initiatives in safety evaluation, regulatory policy and breakthrough technological advancements challenge all toxicologists to recognize the skills and expertise needed to develop and sustain a successful career. The goal of this seminar is to provide attendees with perspectives from practicing toxicologists in industrial, academic and government sectors on successful strategies for career development and career management in light of ever-changing job requirements. The seminar will feature speakers with diverse employment backgrounds and each speaker will address the challenges presented in his/her work and share their perspectives on how they react to and meet these challenges and opportunities. Each speaker will also discuss prospectively how their work is changing and what new or additional skills they believe will be needed to continue on a successful career path. The seminar is intended to provide useful perspective to entry level scientists as well as established toxicologists.
Society of Toxicology
39th Annual Meeting

MONDAY EVENING, MARCH 20
4:30 PM — 6:00 PM
PENNSYLVANIA CONVENTION CENTER
ROOM(S) 105AB

SPECIALTY SECTION PRESIDENTS' MEETING

MONDAY EVENING, MARCH 20
6:00 PM — 7:30 PM
PHILADELPHIA MARRIOTT
CONFERENCE ROOM 401-403

WOMEN IN TOXICOLOGY MEETING AND ROUNDTABLE

Women in Toxicology (WIT) will be hosting a roundtable discussion at the Annual meeting on Monday, March 20th from 6:00 PM—7:30 PM. The list of speakers has not been finalized, but will include representatives from industry, research, academia, consulting, public interest and government. The roundtable discussion will be preceded by an informal reception. Refreshments may be provided.

MONDAY EVENING, MARCH 20
6:00 PM — 8:30 PM
PHILADELPHIA MARRIOTT
ROOM(S) 53 SECC EVENTS CALENDAR ON PAGES 4-8

SPECIALTY SECTION MEETINGS:
EPIDEMIOLOGY, IMMUNOTOXICOLOGY, MECHANISMS, OCCUPATIONAL HEALTH, RISK ASSESSMENT, TOXICOLOGIC AND EXPLORATORY PATHOLOGY

MONDAY EVENING, MARCH 20
7:30 PM — 8:30 PM
PHILADELPHIA MARRIOTT
ROOM(S) 53 SECC EVENTS CALENDAR ON PAGES 4-8

REGIONAL CHAPTER MEETINGS

TUESDAY MORNING, MARCH 21

TUESDAY MORNING, MARCH 21
7:00 AM — 7:45 AM
PENNSYLVANIA CONVENTION CENTER
ROOM(S) 203AB

IN VITRO TOXICOLOGY LECTURE FOR GRADUATE STUDENTS: IN VITRO TECHNOLOGIES IN THE 90's AND BEYOND

Sponsored by: The Education Committee and the Colgate-Palmolive Company
Speaker: Chuck Reueg, Ph.D., In Vitro Technologies, Inc., Baltimore, MD.

This new event for students includes a continental breakfast and a lecture. The presentation will increase students' knowledge about in vitro or other methods to reduce, replace, or refine the use of animals in toxicology research and will be given by a scholar known for such work.

TUESDAY MORNING, MARCH 21
7:45 AM — 8:30 AM
PENNSYLVANIA CONVENTION CENTER
ROOM(S) 203AB

REGIONAL CHAPTERS PRESIDENTS' MEETING

TUESDAY MORNING, MARCH 21
8:30 AM — 9:30 AM
PHILADELPHIA MARRIOTT
SALON III

K-12 TEACHER WORKSHOPS: PARACELSIUS GOES TO SCHOOL

Chairperson: Elaine Knight, RW Johnson Pharmaceutical Research Institute, Kieran, NJ. Co-Chairpersons: Brenda Steinberg, EOHSI, Rutgers University, Piscataway, NJ and Peter Harvison, University of the Sciences in Philadelphia, Philadelphia, PA

Sponsored by the Education Committee and the Subcommittee for K-12 Education.

This special program will be offered again for local K-12 educators and interested SOT members. The main goal of the program is to enhance science education by stimulating ideas for incorporating multidisciplinary technology and environmental health science concepts and teaching materials into K-12 classrooms. Lectures and demonstrations will be tailored to the different needs of elementary and high school classes.
Society of Toxicology
39th Annual Meeting

TUESDAY MORNING, MARCH 21
8:00 AM — 8:30 AM
PENNSYLVANIA CONVENTION CENTER
ROOM(5) 204AB

BURROUGHS WELLCOME SCHOLAR AWARD
LECTURE: RETINOID BINDING PROTEINS AND RETINOID TOXICITY

Lecturer: Ellen Li, M.D., Ph.D., Professor of Medicine, Associate Professor of Biochemistry and Biophysics, Washington University School of Medicine, St. Louis, MO.

Vitamin A is indispensable for growth, reproduction, differentiation and vision of vertebrates. Vitamin A deficiency is a major cause of childhood morbidity and mortality worldwide. On the other hand, the pharmacological use of retinoids can result in severe local modifications and in the adult most commonly causes hyperkeratosis. Two classes of non-steroid nuclear hormone receptors mediate retinoid signaling: the retinoic acid receptor and retinoid X receptor. In addition, the retinoid X receptors play a central role in regulating gene transcription through formation of homodimers and formation of heterodimers with other nuclear receptors other than the retinoic acid receptors, such as the peroxisome proliferator-activated receptors. Vitamin D3 receptors, the thyroid hormone receptors. Intracellular trafficking of retinoids is mediated by specific cytoplasmic carrier proteins, which influence ligand availability for binding with the nuclear receptors. Retinoid signaling involves a complex interplay between the nuclear receptors, cytoplasmic carrier proteins and sites of metabolic processing. Our laboratory has been interested in studying the structural basis of ligand-protein interactions and in modeling intracellular trafficking of retinoids between various retinoid binding proteins. We have purified fully functional, bacterially expressed nuclear retinoid receptors and cytoplasmic retinoid binding proteins and analyzed the interactions of these proteins with retinoids in solution using a number of biophysical techniques, most notably nuclear magnetic resonance. Using this approach we have modeled how the physical properties of these binding proteins affect vitamin A homeostasis and toxicity.

#592 8:30 ASSESSING THE SAFETY OF GENE THERAPY. J. E. Sanders1 and M. E. I. Leibbrandt2. 1Rhône-Poulenc Rorer, Collegeville, PA and 2Chiron Corp., Emeryville, CA.

#593 8:40 OVERVIEW OF GENE THERAPY. P. Delacre, Rhône-Poulenc, Vitry-Sur-Seine, France. Sponsor: J. E. Sanders.


#596 10:10 REGULATORY CONSIDERATIONS FOR GENE THERAPY CLINICAL TRIALS. A. M. Pilaro. FDA/CBER, Rockville, MD. Sponsor: J. E. Sanders.

10:40 CONCLUSIONS AND PANEL DISCUSSION:
Martha E. I. Leibbrandt, Chiron Corp., Emeryville, CA.
TUESDAY MORNING, MARCH 21
8:30 AM — 11:30 AM
PENNSYLVANIA CONVENTION CENTER
ROOM(S) 206ABC

SYMPOSIUM SESSION: ADVANCES IN THE USE OF MECHANISM-BASED BIOMARKERS IN RISK ASSESSMENT

Sponsored By: The Mechanisms and Risk Assessment Specialty Section
This session has been endorsed by the Risk Assessment Task Force as an excellent example of the integration of science and risk science into the risk assessment process.

Chairpersons: Lewis Smith, AstraZeneca, Ltd., Macclesfield, Cheshire, United Kingdom and Jim Swenberg, University of North Carolina, Chapel Hill, NC.

Understanding the biochemical and molecular mechanisms whereby foreign compounds interact with and perturb biological systems is fundamental to toxicology. The use of molecular mechanistic data from whole animal studies, human exposure and in vitro studies with animal and human tissues is pivotal to assessing the likely risk to humans. Recent advances in molecular techniques and the use of biomarkers has enabled more accurate assessment of risk following exposure to chemicals. It is now well established that human susceptibility to tissue injury and cancer can in part be attributed to genetic polymorphisms. The symposium will focus on the application of molecular markers to determine exposure, early effects and susceptibility to benzene, butadiene, polycyclic aromatic and heterocyclic amines, nitrosamines and polycyclic aromatic hydrocarbons found in cigarette smoke and polluted air. The utility of molecular markers causally related to the mechanism of toxicity of a novel herbicide will be presented. Emerging evidence on the role of gene environmental interaction associated with DNA damage, that may contribute to the etiology of human cancer will also be discussed.

#597 8:30 ADVANCES IN THE USE OF MECHANISM-BASED BIOMARKERS IN RISK ASSESSMENT. L. L. Smith1, E. A. Lock1 and J. A. Swenberg2. 1AstraZeneca CTL, Alderley Park, United Kingdom and 2University of North Carolina, Chapel Hill, NC.

#598 8:35 MOLECULAR BIOMARKERS OF BENZENE EXPOSURE AND RISK. M. T. Smith1, L. Zhang1, R. Hayes2, G. L. Li3 and N. Rothman4. 1University of California, Berkeley, CA, 2National Cancer Institute, Bethesda, MD and 3Chinese Academy Preventive Medicine, Beijing, China.


#601 10:20 RELATION BETWEEN GENETIC SUSCEPTIBILITY AND DNA ADDUCT FORMATION. F. F. Kadlubar1, P. H. Thompson1, C. B. Ambrosone1, M. Yang1, B. F. Coles1, N. P. Lang2 and K. E. Anderson3. 1Division of Molecular Epidemiology, NCTR, FDA, Jefferson, AR, 2Arkansas Cancer Research Center, Little Rock, AR and 3University of Minnesota, Minneapolis, MN. Sponsor: E. A. Lock.

10:55 GENERAL DISCUSSION.

TUESDAY MORNING, MARCH 21
8:30 AM — 11:30 AM
PENNSYLVANIA CONVENTION CENTER
ROOM(S) 106A

SYMPOSIUM SESSION: THE ROLE OF ENDOTOXIN IN OCCUPATIONAL AND ENVIRONMENTAL LUNG DISEASE: EXPOSURE-RESPONSE RELATIONSHIPS AND SUSCEPTIBILITY FACTORS

Sponsored By: The Inhalation and Occupational Health Specialty Sections

Chairpersons: Peter S. Thorne, The University of Iowa, Iowa City, IA and M. Ian Gilmour, USEPA, Research Triangle Park, NC.

Endotoxins (lipopolysaccharides, LPS) are integral components of the outer membrane of Gram-negative bacteria and are ubiquitous throughout our environment. They are comprised of a conserved lipid region (lipid A) which imparts toxicity and a species-specific long chain polysaccharide moiety that binds host receptors such as LPS binding protein (LBP) and CD14. Inhalation exposures to endotoxin occur in complaint buildings, agricultural settings and in a variety of industrial operations. Epidemiologic studies consistently demonstrate that endotoxin exposure is a significant risk factor for the development of respiratory symptoms and decrements in lung function and may be an important factor in the pathogenesis or progression of lung diseases such as berylliosis, organic dust toxic syndrome, asthma and cystic fibrosis. After inhalation, endotoxin triggers the upregulation of an array of cytokines leading to neutrophil recruitment and lung injury. This symposium will present recent studies of the chemical and toxicological properties of endotoxin, report exposure concentrations from a variety of occupational environments and describe current analytical methods for endotoxin measurement. Exposure-response data from epidemiology studies and recent inhalation experiments in humans and animals will then show the role of endotoxin in causing or promoting lung disease and highlight differences in genetic susceptibility. Finally, the role of endotoxin exposure as a co-factor in asthma and its interaction with other forms of air pollutant exposure will be described.

#602 8:30 THE ROLE OF ENDOTOXIN IN OCCUPATIONAL AND ENVIRONMENTAL LUNG DISEASE: EXPOSURE-RESPONSE RELATIONSHIPS AND SUSCEPTIBILITY FACTORS. P. S. Thorne1 and I. Gilmour2. 1The University of Iowa, Iowa City, IA and 2USEPA, Research Triangle Park, NC.
TUESDAY MORNING, MARCH 21
8:30 AM — 11:30 AM
PENNSYLVANIA CONVENTION CENTER
ROOM(S) 10B

WORKSHOP: AN ANALYSIS OF THE CxT CONCEPT AND OF MECHANISMS IN FREE RADICAL TOXICOLOGY: THE LEGACY OF FRITZ HABER

Sponsored By: The Inhalation, Mechanisms, Occupational Health and Risk Assessment Specialty Sections

Chairperson: Hanspeter Witschi, Institute of Toxicology and Environmental Health, University of California, Davis, CA.

Fritz Haber (1868-1934) was a German physical chemist, Nobel prize winner and foreign member of the US Academy of Science. His greatest accomplishment in science was the development of a practical method to prepare nitrogen from air (nitrogen fixation or Haber-Bosch process). While working on the toxicity of war gases, he formulated "Haber's rule" \(C \times T = \text{constant}\) in order to characterize the toxicity of a toxic inhalant. Between 1919 and 1933, he was one of the leading figures in revitalizing science in Germany. At his institute in Berlin, he worked with luminaries as Albert Einstein, Lise Meitner and Otto Hahn. His last paper described what became known as the Haber-Weiss reaction. After his death he became for a long time forgotten by the Nazis because he was Jewish and after World War II by the Allies because they never forgave him for his work on war gases in World War I. And yet he was one of the truly great modern scientists, not only because of his science, but also because of his role in science politics and policies. Haber's rule can actually be rewritten as a special case of the family of power law curves and may be used in standard setting and risk assessment. Some newer experimenters show that the rule also applies to chronic toxicity, provided that exposure occurs under conditions of a steady state of exposure.

#603 8:40 STRUCTURE AND FUNCTION OF ENDOTOXIN AND MOLECULAR RESPONSES IN THE LUNG. M. I. Gilmore. USEPA, Research Triangle Park, NC.

#604 9:10 ENDOTOXIN AS A CAUSATIVE AGENT FOR OCCUPATIONAL AND ENVIRONMENTAL LUNG DISEASE. P. S. Thorne. College of Public Health, The University of Iowa, Iowa City, IA.


#606 10:10 INFLAMMATORY AND EPITHELIAL RESPONSES IN AIRWAYS EXPOSED TO ENDOTOXIN AND OZONE. J. R. Harkema. Michigan State University, East Lansing, MI.


11:10 GENERAL DISCUSSION.

#608 8:30 FRITZ HABER AND HIS IMPACT ON TOXICOLOGY. H. Witschi. University of California, Davis, CA.

#609 9:00 HABER'S RULE (CxT=K): A SPECIAL CASE IN A FAMILY OF CURVES RELATING CONCENTRATION AND DURATION OF EXPOSURE TO A FIXED LEVEL OF RESPONSE. F. Miller. Chemical Industry Institute of Toxicology, Research Triangle Park, NC.


#611 10:00 THE HABER-WEISS REACTION AND MECHANISMS OF TOXICITY. J. P. Kehrer. The University of Texas at Austin, Austin, TX.

#612 10:30 THE ROLE OF TIME IN TOXICOLOGY OR HABER'S CXT PROCUCT. K. K. Rozman. University of Kansas Medical Center, Kansas City, KS.

#613 8:30 ETHANOL SIGNALING APOPTOSIS IN NORMAL HUMAN HEPATOCYTES. ROLE OF TUMOR NECROSIS FACTOR \(\alpha\), FAS LIGAND AND CASPASE-3 INHIBITOR. G. G. Karz1, N. H. Shear1, K. Valentin1, J. Malkiewicz1 and M. G. Neuman1. 1Sunnybrook & Women’s College Health Sciences Centre, Toronto, Ontario, Canada and 2DUN Pharmaceuticals, La Jolla, CA. Sponsor: J. Urecht.

#614 8:45 ROLE OF TNF-\(\alpha\) AND NF\(\kappa\)B-MEDIATED CELLULAR SIGNALLING IN THE SUPPRESSION OF RAT HEPATOCYTE APOPTOSIS BY PEROXISOME PROLIFERATORS. S. C. Cosulich1, P. R. Holden1, M. R. C. Needham2, P. P. Newham3 and R. A. Roberts1. 1AstraZeneca CTL, Macclesfield, United Kingdom and 2AstraZeneca Pharmaceuticals, Macclesfield, United Kingdom.

#615 9:00 THE MITOCHONDRIAL PERMEABILITY TRANSITION STIMULATES LYSOSOMAL PROLIFERATION AFTER NUTRIENT WITHDRAWAL PLUS GLUCAGON IN RAT HEPATOCYTES. S. P. Elmore, T. Qian and J. J. Lemasters. University of North Carolina, Curriculum in Toxicology and Department of Cell Biology & Anatomy, Chapel Hill, NC.
INOS-DEPENDENT, p53-MEDIATED SUPPRESSION OF APOPTOSIS IN ALVEOLAR MACROPHAGES EXPOSED TO BLEOMYCIN IN VIVO. D. W. Davis, D. A. Weidner, A. Holian and D. J. McConkey. MD Anderson Cancer Center, Houston, TX and University of Texas Medical School, Houston, TX.


ROLE OF FAS AND FAS LIGAND IN METHYLCOLANTHRENE-INDUCED TUMORIGENESIS. A. Zeytin, M. Nagarkatti and P. S. Nagarkatti. Department of Biology, Virginia Polytechnic and State University, Blacksburg, VA and Department of Biomedical Sciences and Pathobiology, VA-MD Regional College of Veterinary Medicine, Blacksburg, VA.

GLUTAMATE CYSTEINE LIGASE CATALYTIC SUBUNIT IS CLEAVED DURING APOPTOTIC CELL DEATH. C. M. Krejza, C. C. Franklin, R. H. Pierce, C. C. White, N. Fausto and T. J. Kavanagh. Department of Environmental Health, University of Washington, Seattle, WA and Department of Pathology, University of Washington, Seattle, WA.

2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (TCDD) INHIBITS GROWTH FACTOR WITHDRAWAL-INDUCED APOPTOSIS IN THE HUMAN MAMMARY EPITHELIAL CELL LINE, MCF-10A. J. W. Davis, II, K. Melendez, V. M. Salas and S. W. Burchiel. University of New Mexico College of Pharmacy Toxicology Program, Albuquerque, NM.

DEXAMETHASONE INDUCES APOPTOSIS IN ALL SUBSETS OF T LYMPHOCYTES IN THE THYMUS AND PERIPHERY. M. Nagarkatti, A. Kamath and P. S. Nagarkatti. Department of Biomedical Sciences and Pathobiology, VA-MD Regional College of Veterinary Medicine, Blacksburg, VA and Department of Biology, Virginia Polytechnic and State University, Blacksburg, VA.

TCDD-INDUCED APOPTOSIS IN THE THYMOCYTES OF PERINATALLY-EXPOSED NEONATES. L. M. Hudson, M. Nagarkatti and P. S. Nagarkatti. Department of Biology, Virginia Tech, Blacksburg, VA and Department of Biomedical Sciences and Pathobiology, Virginia-Maryland Regional College of Veterinary Medicine, Virginia Tech, Blacksburg, VA.

EFFECT OF ALACHLOR ON MOUSE SPLENOCYTE APOPTOSIS. H. P. Meza, J. Bard, F. Adeshina and H. Choudhury. Virginia Tech, Blacksburg, VA and USEPA NCEA, Cincinnati, OH.


TUESDAY MORNING, MARCH 21
8:30 AM – 11:30 AM
PENNSYLVANIA CONVENTION CENTER
ROOM(S) 204C

POSTER DISCUSSION SESSION: MECHANISMS OF ARSENIC CARCINOGENESIS

Chairpersons: Joshua W. Hamilton, Dartmouth Medical School, Hanover, NH and Michael P. Waalkes, NCI at NIEHS, Research Triangle Park, NC.

Display: 8:30 AM – 11:30 AM
Discussed: 9:30 AM – 11:30 AM

VARIABILITY IN HUMAN SENSITIVITY TO ARSENIC: AN INTERNATIONAL STUDY OF POPULATION RESPONSE TO ARSENIC IN DRINKING WATER. C. A. Laffredo, H. V. Aposhian, M. E. Cebrian, H. Yamamura and E. K. Silbergeld. University of Maryland, Baltimore, MD, University of Arizona, Tucson, AZ, CINVESTAV, Mexico DF, Mexico and St. Marianna University, School of Medicine, Kawasaki, Japan.

CYTOTOXICITY AND MITOGENICITY OF ARSENICALS ON RAT AND HUMAN UROTHELIAL CELLS. S. Yamamoto, L. L. Arnold, P. Ryder, E. Uzvolgyi and S. M. Cohen. Pathology/Microbiology, University of Nebraska Med. Center, Omaha, NE.

GENETIC EVENTS ASSOCIATED WITH ARSENITE-INDUCED MALIGNANT TRANSFORMATION: APPLICATION OF cDNA MICROARRAY TECHNOLOGY. H. Chen, J. Liu, A. Merrick and M. Waalkes. NCI and Lab of Molecular Carcinogenesis at NIEH/NIH, Research Triangle Park, NC.

SODIUM ARSENITE INDUCES DNA-PROTEIN CROSSELINKS IN WRL HUMAN HEPATIC CELLS IN MOUSE LIVER. F. Ramirez, L. M. Del Razo, D. L. de la Cruz, C. Rios, L. Galvan and E. G. Garrebs. Ins Inv Biomed, UNAM, Mexico DF, Mexico, CINVESTAV, IPN, Mexico DF, Mexico and Ins Nat de Neurologia, Mexico DF, Mexico.

SODIUM ARSENITE-INDUCED DYSREGULATION OF PROTEINS INVOLVED IN FOLLICULAR SIGNALING. K. J. Trouba, E. M. Waisson and R. L. Joyce. University of Nebraska Medical Center, Omaha, NE.
ARSENIC(III) ALTERS GLUCOCORTICOID RECEPTOR (GR) FUNCTION AND GR-DEPENDENT GENE REGULATION IN H4IE CELLS. R. C. Kalreider, R. A. Green and J. W. Hamilton. Dartmouth Medical School, Hanover, NH.

ISOLATION OF P53-REPRESSOR PROTEINS INDUCED BY EXPOSURE OF HUMAN KERATINOCYTES TO LOW LEVELS OF ARSENITE. H. Humadeh1, K. Hayes1, E. Nauv하자, J. C. Barrette1, D. B. Menzel2 and C. Afshari1. 1NIEHS, Research Triangle Park, NC and 2UCI, Irvine, CA.

ELEVATED LEVELS OF INDUCIBLE HEAT SHOCK PROTEIN (HSP70-1) PROTECT MCF-7 CELLS FROM ARSENITE TOXICITY. J. A. Barnes1, D. J. Dix2, B. W. Collins3, J. B. Gargas2 and J. W. Allen3. 1National Research Council, Environmental Carcinogenesis Division, USEPA, Research Triangle Park, NC; 2Reproductive Toxicology Division, USEPA, Research Triangle Park, NC and 3Environmental Carcinogenesis Division, USEPA, Research Triangle Park, NC. Sponsor: I. W. Smoak.

CARCINOGENICITY AND CO-CARCINOGENICITY OF SODIUMARSENITE IN PS3+/-/ MALE MICE. J. Popovicova1, G. J. Moser2, T. L. Goldwasser2 and R. R. Tice2. 1AWWRF, Denver, CO and 2ILS, Research Triangle Park, NC.

ROLE OF MAP KINASES (MAPKs) AND APOPTOSIS IN ARSENIC-INDUCED MALIGNANT TRANSFORMATION AND SELF-TOLERANCE. W. Qu, C. Bortner, M. Hobson, J. Liu, T. Knowles and M. P. Waalkes. NIEHS, Research Triangle Park, NC.

FURTHER TRANSFORMATION OF IMMORTALIZED HUMAN KERATINOCYTE FOLLOWING TREATMENT OF MNNG, ARSENIC, OR AN ARSENIC-CONTAINING MIXTURE. D. Bae, J. A. Campain and R. S. H. Yang. Center for Environmental Toxicology and Technology, Department of Environmental Health, Colorado State University, Fort Collins, CO.


TUESDAY MORNING, MARCH 21
8:30 AM – 11:30 AM
PENNSYLVANIA CONVENTION CENTER
ROOMS 1-5, 6AB

POSTER DISCUSSION SESSION: TCDD/IN UTERO EXPOSURE

Chairpersons: Linda S. Birnbaum, USEPA, Research Triangle Park, NC and Mary K. Walker, University of New Mexico, Albuquerque, NM.

Displayed: 8:30 AM – 11:30 AM
Discussed: 9:30 AM – 11:30 AM

#637 EFFECTS OF 2,3,7,8-TCDD/TCB IN SPI RABBIT ABORTIONS IN ANIMALS AND IN MICE.
T. Naymar and D. B. Hood. Meharry Medical College, Nashville, TN.

#637A GESTATIONAL EXPOSURE TO LONG EVANS RATS TO 2,3,7,8-TCDD/TCB (TCDD) LEADS TO STUNTED MAMMARY EPITHELIAL DEVELOPMENT IN FEMALE OFFSPRING. G. L. Youngblood1, J. T. Hawes2, L. S. Birnbaum2 and S. E. Fenton1. 1USEPA, Reproductive Toxicology and 2Experimental Toxicology Division, Research Triangle Park, NC.


#640 HEMATOPOIETIC TOXICITY OF TCDD IN DEVELOPING ZEBRAFISH. C. D. Belair, W. Heideman and R. E. Peterson. University of Wisconsin, Madison, WI.

#641 DEVELOPMENTAL EXPRESSION OF THE ARYL HYDROCARBON RECEPTOR (AHR) IN THE AVIAN EMBRYO. M. K. Walker1, S. E. Heidel, S. M. Smith and H. I. Swanson2. 1University of New Mexico, Albuquerque, NM and 2University of Kentucky Medical School, Lexington, KY.

#642 DEVELOPMENTAL EXPRESSION OF THE ARYL HYDROCARBON RECEPTOR (AHR) IN THE AVIAN EMBRYO. M. K. Walker1, S. E. Heidel, S. M. Smith and H. I. Swanson2. 1University of New Mexico, Albuquerque, NM and 2University of Kentucky Medical School, Lexington, KY.
#642  
AH RECEPTOR (AHR) IN MOUSE PROSTATE GROWTH AND DEVELOPMENT: PHYSIOLOGICAL ROLE AND ROLE IN MEDIATING TCDD EFFECTS.  T. M. Lin, K. Ko, S. Ohtani and R. E. Peterson. University of Wisconsin, Madison, WI.

#643  
EFFECTS OF IN UTERO AND LACTATIONAL TCDD EXPOSURE ON DIHYDROTESTOSTERONE (DHT) FORMING ENZYMES IN RAT VENTRAL PROSTATE.  H. M. Theobald, T. M. Lin and R. E. Peterson. University of Wisconsin, Madison, WI.

#644  
THE MECHANISM OF RETARDATION OF JAW GROWTH BY TCDD IN EARLY ZEBRA FISH EMBRYOS.  H. Terakawa1, S. Ogawa1, W. Dong1, H. Hiraga2 and N. Ueno2. 2School of Veterinary Medicine, Rakuno Gakuen University, Ebetsu, Japan and 1National Institute for Basic Biology, Okazaki, Japan. Sponsor: S. Fukushima.

#645  
PHYSIOLOGICAL ROLE OF THE ARYL HYDROCARBON RECEPTOR (AhR) IN Murine Ovarian Development.  J. C. Benedict1, T. M. Lin2, I. K. Loeffler1, R. E. Peterson2 and J. A. Flaws1. 1University of Maryland, Baltimore, MD and 2School of Pharmacy, University of Wisconsin, Madison, WI.

#646  
IN UTERO AND LACTATIONAL TCDD EXPOSURE ALTERS ESTROGEN RECEPTOR-α EXPRESSION IN THE RAT MAMMARY GLAND.  B. C. Lewis1, S. Hudgins1, A. Lewis1, K. Schorr1, R. Sommer2, R. E. Peterson2, J. Flaws3 and P. A. Furth1. 1Institute of Human Virology, Medicine & Physiology, UM Med School, Baltimore, MD, 2Environmental Toxicology Center, University of Wisconsin, Madison, WI and 3Epidemiology & Preventive Medicine, UM Med, Baltimore, MD.

### TUESDAY MORNING, MARCH 21
9:30 AM - 12:30 PM  
PENNSYLVANIA CONVENTION CENTER  
EXHIBIT HALL A

### POSTER SESSION: INFLAMMATION

**Chairpersons:**  David B. Warheit, DuPont Haskell Laboratory, Newark, DE and C. Charles Barton, Michigan State University, East Lansing, MI.

**Displayed:** 9:30 AM - 12:30 PM

**Attended:** 9:30 AM - 11:00 AM

#647  
INFLAMMATORY MEDIATORS IN NASAL LAVAGE FLUID OF NON-SYMPTOMATIC VOLUNTEERS: ONE-YEAR FOLLOW-UP STUDY.  M. H. Roopenian1, M. Seuri2, A. Nevalainen3 and M. R. Hirvonen1.1National Public Health Institute, Kuopio, Finland and 2Kuopio Regional Institute of Occupational Health, Kuopio, Finland. Sponsor: M. Vilukela.

#648  

#649  

#650  

#651  
COMPARISON OF THE INFLAMMATORY POTENCY OF BACTERIA AND THEIR CELL-WALL COMPONENTS IN THE LUNG.  J. M. Gassman1, M. E. O'Neill1, J. Phipps1, K. Kulhankova1, C. Duchaine2 and P. S. Thorne1.1University of Iowa, College of Public Health, Iowa City, IA and 2Hopital Laval, Ste-Foy, Quebec, Canada.

#652  
TIME COURSE AND KINETICS OF EOSINOPHILIC INFLAMMATION AND CORRESPONDING LUNG TOXICITY EFFECTS IN AN ALLERGIC ASTHMA MODEL IN BROWN NORWAY RATS. D. B. Warheit, T. R. Webb and K. L. Reed. DuPont Haskell Laboratory, Newark, DE.

SUBSTANCE P AND OTHER MEDIATORS IN A RABBIT MODEL OF ACUTE RESPIRATORY DISTRESS SYNDROME (ARDS). S. Wang1, R. C. Lantz2 and M. L. Witten3. 1Department of Pediatrics, Center for Toxicology, University of Arizona, Tucson, AZ; 2Department of Cell Biology & Anatomy, University of Arizona, Tucson, AZ.

EFFECTS OF QUINOLINEDIONE DERIVATIVES ON THE EXPRESSION OF INDUCIBLE CYCLOOXYGENASE AND NITRIC OXIDE SYNTHASE IN LPS-ACTIVATED MACROPHAGES. J. Y. Lee1, S. M. Chung1, H. J. Kim2, C. K. Ryu3 and J. H. Chung1. 1Seoul National University, Seoul, Republic of Korea; 2Ewha Womans University, Seoul, Republic of Korea.


HEPARIN OR NEUTROPHIL DEPLETION ATTENUATES ENDOTOXIN-INDUCED POTENTIATION OF ALCOHOL HEPATOTOXICITY. S. Kinser, R. A. Sneed, R. A. Roth and P. E. Ganey. Michigan State University, East Lansing, MI.


ACUTE ENDOTOXEMIA IS ASSOCIATED WITH INCREASED STAT1 AND NFκB NUCLEAR BINDING ACTIVITY IN HEPATIC MACROPHAGES AND ENDOTHELIAL CELLS. N. Ahmad, L. C. Chen, C. A. Martey, S. G. Ricketts, J. L. Laskin and D. L. Laskin. Rutgers University, Piscataway, NJ.

HEPATOTOXICITY FROM COADMINISTRATION OF SMALL, SYNERGISTIC DOSES OF MONOCROTALEINE AND BACTERIAL ENDOTOXIN IS ATTENUATED BY HEPARIN. S. B. Yee, P. E. Ganey and R. A. Roth. Michigan State University, East Lansing, MI.

LIVER INFAMMATION AFTER ACETAMINOPHEN OVERDOSE: ROLE OF NEUTROPHILS. J. A. Lawson1, A. Farhood2, R. D. Hopper1, M. L. Bujal and H. Jacechke1. 1Pharma & Upjohn, Inc., Kalamazoo, MI; 2University of Texas Health Science Center, Houston, TX.


ELEVATED OXIDATIVE STRESS IN SKIN OF B6C3F1 MICE AFFECTS DERMAL EXPOSURE TO MACHINE WORKING FLUID. C. V. Komnineni, E. Kisin, N. Al-Humadi, V. Castranova and A. A. Shvedova. HELD/NIOSH, Morgantown, WV.

GLUTATHIONE (GSH) QUENCHES PEROXYNITRITE-MEDIATED NITRATION OF PROSTAGLANDIN H SYNTHASE FORM-2 (PGHS-2). C. K. Kim1, E. S. Roberts-Kirchhoff2, K. N. Barton3, J. Peterson2, D. Kaplan1, D. A. Putlitz and H. Kim1. 1Detroit R&D, Inc., 2University of Detroit Mercy and 3Institute of Chemical Toxicology, Wayne State University, Detroit, MI.

TUESDAY MORNING, MARCH 21
9:30 AM – 12:30 PM
PENNSYLVANIA CONVENTION CENTER
EXHIBIT HALL A

POSTER SESSION: FOOD SAFETY

Chairpersons: Roger A. Coulombo, Jr., Utah State University, Logan, UT and Mary Alice Smith, University of Georgia, Athens, GA.

Displayed: 9:30 AM – 12:30 PM
Attendees: 11:00 AM – 12:30 PM


DEVELOPMENT OF A DOSE RESPONSE MODEL FOR EXPOSURE TO LISTERIA MONOCYTOGENES DURING PREGNANCY.
M. A. Smith1, R. E. Bracken1, H. M. McClure2 and M. P. Doyle1. 1University of Georgia, Athens, GA and 2Yerkes Primate Research Center, Atlanta, GA.


PRELIMINARY STUDIES ON THE FATE OF FUMONISINS DURING THE MANUFACTURE OF TORTILLA CHIPS. K. A. Voss1, D. S. Saunders2 and F. I. Meredith1. 1Russell Research Center, USDA/ARS, Athens, GA and 2Department of Food Safety, Frito-Lay, Inc., Plano, TX.

COMPARISON OF SPHINGOLIPID CHANGES IN TWO STRAINS OF MICE DOSED WITH FUMONISIN B1 (FB1) BY TWO DIFFERENT ROUTES. E. N. Enongene1, R. T. Shane2, K. A. Voss1 and R. T. Riley1. 1USDA, Athens, GA and 2College of Veterinary Medicine, University of Georgia, Athens, GA.

THE EFFECT OF FUMONISIN PRODUCING Fusarium moniliforme ON SELECTED IMMUNE RESPONSES OF MICE TO Trypanosoma cruzi. C. Dresden-Osborne1, G. P. Noble1, E. N. Enongene2, R. T. Riley3, C. W. Bacon2 and K. A. Voss2. 1Clemson University, Clemson, SC and 2Russel Research Center, ARS-USDA, Athens, GA.

APPLICATION OF AN IN VITRO GASTROINTESTINAL MODEL FOR THE PREDICTION OF MYCOTOXIN ENTEROSORBENT EFFICACY. S. L. Lenko1, K. Mayura1, S. E. Ortinger1, C. A. Ake1, H. J. Huebler1, K. Pimpukdee2, N. Wang3, L. F. Kubena3 and T. D. Phillips1. 1College of Veterinary Medicine, Texas A&M University, College Station, TX, 2Department of Statistics, Texas A&M University, College Station, TX and 3USDA ARS, College Station, TX.

THIN FILM CLAY-BASED COMPOSITES AS AFFINITY PROBES FOR AFLATOXINS. H. J. Huebler, K. Mayura, C. Ake, S. L. Lenke and T. D. Phillips. Texas A&M University, College Station, TX.

HIGH AFFINITY SORPTION OF AFLATOXIN B1 BY HECTORITE CLAY. K. Pimpukdee, C. Ake, S. L. Lenke, K. Mayura and T. D. Phillips. Texas A&M University, College Station, TX.


MODULATION OF GLUTATHIONE S-TRANSFERASES BY DIETARY BUTYLATED HYDROXYTOLUENE IN TURKEYS. P. J. Klein, R. E. Buckner and R. A. Coulombe, Jr. Utah State University, Logan, UT.

TOXICITY OF COPPER SULFATE SUPPLEMENT IN OHIO FEEDER LAMBS. I. S. Kim1, M. K. Hoffman1, A. M. Kadry2, A. S. Hafner3, A. J. Skowronek3, W. M. Hockman1 and P. T. Brisker3. 1Emerging Issue Branch, Chemistry and Toxicology Division, Food Safety and Inspection Service, United States Department of Agriculture, Washington, DC, 2Eastern Laboratory, Food Safety and Inspection Service, United States Department of Agriculture, Athens, GA and 3Animal Disease Diagnostic Laboratory and Division of Meat Inspection, Ohio Department of Agriculture, Reynoldsburg, OH. Sponsor: R. S. Nair.


PHENYLButAZONE: A NEW CHALLENGE TO THE SAFETY OF US MEAT. M. K. Hoffman1, I. S. Kim1, R. A. Sams2, N. E. Weber2 and A. M. Kadry1. 1Emerging Issue Branch, Chemistry and Toxicology Division, Food Safety and Inspection Service, United States Department of Agriculture, Washington, DC, 2Animal Disease Diagnostic Laboratory and Division of Meat Inspection, Ohio Department of Agriculture, Reynoldsburg, OH and 3Center of Veterinary Medicine, FDA, Rockville, MD.


DEVELOPMENT OF MODELS TO PREDICT THE ALLERGENIC POTENTIAL OF FOOD PROTEINS. C. Meredith and H. A. C. Atkinson. TNO BIBRA International Ltd., Carshalton, United Kingdom. Sponsor: B. G. Lake.
TUESDAY MORNING, MARCH 21
9:30 AM – 12:30 PM
PENNSYLVANIA CONVENTION CENTER
EXHIBIT HALL A

POSTER SESSION: SKIN

Chairperson: Michael K. Robinson, Procter & Gamble Company, Cincinnati, OH.
Displayed: 9:00 AM – 12:30 PM
Attended: 9:30 AM – 11:00 AM


#688 HIGHLY DIFFERENTIATED IN VITRO SKIN MODEL FOR HIGH THROUGHPUT SCREENING OF TOPICAL THERAPEUTICS. P. J. Hayden, G. R. Jackson, Jr., M. Klausner and J. Kubilus. MatTek Corporation, Ashland, MA.

#689 A CLINICAL SKIN SAMPLING APPROACH TO ASSESS SENSORY SKIN IRRITATION. M. A. Perkins, M. A. Osterhues, S. Vagelpohl and M. K. Robinson. Procter & Gamble Company, Cincinnati, OH.

#690 COMPARISON OF CHEMICAL-INDUCED SKIN IRRITATION RESPONSES BETWEEN CAUCASIAN AND ASIAN POPULATIONS. M. K. Robinson. The Procter & Gamble Co., Cincinnati, OH.


#692 A NOVEL USE OF AN IN VITRO PERCUTANEOUS ABSORPTION PROCEDURE TO ASSESS ABSORPTION POTENTIAL OF HUMAN VAGINAL TISSUE. E. C. Leonardo1 and T. A. Roy2. 1Advanced Care Products, Johnson & Johnson Corporation, North Brunswick, NJ and 2Petrotec, Inc., Langhorne, PA.

#693 SKIN PENETRATION OF ORGANIC COMPOUNDS FROM SOILS. W. Reifenscheid1, H. Kammen1, W. Palmer2, M. Major2 and G. Leach2. 1Stratascor, Inc., Richmond, CA and 2US Army CHPPM, Aberdeen Proving Ground, MD.

#694 THE EFFECT OF SURFACE CONTACT ON DERMAL ABSORPTION OF PESTICIDES FROM HOUSE DUST. G. A. Keating1, S. B. DuTeaux2, and K. T. Bogen3. 1Lawrence Livermore National Laboratory, Livermore, CA and 2University of California, Davis, CA. Sponsor: H. I. Maibach.

#695 EFFECT OF SOIL LOADING AND SOIL SEQUESTRATION ON DERMAL BIOAVAILABILITY OF POLYNUCLEAR AROMATIC COMPOUNDS. T. A. Roy1, R. Singh2, and D. P. Weyand3. 1Petrotec, Inc., Langhorne, PA, 2College of Pharmacy, Rutgers, The State University of New Jersey, Piscataway, NJ and 3Maple City Research, Hornell, NY.

#696 EXHALED BREATH ANALYSIS AND PBPK MODELING OF THE DERMAL ABSORPTION OF TRICHLOROETHYLENE IN RATS. T. S. Poet1, R. A. Corley1, K. D. Thrall1, J. A. Edwards1 and R. C. Wester2. 1Batelle, Richland, WA and 2University of California, San Francisco, CA.

#697 HUMAN DERMAL ABSORPTION OF TRICHLOROETHYLENE FROM SOIL AND WATER. R. C. Wester1, T. S. Poet1, K. K. Weitz2, J. A. Edwards3, R. A. Corley2, H. Tanojo1, X. Hu1, H. I. Maibach3 and K. D. Thrall1. 1Department of Dermatology, University of California at San Francisco, San Francisco, CA and 3Pacific Northwest National Laboratory, Richland, WA.

#698 PHARMACOKINETIC MODELING OF DERMAL EXPOSURE TO BROMODICHLOROMETHANE (BDCM) IN HUMAN VOLUNTEERS. J. L. Valentine1, R. A. Pegram1, J. D. Prull1, M. W. Case1, D. L. Ashley2, M. V. Evans3 and V. Benignus3. 1USEPA, NIEIRL, Research Triangle Park, NC and 2Centers for Disease Control and Prevention, NCEH/EHLS, Atlanta, GA.
Physiologically Based Pharmacokinetic Model for Dermal Absorption of Methyl Tertiary-Butyl Ether. T. L. Leavens1, J. D. Pleil2, M. W. Cas8, D. L. Ashley3 and J. D. Prehl. 1NH/ERL, USEPA, Chapel Hill, NC. 2NERL, USEPA, Research Triangle Park, NC and 3Center for Disease Control and Prevention, NCE/HELS, Atlanta, GA.


Particle Penetration of the Skin as a Route of Sensitization in Occupational Lung Disease. S. S. Tinsdale, J. M. Antonini, B. A. Abrigo, E. J. Adkins and J. R. Roberts. CDC/NIOSH, Morgantown, WV and 2West Virginia University, Morgantown, WV.

Percutaneous Absorption and Metabolism of 7-(2H-Naphtho[1,2-D]Triazol-2-Yl)-3-Phenylcoumarin in Human Skin. J. Yourick1, M. Koenig2, D. Yourick2, H. Matthews3 and R. Bronagh1. 1USFDA, Office of Cosmetics and Colors, Laurel, MD; 2WRAIR, Division of Neurosciences, Washington, DC and 3NIEHS, Research Triangle Park, NC.

Percutaneous Absorption and Metabolism of the Self-Tanning Agent Dihydroxyacetone in Human Skin. R. L. Bronagh1, H. B. Matthews2 and J. J. Yourick1. 1Office of Cosmetics and Colors, USFDA, Laurel, MD and 2NIEHS, Research Triangle Park, NC.

Comparative in Vitro Percutaneous Absorption of Nonylphenol and Nonylphenol Ethoxylates (NPE-4 and NPE-9) Through Human, Porcine and Rat Skin. J. D. Brooks1, N. A. Monteiro-Riviere1, G. Simon2, R. L. Joiner3, J. P. Van Miller1 and J. E. Riviere1. 1Center for Cutaneous Toxicology and Residue Pharmacology, North Carolina State University, Raleigh, NC. 2Rhodia, Inc., Raleigh, NC, 3General Electric Corporation, Pittsfield, MA and 4Union Carbide Corporation, Danbury, CT.

Mixture Component Effects on the Percutaneous Absorption of TCB, PCB and PCP. J. R. Firone1, R. E. Baynes1, M. Mamatz2, G. L. Qiao3 and J. E. Riviere1. 1Center for Cutaneous Toxicology and Residue Pharmacology, North Carolina State University, Raleigh, NC. 2Agency for Toxic Substances and Disease Registry (ATSDR), Atlanta, GA and 3EAB/HELD, National Institute for Occupational Safety and Health (NIOSH), Morgantown, WV.

Application of a Human Skin Tissue Culture Model in Dermal Absorption Studies of 3,4,4'-Tetrachlorobiphenyl (TCB). G. L. Qiao1 and J. E. Riviere3. 1National Institute for Occupational Safety and Health, Morgantown, WV and 2North Carolina State University, Raleigh, NC.

Chemomorphic Analysis of Malathion in Skin Layers: Implications for the Use of Dermatopharmacokinetic (DPK) Tape Stripping in Exposure Assessment to Pesticides. C. C. Dary1 and M. A. Sale2. 1USDA, Las Vegas, NV and 2Texas Southern University, Houston, TX.


#714  CUTANEOUS ENZYME HISTOCHEMISTRY OF TOPICALLY APPLIED JET FUELS IN THE PIG. B. N. Rhine, J. E. Riviere and N. A. Monteiro-Riviere. Center for Cutaneous Toxicology and Residue Pharmacology, North Carolina State University, Raleigh, NC.

#715  USE OF METHYL SALICYLATE AS A SIMULANT TO PREDICT THE PERCUTANEOUS ABSORPTION OF SULFUR MUSTARD. J. E. Riviere1, C. E. Smith2, K. Budtava2, J. D. Brooks1, E. J. Olajos1, H. Salem3 and N. A. Monteiro-Riviere1. 1Center for Cutaneous Toxicology and Residue Pharmacology, North Carolina State University, Raleigh, NC, 2Department of Statistics, North Carolina State University, Raleigh, NC and 3U.S. Army Chemical and Biological Defense Command, Aberdeen Proving Ground, MD.


#717  NEW INFORMATION DEBUNKS BLEACH FOR PATIENT DECONTAMINATION IN CHEMICAL/BIOLOGICAL WARFARE INCIDENTS. T. Garland. Texas Engineering Extension Service & College of Veterinary Medicine, Texas A&M University, College Station, TX. Sponsor: J. W. Spoo.

#718  DIPHOTERINE® DECONTAMINATION OF C14 SULFUR MUSTARD CONTAMINATED HUMAN SKIN FRAGMENTS IN VITRO. P. Gerosimo1, J. Blomet2, L. Mathieu2 and A. H. Hall1. 1Service de Protection Radiologiques des Armees, Ministry of Defense, France, 2Laboratoire Prevoir, Moulin de Verville, France and 3Toxicology Consulting and Medical Translating Services, Elk Mountain, WY.

#719  POST EXPOSURE TREATMENT WITH IODINE PROTECTS AGAINST SULFUR MUSTARD-INDUCED SKIN LESIONS. U. Wormser1, B. Brodsky1, A. Sintov2 and A. Nyska3. 1The Hebrew University, Jerusalem, Israel, 2Ben Gurion University of the Negev, Beer Sheva, Israel and 3National Institute of Environmental Health and Sciences, NIH, Research Triangle Park, NC. Sponsor: E. Hoffer.

#720  NONINVASIVE DETERMINATION OF SKIN SURFACE ASPARTIC PROTEINASE ACTIVITY IN THE LIVING ANIMAL-EFFECT OF NITROGEN MUSTARD. B. Brodsky1, A. Nyska2, R. Kohen1, E. Moor3, A. Eldad3, R. Gal4 and U. Wormser1. 1The Hebrew University, Jerusalem, Israel, 2National Institute of Environmental Health and Sciences, NIH, Research Triangle Park, NC, 3Hadassah University Hospital, Jerusalem, Israel and 4Rabin Medical Center, Petah Tiqwa, Israel. Sponsor: E. Hoffer.


#722  COMPARISON OF THE GUINEA PIG MAXIMIZATION TEST (GPM), THE MURINE LOCAL LYMPH NODE ASSAY (LLNA) AND STRUCTURE-ACTIVITY RELATIONSHIP MODELS TO PREDICT THE POTENTIAL OF CHEMICALS TO CAUSE OF ALLERGIC CONTACT DERMATITIS. I. Fishman, A. R. Cunningham and M. H. Karol. Department of Environmental and Occupational Health, University of Pittsburgh, Pittsburgh, PA.

#723  REGULATION BY VERAPAMIL OF DENDRITIC CELL MIGRATION IN MICE. M. Cumberbatch, R. J. Dearman and I. Kimber. AstraZeneca Central Toxicology Laboratory, Macclesfield, United Kingdom.

#724  SUBACUTE INTRADERMAL CIS-UROCANIC ACID SUPPRESSES THYMIC CELLULARITY IN TWO STRAINS OF MICE. M. R. Prater, R. M. Gogal and S. D. Holladay. Virginia-Maryland Regional College Of Veterinary Medicine, Virginia Tech, Blacksburg, VA.

#725  ROLE OF METABOLISM IN ARSENIC-INDUCED CYTOKINE PRODUCTION IN MURINE KERATINOCYTES. E. Corsini, M. Marinovich and C. L. Galli. University of Milan, Milan, Italy.

#726  QUENCHING OF CITRAL SENSITIZATION DEMONSTRATED IN A HUMAN REPEATED INSULT PATCH TEST. A. M. Api and D. Isola. Research Institute for Fragrance Materials, Inc., Hackensack, NJ.

DERMAL AND SYSTEMIC TOLERABILITY OF TOPICALLY APPLIED ISIS 2105, A PHOSPHOROTHIOATE OLGODEOXYNUCLEOTIDE (PS ODN), IN SPRAGUE DAWLEY RATS. R. E. Morgan, K. Lemonidis, A. Chappell and M. V. Templin. Isis Pharmaceuticals, Inc., Carlsbad, CA.

DERMAL TOLERABILITY AND IMMUNOSTIMULATORY EFFECTS OF PHOSPHOROTHIOATE OLGODEOXYNUCLEOTIDES (PS ODN) FOLLOWING INTRAVENOUS, INTRADERMAL AND TOPICAL ADMINISTRATION IN RATS. J. P. Riley1, N. V. Soucy1, P. Davison2, K. York-Defalco2, A. de Preyster1 and M. V. Templin2. 1San Diego State University, San Diego, CA and 2Isis Pharmaceuticals, Inc., Carlsbad, CA.

IMMUNOCHEMOTHERAPY ON TUMOR GROWTH AND METASTASIS BY POLYSACCHARIDES ISOLATED FROM PHELLINEUS LINTEUS. S. B. Han, H. M. Kim, C. W. Lee and D. H. Hong. Korea Research Institute of Bioscience and Biotechnology, Taejon, Republic of Korea.

IMMUNOTOXIC EFFECT OF INORGANIC LEAD (Pb) ON HOST-RESISTANCE OF MICE ASSOCIATES WITH MOUSE SIDED-TURNING BEHAVIOR. D. Kim1 and D. A. Lawrence2. 1SUNY at Albany, Albany, NY and 2Wadsworth Center, NYDOD, Albany, NY.


COMPARED EFFECTS OF MORPHINE AND NICKEL CHLORIDE ON NK CELL ACTIVITY IN RATS AND MONKEYS. E. Condeaux1, A. Forichon1, M. AujoU1 and J. Decaex2. 1Phoenix International Preclinical Services, L'Arbresle, France and 2Poison Centre & Insmer U503, Lyon, France.

IMMUNE, THYROID, AND HEMATOLOGICAL EVALUATION OF AMMONIUM PERCHLORATE IN B6C3F1 MICE. D. E. Keil1, M. Jenny1, D. A. Warren2, J. EuDaly1 and R. Bullard-Dillard3. 1Medical University of South Carolina, Charleston, SC; 2TERRA, Inc., Tallahassee, FL; and 3Clafin College, Orangeburg, SC.

EFFECTS OF N,N-DIETHYL-M-TOLUAMIDE (DEET) ON IMMUNE FUNCTION PARAMETERS IN B6C3F1 MICE. G. S. Gilkeson, A. C. Dudley, J. G. EuDaly, M. M. Peder-Adams and D. E. Keil. Medical University of South Carolina, Charleston, SC.

DIETARY IODINE MODULATES AMMONIUM PERCHLORATE INDUCED IMMUNOTOXICITY. M. Jenny1, D. E. Keil1, D. A. Warren2 and J. EuDaly1. 1Medical University of South Carolina, Charleston, SC and 2TERRA, Inc., Tallahassee, FL.

EXPOSURE TO SODIUM BROMATE IN DRINKING WATER FOR 28 DAYS PRODUCED MINIMAL IMMUNOTOXIC EFFECTS IN FEMALE B6C3F1 MICE. T. L. Guo1, J. A. McCay1, N. A. Karrow1, G. W. Johnson1, R. D. Brown1, D. L. Musgrove1, D. R. Germaine2 and K. L. White, Jr1. 1Virginia Commonwealth University, Richmond, VA and 2NIH, Research Triangle Park, NC.
EXPOSURE TO DISINFECTION-BY-PRODUCT DIBROMOACETIC ACID DOES NOT ALTER IMMUNE FUNCTION OR HOST RESISTANCE. J. A. McCay1, D. L. Musgrove1, R. D. Brown1, G. W. Johnson1, N. A. Karrow1, T. L. Guo1, D. R. Germolec2 and K. L. White, Jr.1. 1Virginia Commonwealth University, Richmond, VA and 2NIH, Research Triangle Park, NC.

EXPOSURE TO SODIUM CHLORITE IN DRINKING WATER FOR 28 DAYS PRODUCED MINIMAL IMMUNOMODULATORY EFFECTS IN FEMALE B6C3F1 MICE WITH THE EXCEPTION OF INCREASED NK CELL ACTIVITY. N. A. Karrow1, J. A. McCay1, T. L. Guo1, G. W. Johnson1, R. D. Brown1, D. L. Musgrove1, D. R. Germolec2 and K. L. White, Jr.1. 1Virginia Commonwealth University, Richmond, VA and 2NIH, Research Triangle Park, NC.

EXAMINATION OF THE MECHANISM FOR RAPID LOSS OF MURINE NK CELL LYTIC FUNCTION IN CELL CULTURES. P. Hébert and S. B. Pratt. LSU Health Sciences Center. Shreveport, LA.

MERCURY: EFFECTS OF EXPOSURE ON SCHISTOSOMA JAPONICUM INFECTION IN MICE. B. L. Ramirez1, R. Rubite2, J. Catapia1, J. Cuevas2 and E. K. Silberfeld1. 1National Institutes of Health, Bethesda, MD; 2University of the Philippines, Manila, Philippines and 3University of Maryland, Baltimore, MD.

MHC CLASS II EXPRESSION AND PROTEIN SYNTHESIS ARE NOT ALTERED IN EPIDERMAL LANGERHANS CELLS OF FEMALE BALB/C MICE FOLLOWING IN VITRO EXPOSURE TO 2-BUTOXYETHANOL. P. Singh and B. L. Bliss. Division of Toxicology, College of Pharmacy and Health Sciences, University of Louisiana at Monroe, Monroe, LA.

SUPPRESSION OF HUMAN CYTOKINE SECRETION BY CIGARETTE SMOKE. Y. Cheung, M. T. Aubrey and B. M. Freed. University of Colorado Health Sciences Center. Denver, CO.


HALOTHANE-INDUCED LIVER DAMAGE IN GUINEA PIGS: ROLE OF PROTEIN ADDUCTS AND ANTI-INFLAMMATORY CYTOKINES. M. Bound1, J. L. Martin2 and L. R. Pohl1. 1National Institutes of Health, Bethesda, MD and 2The Johns Hopkins Medical Institutions, Baltimore, MD.

TCDD SUPPRESSION OF IL-12 INHIBITS THE GENERATION OF THE TH1-MEDIATED IMMUNE RESPONSE TO OVABUMIN. D. M. Shepherd, E. A. De Sancte and N. I. Kerkvliet. Oregon State University, Corvallis, OR.

2,3,7,8-TETRACHLORIDIBENZO-P-DIOXIN (TCDD) EXPOSURE INCREASES A NOVEL CELL POPULATION IN THE SPLEEN OF P815 TUMOR INJECTED MICE: CHARACTERIZATION OF MAC1+GR-1+ CELLS. J. Y. Choi and N. I. Kerkvliet. Department of Environmental and Molecular Toxicology and Environmental Health Sciences Center, Oregon State University, Corvallis, OR.


TCDD SUPPRESSES T CELL EXPANSION AND CYTOKINE PRODUCTION IN LYMPH NODES OF MICE INFECTED WITH INFLUENZA VIRUS. K. A. Mitchell1, T. K. Warren2 and B. P. Lawrence1. 1Pharmacology/Toxicology Graduate Program, Washington State University, Pullman, WA; 2Pharmacology/Toxicology Graduate Program, Washington State University, Pullman, WA.


EXPOSURE TO TCDD CAUSES DELETION OF ACTIVATED ANTEN-SPECIFIC CD4+ T CELLS. E. A. Dearsone and N. I. Kerkvliet. Oregon State University, Corvallis, OR.
AHR KNOCKOUT MICE AND 2,3,7,8- TETRACHLORODIBENZO-P-DIOXIN (TCDD) IMMUNOTOXICITY: IMMUNE SUPPRESSION INDUCED BY TCDD IS DEPENDENT ON EXPRESSION OF AHR IN BONE MARROW- DERIVED CELLS. B. A. Vorderstrasse, I. L. Baecher- Steppan, 1 A. E. Silverstone and N. J. Kerckhove. 1Department of Environmental & Molecular Toxicology, & Environmental Health Sciences Center, Oregon State University, Corvallis, OR and 2Department of Microbiology & Immunology, State University of New York, Syracuse, NY.


EFFECTS OF TCDD ON PRIMARY TOXOPLASMOSES IN C57/BL6 MICE. M. D. King, M. Ehrlich, M. Nagarkatti and D. S. Lindsay. Virginia-Maryland Regional College of Veterinary Medicine, Blacksburg, VA.

MODELING THE CORTICOSTERONE AND STRESS-INDUCED SUPPRESSION OF T1H AND TIII-RELATED ANTIBODY RESPONSES AND CYTOKINE RESPONSES IN B6C3F1 MICE. R. Fan and S. B. Prusett. LSU Health Sciences Center, Shreveport, LA.

QUANTITATIVE ASSESSMENT OF CHANGES IN CYTOKINE GENE EXPRESSION AND I KAPPA B AND NF-KAPPA B PROTEINS INDUCED BY CORTICOSTERONE IN B6C3F1 MICE. Q. Zheng and S. B. Prusett. LSU Health Sciences Center, Shreveport, LA.

CPG DNA MOTIFS DO NOT ACTIVATE THE HYPOTHALAMIC-PITUITARY-ADRENAL (HPA) AXIS OR AFFECT ITS ACTIVATION BY OTHER MEANS. L. P. Myers and S. B. Prusett. LSU Health Sciences Center, Shreveport, LA.

ROLE OF CORTICOSTEROI IN ETHYL CARBAMATE-INDUCED SUPPRESSION OF ANTIBODY RESPONSE TO SHEEP RED BLOOD CELLS IN FEMALE BALB/C MICE. S. W. Cha, M. H. Lee, K. H. Kim, E. J. Kim, S. S. Han and T. C. Jeong. 1Toxicology Research Center, KRICT, Suwon, Republic of Korea and 2College of Veterinary Sciences, Seoul National University, Seoul, Republic of Korea.

RESTRAINT STRESS MODIFIES DNCB- INDUCED LYMPH NODE CYTOKINE PRODUCTION, BUT NOT T CELL PROLIFERATION. M. S. Flint, B. A. Abrigo and S. S. Tinkle. CDC/CNIOH, Morgantown, WV. Sponsor: M. I. Luster.


CHARACTERIZATION OF THREE ANTIBODY RESPONSE MODELS IN THE MOUSE: KINETICS AND SENSITIVITY TO CLASSICAL IMMUNOSUPPRESSANTS. C. M. Wieszinski, P. K. Anderson and M. P. Holsapple. Dow Chemical, Midland, MI.

EFFECTS OF EXERCISE STRESS OR PHYRIDOSTIGMINE BROMIDE (PSB) ON IMMUNE FUNCTION PARAMETERS IN B6C3F1 MICE. M. M. Peeden-Adams, A. C. Dudley, J. C. EdDaly, G. S. Gilsenon and D. E. Keil. Medical University of South Carolina, Charleston, SC.

TUESDAY MORNING, MARCH 21
9:30 AM – 12:30 PM
PENNSYLVANIA CONVENTION CENTER
EXHIBIT HALL A

POSTER SESSION: OXIDATIVE STRESS

Chairpersons: Marc W. Fariss, Washington State University, Pullman, WA and David Ross, University of Colorado, Denver, CO.

Displayed: 9:30 AM – 12:30 PM

Attended: 9:30 AM – 11:00 AM

α-TOCOPHERYL SUCINATE (TS) PREVENTS MITOCHONDRIAL COMPLEX I INHIBITOR- INDUCED HEPATOCYTE TOXICITY. I. G. Zhang, M. A. Tirmenstein, F. A. Nicholls-Gerenski and M. W. Fariss. College of Pharmacy, Washington State University, Pullman, WA.

PHOSPHATIDYLCHOLINE HYDROPEROXIDE DECREASES MITOCHONDRIAL MEMBRANE POTENTIAL AND OXIDIZES CARDIOLIPIN. M. R. Garry, T. J. Kavanagh and E. M. Faustman. University of Washington, Seattle, WA.

DOXORUBICIN-INDUCED CUMULATIVE AND IRREVERSIBLE MITOCHONDRIAL DYSFUNCTION. S. Zhou, A. Starkov and K. Wallace. Department of Biochemistry and Molecular Biology and Toxicology Graduate Program, University of Minnesota School of Medicine, Duluth, MN.

EFFECTS OF HYPOXIA ON LUNG COASH AND COASS Concentrations IN THE RAT. D. J. O'Donovan, L. K. Rogers, S. E. Welty, P. L. Ramsey and C. V. Smith. Baylor College of Medicine, Houston, TX.
INDUCTION OF THE MITOCHONDRIAL PERMEABILITY TRANSITION IN VITRO BY CARBOXYLIC ACIDS. K. B. Wallace¹ and C. B. Fredericke². ¹University of Minnesota, Duluth, MN and ²Rohm & Haas Co., Springvalle, PA.

DIHYDROACETONITRILE (DBN), A DRINKING WATER CONTAMINANT, INDUCES OXIDATIVE DAMAGE AND BASE EXCISION REPAIR IN MOUSE FIBROBLASTS. A. E. Ahmed, K. H. Chen, T. Nyugen and S. Jacob. University of Texas Medical Branch, Galveston, TX.


LIPID PEROXIDATION FORMS N2,3-ETHENOQUININE BY DIRECT ALKYLATION: STUDIES USING [14C]-ETHYL LINOLEATE. A. J. L. Ham¹ and J. A. Swendenberg². ¹Department of Pathology, University of North Carolina, Chapel Hill, NC and ²Department of Environmental Sciences and Engineering, Department of Pathology, University of North Carolina, Chapel Hill, NC.

REDUCTION OF WHITE BLOOD CELL DNA DAMAGE (COMET ASSAY) BY BLACK TEA CONSUMPTION IN SMOKERS AND NON-SMOKERS. J. Meng, Y. Xu, B. Ren, L. M. Kamendulis, N. Dunn and J. E. Klaunig. Indiana University School of Medicine, Indianapolis, IN.


LIPID PEROXIDATION CAUSED BY SELENOCYSTINE AND ITS ENHANCEMENT BY INHIBITOR OF Selenomethylion IN MICE. Y. Seko¹, H. Hosaka¹, K. Takahashi² and T. Hasegawa¹. ¹Yamanashi Institute of Environmental Sciences, Fujiyoshida, Japan and ²Japan Animal Care, Meguro, Japan. Sponsor: K. Nakamura.

METABOLISM OF 4-HNE BY RAT KUPFER CELLS. S. W. Luckey and D. R. Peterson. University of Colorado Health Sciences Center, Denver, CO.


IN SITU DETECTION OF QUINONE-INDUCED REACTIVE OXYGEN SPECIES PRODUCTION IN INTACT CULTURED HEPATOCYTES USING LUMINOUS CHEMILUMINANCE. F. Boes and U. A. Bollert. F. Hoffmann-La Roche Ltd., Nonclinical Drug Safety, Basel, Switzerland.

OXIDANT STRESS IN RAT LIVER FOLLOWING LIPOPOLYSACCHARIDE ADMINISTRATION: ROLE OF NITRIC OXIDE. C. Zhang, L. M. Walker and P. R. Moyeux. University Arkansas Medical Sciences, Little, AR.


PEROXYNITRITE CONTRIBUTES TO OXIDE-INDUCED LUNG INJURY. L. Fakhraideh¹, C. R. Gardner¹, A. L. Salzman², G. J. Southan³, J. D. Laskin¹ and D. L. Laskin¹. ¹Rutgers University, Piscataway, NJ and ²Inotec, Boston, MA.

NITRIC OXIDE-INDUCED COPPER DELIVERY BY METALLOTHIONEINS TO APO-SUPEROXIDE DISMUTASE. S. Liu¹, J. Fabisiak¹, V. Tsurin³, G. Borisienko¹, B. Pint³, J. Lazo³ and V. Kagan¹. ¹University of Pittsburgh, Department of Environmental & Occupational Health, Pittsburgh, PA and ²University of Pittsburgh, Department of Pharmacology, Graduate School of Medicine, Pittsburgh, PA.
#786  FREE RADICAL MEDIATED MECHANISMS OF METHYLCYCLOPENTADIENYL MANGANESE TRICARBONYL (MMD)-INDUCED DOPAMINERGIC TOXICITY IN PC12 CELLS. J. R. Wagner1, V. Anantharam1, P. G. Gunasekara2 and A. G. Kanthasamy1. 1UC Irvine, Irvine, CA and 2Purdue University, W. Lafayette, IN.

#787  EXPOSURE OF H441 CELLS, A PULMONARY-DERIVED CELL LINE, TO 7-KETOCHOLESTEROL LEADS TO CYTOTOXICITY, WHICH IS PRECEDED BY INCREASES IN INTRACELLULAR GLUTATHIONE DISULFIDE (GSSG) CONTENTS. S. E. Welty, K. T. Houghland, L. K. Rogers, H. W. McMicken and C. V. Smith. Baylor College of Medicine, Houston, TX.

#788  A PRELIMINARY STUDY ON THE EFFECTS OF DIETARY VITAMIN E AND C SUPPLEMENTATION ON ANTI-OXIDATIVE ENZYMES IN RATS. K. F. Shireen1, R. D. Pace1, A. Atkinson2, T. C. Graham3, M. Green1 and A. T. Khan2. 1CAENS and 2CVMNA, Tuskegee University, Tuskegee, AL. Sponsor: R. R. Dalsi.

#789  ANTIOXIDANT LOADING PROTECTS FROM BLAST OVERPRESSURE-INDUCED OXIDATIVE STRESS. N. M. Elsayed, K. L. Armstrong, M. T. Williams and M. F. Cooper. Walter Reed Army Institute of Research, Washington, DC.


#791  MYELOPEROXIDASE-CATALYZED ONE-ELECTRON GENERATION OF ETOPOSIDE PHENOXYL RADICALS IN VIOLENT HL-60 CELLS. A. A. Kuzenko1,2, J. C. Yalowich1, W. P. Allan1 and V. E. Kagan. 1Environmental & Occupational Health, University of Pittsburgh, Pittsburgh, PA. 2Pharmacology Department., University of Pittsburgh, Pittsburgh, PA and 3A.V. Palladin Institute of Biochemistry, Ukrainian National Academy of Sciences, Kiev, Ukraine.

#792  REDOX-CYCLING OF PHENOLS CAUSES DEPLETION OF GSH, OXIDATIVE STRESS AND CYTOTOXICITY IN NORMAL HUMAN EPIDERMAL KERATINOCYTES (NEHks). E. R. Kisin1, C. Kommineni1, Y. Y. Tyurina2, V. A. Tyurin2, D. Schwager-Berry1, V. Czatrakova1, V. E. Kagan2 and A. A. Shvedova1. 1Held/Niosh, Morgantown, WV and 2Departments of EOH & Pharmacology, University of Pittsburgh, Pittsburgh, PA.


#794  PHOSPHINE-INDUCED OXIDATIVE DAMAGE IN RATS. C. Hsu. Taipei Medical College, Taipei, Taiwan, Republic of China.


#796  SUPEROXIDE RADICALS ARE INVOLVED DURING REDUCTION OF ALAMAR BLUE. C. L. Rabideau and H. P. Misa. Virginia-Maryland Regional College of Veterinary Medicine, VA Tech, Blacksburg, VA.

#797  TOCOPHERYL SUCINATE CYTOPROTECTION IS ASSOCIATED WITH A UNIQUE UPTAKE ADVANTAGE IN ISOLATED RAT HEPATOCYTES. F. A. Nicholls-Grzemski, M. A. Tirmenstein, J. G. Zhang, N. M. Naslund and M. W. Fariss. Department of Pharmaceutical Sciences, Washington State University, Pullman, WA.

#798  FREE RADICAL INVOLVEMENT IN THE POTENTIATION OF NOISE INDUCED HEARING LOSS (NHIL) BY CARBON MONOXIDE (CO). D. B. Rao and L. D. Fechter. University of Oklahoma-Health Sciences Center, Oklahoma City, OK.

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**Tuesday morning, March 21**

9:30 AM - 12:30 PM

**Pennsylvania Convention Center**

**Exhibit Hall A**

**Poster Session: Natural Products**

**Chairpersons:** Sara Ann Hale Henley, USFDA, Washington, DC and Daniel R. Dietrich, University of Konstanz, Konstanz, Germany.

**Displayed:** 9:30 AM - 12:30 PM

**Attended:** 11:00 AM - 12:30 PM

#799  EFFECTS OF PLUCHEA SYMPHYTIFOLIA IN CHOLESTEROL AND TRIGLYCERIDES BLOOD LEVELS. M. Morales-Gonzalez and L. Santos. Pontifical Catholic University of Puerto Rico, Ponce, PR.
**Society of Toxicology**

39th Annual Meeting

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**#800**
COMPARISON OF CYTOTOXIC EFFECTS OF OCHRATOXIN A AND B ON HUMAN, RAT AND PORCINE RENAL CELLS. A. Heussen, M. Mitz, K. Hochberg, and D. R. Dietrich.

1Environmental Toxicology, University of Konstanz, Konstanz, Germany, 2Food and Drug Administration, Washington, DC and 3Urology, Klinikum Konstanz, Konstanz, Germany.

**#801**

1Environmental Toxicology, University of Konstanz, Konstanz, Germany, 2Food and Drug Administration, Washington, DC, 3Urology, Klinikum Konstanz, Konstanz, Germany and 4Department of Environmental and Occupational Health, University of Pittsburgh, Pittsburgh, PA.

**#802**

1Environmental Toxicology, University of Konstanz, Konstanz, Germany and 2Food and Drug Administration, Washington, DC.

**#803**
A COMPARISON OF RECONSTITUTION TIMES FOR CROTAB AND ANTEVIVIN (CROTALIDAe) POLYVALENT [WYETH], R. E. Hill, G. M. Bogdan, and R. C. Dour.

1University of Colorado Health Sciences Center, Denver, CO and 2Rocky Mountain Poison and Drug Center-Denver Health, Denver, CO.

**#804**
EXPRESSION OF INDUCIBLE NITRIC OXIDE SYNTHASE AND INFLAMMATORY CYTOKINES BY α-HEDERIN IN MACROPHAGES. C. Y. Choi, H. K. Kim, K. H. Yong, and H. G. Jeong.

1Chosun University, Kwangju, Republic of Korea and 2KAIST, Taejon, Republic of Korea.

**#805**

1Chosun University, Kwangju, Republic of Korea and 2KAIST, Taejon, Republic of Korea.

**#806**

TNO BHRA International Ltd., Carshalton, United Kingdom.

**#807**
SAFETY RISK ASSESSMENT OF THE MYCOTOKIN PATULIN IN APPLE JUICE AND APPLE JUICE PRODUCTS. S. H. Henry, M. J. DiNovi and P. M. Bolger.

FDA, Washington, DC.

**#808**
SAFETY/RISK ASSESSMENT OF THE CONSUMPTION OF PEAR BRANDIES CONTAINING METHANOL. S. A. Assimont, S. M. Dugar and P. M. Bolger.

1Food and Drug Administration, Washington, DC and 2Bureau of Alcohol, Tobacco and Firearms, Rockville, MD.

**#809**
DETERMINATION OF AD50 AND LD50 OF CLERODENDRON SIPHONANTHUS LEAF EXTRACT FOR ANTIFERTILITY AND MORTALITY OF CALLOSOBIRUS CHINENSIS (L.) BY TOPICAL, DIPPPING AND INJECTION METHODS. S. K. Pandey and M. B. Khan.

CS.J.M. University, Rae-bareli, India. Sponsor: D. Acosta, Jr.

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**TUESDAY MORNING, MARCH 21**

9:30 AM — 12:30 PM

PENNSYLVANIA CONVENTION CENTER

EXHIBIT HALL A

**POSTER SESSION: NEUROTOXICOLOGY-GENERAL**

*Chairpersons: Mary E. Gilbert, USEPA, Research Triangle Park, NC and Edward D. Levin, Duke University Medical Center, Durham, NC.*

*Displayed: 9:30 AM — 12:30 PM*:

*Attended: 9:30 AM — 11:00 AM*

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**#810**
DISTURBANCES IN Ca2+ SIGNALING FOLLOWING AROCLOR 1254 INVOLVE INTRA- AND EXTRACELLULAR Ca2+ POOLS IN A TEMPORALLY DISTINCT SEQUENCE. J. R. Inglefield, W. R. Mundy and T. J. Shafer.

USEPA, Research Triangle Park, NC.

**#811**
ACUTE EXPOSURE TO PC153 AND PC28 SUPPRESSES LONG-TERM POTENTIATION IN HIPPOCAMPAL SLICES. M. E. Gilbert.

USEPA, Research Triangle Park, NC.

**#812**
DEVELOPMENTAL EXPOSURE TO A1254 ALTERS SYNAPTIC TRANSMISSION IN THE DENTATE GYRUS IN VIVO. J. L. Blanton, M. M. Taylor, K. M. Crofton and M. E. Gilbert.

USEPA, Research Triangle Park, NC.

**#813**

USEPA, Research Triangle Park, NC.

**#814**
SEX-DEPENDENT BEHAVIORS AND STEROID HORMONE CONCENTRATIONS IN RATS AFTER MATERNAL EXPOSURE TO A RECONSTITUTED MIXTURE OF PCBs. H. Lilienthal, J. Hany, H. Kaya, A. Fastabend, A. Roth-Haerer and G. Winnenke.

Medical Institute of Environmental Hygiene, Duesseldorf, Germany. Sponsor: H. Wiegand.
#815  GENDER-SPECIFIC CORTICAL ASYMMETRY OF RAT BRAIN FOLLOWING PRENATAL EXPOSURE TO TCDD. K. M. Zareba1, R. Hojo1, V. P. Markowski2, S. Sera1, R. B. Baggs1, C. Cox1, G. Zareba1 and B. Weiss1. 1University of Rochester School of Medicine and Dentistry, Rochester, NY and 2Salem State University, Salem, MA.

#816  MOTOR ACTIVITY OF RAT OFFSPRING AFTER A SINGLE PRENATAL EXPOSURE TO 2,3,7,8-TCDD. C. Watanabe1, V. P. Markowski2, G. Zareba3, C. Cox3, S. Stern3 and B. Weiss3. 1University of Tokyo, Tokyo, Japan, 2Salem State University, Salem, MA and 3University of Rochester School of Medicine and Dentistry, Rochester, NY.

#817  LOW LEVEL PRENATAL TCDD AFFECTS OPERANT RESPONDING FOR MOTOR REINFORCEMENT IN FEMALE RATS. V. P. Markowski1, G. Zareba2, C. Cox2 and B. Weiss2. 1Salem State University, Salem, MA and 2University of Rochester School of Medicine and Dentistry, Rochester, NY.


#818  TESTOSTERONE REVERSES ETHANOL-INDUCED DEFICIT IN SPATIAL REFERENCE MEMORY IN CASTRATED RATS. R. Khalil and M. R. I. Soliman. College of Pharmacy, Florida A&M University, Tallahassee, FL.

#819  NEUROPROTECTION OF ALCOHOL AGAINST HIV-1 GP120 NEUROTOXICITY. A. Belmadani, M. A. Collins and E. J. Neafsey. Loyola University Medical Center, Maywood, IL. Sponsor: E. E. Creppy.

#820  NICOTINE-ETHANOL INTERACTIONS ARE ALTERED IN ADOLESCENT VS. ADULT RATS. A. H. Rezvani and E. D. Levin. Duke University Medical Center, Durham, NC.

#821  ADOLESCENT NICOTINE EXPOSURE CAUSES PERSISTENT CHANGES IN RAT BRAIN. J. A. Trauth, F. J. Seidler, E. C. McCOok and T. A. Statkin. Duke University Medical Center, Durham, NC.

#822  ADAPTATION OF THE 2-DEOXYGLUCOSE METHOD TO FISH FOR CHARACTERIZING KNOWN AND UNKNOWN AQUATIC NEUROTOXINS. J. B. Sass, J. A. Choich and E. K. Silbergeld. Program in Human Health & the Environment, University of Maryland, Baltimore, MD.

#823  A RAT MODEL OF THE COGNITIVE IMPAIRMENT CAUSED BY PFISTERIA PISCICIDA. E. D. Levin1, H. B. Glasgow, Jr.2, N. J. Deamer-Melea3, J. M. Burkholder2, A. H. Rezvani1, N. C. Christopher1, V. C. Moser3, K. Jensen1, G. J. Harry4 and D. Schmechel1. 1Duke University Medical Center, Durham, NC, 2North Carolina State University, Raleigh, NC, 3USEPA, Research Triangle Park, NC and 4NEHS, Research Triangle Park, NC.

#824  BREVETOXIN-INDUCED AUTOCRINE EXCITOTOXICITY IS ASSOCIATED WITH MANIFOLD ROUTES OF CA2+ INFLUX. T. F. Murray and F. W. Berman. Department of Physiology and Pharmacology, University of Georgia, College of Veterinary Medicine, Athens, GA. Sponsor: R. P. Sharma.

#825  A RECEPTOR SCREEN TO IDENTIFY TOXICANTS AND TOXINS OF BRAIN NEUROTRANSMITTER RECEPTORS. A. M. El-Nabawy, M. E. Eldebrony and A. T. Eldebrony. University of Maryland, Sch. of Medicine, Baltimore, MD.

#826  CONVULSANT ACTIVITY OF NOVEL 6-HYDRO-8-METHOXYQUINOLONE ANTIBIOTICS. J. L. Hannah-Hardy1, V. A. Murphy1, B. R. Kuzmak1 and K. S. Seelover2. 1P&G Pharmaceuticals, Mason, OH and 2Novascreen, Baltimore, MD.


#828  FLUOROCARBONS CFC-12 (DICHLORODIFLUOROMETHANE) AND HFC-134A (1,1,1,2-TETRAFLUOROETHANE) INDUCE DEPOLARIZATION OF BRAIN-STEM AND HIPPOCAMPAL NEURONS. J. Lin1, J. B. Dean2, G. D. Richey3, J. Rossi, III4 and A. F. Nordholm4. 1MaTech Environmental Technology, Inc., Dayton, OH, 2Department of Physiology and Biophysics, Wright State University, Dayton, OH, 3Geo-Centers, Inc., Dayton, OH and 4Naval Health Research Center, Detachment-Toxicology, Wright-Patterson Air Force Base, OH. Sponsor: D. E. Dodd.
#829 NEUROLOGIC, MORPHOMETRIC, AND PATHOLOGIC EVALUATION OF NERVE FUNCTION AND ULTRASTRUCTURE IN BEAGLE DOGS ADMINISTERED THALOMID (THALIDOMIDE) OVER 53 WEEKS. M. Morgan, S. Thomas, M. Evans, M. Brockman, J. Ehrhart and S. Teo. 1Therimmune Corporation, Gaithersburg, MD, 2Celgene Corporation, Warren, NJ, 3Pathology Associates International, Frederick, MD and 4White Eagle Laboratories, Doylestown, PA.

#830 MYELINOPATHY FOLLOWING SUBCHRONIC ADMINISTRATION OF ETHYL METHACRYLATE IN THE RAT. K. F. Jensen, A. A. Abdel-Rahman, A. M. Kishi, J. K. Olin and M. B. Khoury. 1NIH, USEPA. Division of Neurotoxicology, Research Triangle Park, NC and 2Duke University Medical Center, Department of Pharmacology and Cancer Biology, Durham, NC.

#831 γ-DIKETONE NEUROPATHY: ULTRASTRUCTURAL CHARACTERIZATION OF PERIPHERAL NERVE FIBERS. E. J. Lehning, B. S. Jaronny, J. Fox, S. Perkins, J. Hinckley and R. M. LoPachin. 1Monterio Medical Center, Bronx, NY and 2Virginia Tech, Blacksburg, VA.

#832 HEXANEDIONE NEUROPATHY: RELATIONSHIP OF AXONAL ATROPHY WITH ALTERATIONS IN NEUROFILAMENT GENE EXPRESSION. L. A. Opanashuk, F. C. Chiu, D. K. He, E. J. Lehning and R. M. LoPachin. Albert Einstein College of Medicine, Bronx, NY.

#833 FORMATION OF ACRYLAMIDE (ACR) AND GLYCIDAMIDE (GLY) HEMOGLOBIN ADDUCTS IN ACR-EXPOSED RATS. D. S. Barber, J. Hunt, M. Ehrlich, E. J. Lehning and R. M. LoPachin. 1Virginia-Maryland Regional College of Veterinary Medicine, Blacksburg, VA and 2Montefiore Medical Center, Bronx, NY.

#834 THE XENOESTROGEN 4-OCTYLPHENOL (4-OP) INCREASES THE EXPRESSION OF AMYLOID PRECURSOR-LIKE PROTEIN-2 (APP-L2) MRNA IN THE HYPOTHALAMUS OF THE SNAPPING TURTLE. V. L. Trudeau, S. Chiu, S. W. Kennedy and R. J. Brooks. 1University of Ottawa, Department of Biology, Ottawa, Ontario, Canada, 2Environment Canada, Northwest Research Centre, Hull, Quebec, Canada and 3University of Guelph, Department of Zoology, Guelph, Ontario, Canada. Sponsor: M. E. Hahn.

#835 ABILITY OF AG AND NAC TO ACT AS SCAVENGERS OF 4-HYDROXY-2E-NONENAL. L. I. Zimmerman, V. Amarnath, T. J. Montine and W. M. Valentine. Vanderbilt University, Nashville, TN.

#836 DISULFIRAM IS A SELECTIVE SCHWANN CELL TOXICANT THAT PRODUCES S-(N,N-DIETHYLCARBAMOYL)-CYSTEINE PROTEIN ADDUCTS. E. G. Tonkin, J. C. L. Erve, K. Amarnath and W. M. Valentine. Vanderbilt University, Nashville, TN.


#838 NEURODEGENERATIVE DISEASE IN GLUCOSE-6-PHOSPHATE DEHYDROGENASE (G6PD)-DEFICIENT MICE. W. Ying and P. G. Wells. 1Faculty of Pharmacy, University of Toronto, Toronto, Ontario, Canada and 2Faculty of Pharmacy and Department of Pharmacology, University of Toronto, Toronto, Ontario, Canada.

#839 EFFETS OF SDZ PSC 833 ON GLUCOSE METABOLISM IN PRIMARY CULTURES OF RAT NEURONAL AND RAT GLIAL CELLS. F. Cruz and A. Wolf. Novartis Pharma AG, Experimental Toxicology, Basel, Switzerland.

#840 THE MITOCHONDRIAL PERMEABILITY TRANSITION: ROLE IN DIFFERENTIAL SUSCEPTIBILITY OF SY5Y NEUROBLASTOMA AND C6 GLIOMA CELLS AS A MODEL FOR 1,3-DINITROBENZENE-INDUCED ENSPHALALOPATHY. R. B. Tjalsma, M. M. Ewing and M. A. Philbert. Toxicology Program, Department of Environmental Health Sciences, University of Michigan, Ann Arbor, MI.

#841 BCL-2 FAMILY PROTEIN EXPRESSION IN DIFFERENTIAL SENSITIVITY OF SY5Y NEUROBLASTOMA AND C6 GLIOMA CELLS TO 1,3-DINITROBENZENE-INDUCED MITOCHONDRIAL PERMEABILITY TRANSITION. M. A. Philbert and R. B. Tjalsma. Toxicology Program, Department of Environmental Health Sciences, University of Michigan, Ann Arbor, MI.


#843 COMPARISON OF A DYNAMIC, THREE-DIMENSIONAL, IN VITRO BLOOD BARRIER MODEL TO THE TWO-DIMENSIONAL CULTURE INSERT SYSTEM TO STUDY DRUG PASSAGE ACROSS THE BRAIN ENDOTHELIUM MONOLAYER. S. B. Manro and S. G. Gilbert. SNBL USA, Ltd., Redmond, WA.
POSITIVE MODULATION OF AMPA RECEPTORS PROMOTES CELLULAR REPAIR FOLLOWING EXCITOTOXIC INJURY TO BRAIN TISSUE IN VITRO AND IN VIVO. B. A. Bahr1, J. Bendiske1, G. Rogers2, M. Rudlin3, S. Urwyler2 and A. Sauter3. 1University of Connecticut, Storrs, CT, 2Cortec Pharmaceuticals, Irvine, CA and 3Novartis Pharma AG, Basel, Switzerland.

POTENTIATION OF OCTAVE-BAND NOISE INDUCED AUDITORY IMPAIRMENT BY HYDROGEN CYANIDE INHALATION. J. Kong, G. Chen, W. Taiwackoll and L. D. Fechter, University of Oklahoma, Health Sciences Center, Oklahoma City, OK.

INTERMITTENT NOISE INDUCED HEARING LOSS AND THE INFLUENCE OF CARBON MONOXIDE. G. D. Chen, M. L. McWilliams and L. D. Fechter, University of Oklahoma Health Sciences Center, Oklahoma City, OK.

COCHLEAR HISTOCHEMICAL CHANGES AFTER LOW MODERATE LEVEL TOLUENE EXPOSURE. G. D. Chen, M. L. McWilliams, J. Kong and L. D. Fechter. University of Oklahoma Health Science Center, Oklahoma City, OK.

LOW-MODERATE LEVELS OF TOLUENE INFLUENCE ON AUDITORY FUNCTION AND RELATED BLOOD CONCENTRATIONS IN THE GUINEA PIG. M. L. McWilliams, D. P. Wang, G. D. Chen, T. A. Hall and L. D. Fechter. University of Oklahoma Health Science Center, Oklahoma City, OK.

DOSE RESPONSE OF CARBOPLATIN-INDUCED OTOTOXICITY IN RATS. K. Hasegawa, R. B. Scott, S. M. Sorani and L. P. Rybak. Southern Illinois University School of Medicine, Springfield, IL.


MORPHOMETRIC MEASUREMENT VALIDATION STUDY COMPARING DAY 9 AND DAY II SPRAGUE DAWLEY RATS. R. M. Parker1, R. H. Garmer2, A. M. Hoberman1, R. G. York1 and J. F. Barnett, Jr.1. 1Premedica Argus Research Laboratories, Inc., Horsham, PA and 2Consultants in Veterinary Pathology, Monroeville, PA.

NEUROBEHAVIORAL EVALUATION OF RESIDUAL EFFECTS OF ACUTE CHLORINE INGESTION. R. M. Singer. Raymond Singer, Ph.D. - A Professional Association, Santa Fe, NM.

Tuesday Morning, March 21
9:30 AM - 12:30 PM
Pennsylvania Convention Center
Exhibit Hall A

Poster Session: Risk Assessment Modeling

Chairpersons: James J. McGrath, USEPA, Research Triangle Park, NC and John C. Lipscomb, USEPA, Cincinnati, OH.

Displayed: 9:30 AM - 12:30 PM
Attended: 11:00 AM - 12:30 PM

Use of Two Aroclor® Lots to Evaluate TEQ and Oxidative Stress Predictors. D. E. Burgin1, J. J. Diliberto2, P. R. S. Kodavanti1 and L. S. Birnbaum3. 1UNC Curriculum in Toxicology/USEPA, Research Triangle Park, NC, 2USEPA/NHEERL/ETD, Research Triangle Park, NC and 3USEPA/NHEERL/NTD, Research Triangle Park, NC.

Human Intereindividual Variability in the Expression of Cytochrome P450 Forms Critical to Xenobiotic Metabolism. J. C. Lipscomb1, C. A. F. Strelley2 and J. E. Snawder2. 1U.S. Environmental Protection Agency, NCEA, Cincinnati, OH and 2National Institute for Occupational Safety and Health, Cincinnati, OH.


Guidelines for Application of Data-Derived Uncertainty Factors in Risk Assessment. B. Meck3, E. Oganian3, A. Renwick6, B. Naumann4, B. Lake2, V. Va6, L. Haber1 and M. Dowson1. 1Toxicology Excellence for Risk Assessment, Cincinnati, OH, 2IBRA International, Surrey, United Kingdom, 3Health Canada, Ottawa, Canada, 4Meck & Co., White House Station, NJ, 5USEPA, Washington, DC and 6University of Southampton, Southampton, United Kingdom.

DEVELOPMENT OF A PHYSIOLOGICALLY-BASED PHARMACOKINETIC MODEL FOR A BIOLOGICALLY-BASED DOSE-RESPONSE ASSESSMENT FOR DIMETHYL SULFATE. M. S. Bogdanoff1, R. Sarangapani1, J. Teegaarden2 and H. A. Barton3. 1DuPont Haskell Laboratory, Newark, DE; 2K.S. Crump Consulting, Research Triangle Park, NC and 3NIEERL USEPA, Research Triangle Park, NC.

A TEST FOR REASONABLENESS OF DEFAULT VALUES FOR ENVIRONMENTAL CHEMICALS USING MONTE-CARLO SIMULATIONS AND PHYSIOLoGICALLY BASED PHARMACOKINETIC (PBPK) MODELS. H. A. El-Masri and M. M. Muntez. Computational Toxicology Laboratory, Division of Toxicology, Agency for Toxic Substances and Disease Registry, Atlanta, GA.

BIOLOGICALLY BASED DOSE-RESPONSE (BBDR) MODELS AS A MECHANISTIC FRAMEWORK FOR ORGANIZING THE EXTANT LITERATURE AND DATA. R. S. DeWeskin, C. Mueller2, D. Crawford-Brown2 and R. W. Setzer1. 1USEPA, Research Triangle Park, NC and 2University of North Carolina, Chapel Hill, NC.

PROPOSED NEW RISK ASSESSMENT FOR ACETALDEHYDE. M. Osier1, M. Odin1, P. McGinnis1 and B. Boutin2. 1Syracuse Research Corporation, North Syracuse, NY and 2National Center for Environmental Assessment, USEPA, Cincinnati, OH.

CARCINOGENIC POTENCY OF ENVIRONMENTAL TOBACCO SMOKE (ETS) IN STRAIN A/J MICE. H. P. Witschi and K. T. Bogen2. 1TEH, University of California, Davis, CA and 2University of California, HEA Division L-396, Lawrence Livermore National Laboratory, Livermore, CA.

ALTITUDE AS A FACTOR IN CARBON MONOXIDE RISK ASSESSMENT. J. J. McGrath. Texas Tech University Health Sciences Center, Lubbock, TX.

NONCANCER ASSESSMENTS OF PHENOL. L. T. Huber, Q. Zhao, A. M. Muir and M. L. Dowson. Toxicology Excellence for Risk Assessment, Cincinnati, OH.

CALIFORNIA PUBLIC HEALTH GOALS FOR CARBOFURAN, DIOUAT, SIMAZINE, AND THIOBENCARBI. J. Bankowska1, R. A. How1, L. Jowai2, R. S. Tomar1 and M. J. DiBartolemeus1. 1Cal/EPA, OEHHHA, Oakland, CA and 2Cal/EPA, OEHHHA, Sacramento, CA.


TRANSFERABLE FUR RESIDUES AND CHOLINESTERASE INHIBITION OF DOGS TREATED WITH FLEA CONTROL COLLARS CONTAINING ORGANOPHOSPHORUS INSECTICIDES. S. Boone, J. Tyler and J. Chambers. Mississippi State University, Mississippi State, MS.

CHRONIC PATHOLOGICAL EFFECTS FROM EXPOSURE OF JAPANESE MEDAKA (ORYZIAS LATIPES) EMBRYOS TO BROMOFORM. A. Thiyagarajan, L. K. Teuschler, J. C. Lipscomb, C. Gennings and W. R. Hartley. 1Tulane University Medical Center, New Orleans, LA, 2NCEA, USEPA, Cincinnati, OH and 3MCV, VCU, Richmond, VA.

CHRONIC TOXICITY OF CHLOROFORM IN THE JAPANESE MEDAKA (ORYZIAS LATIPES). W. R. Hartley, J. C. Lipscomb, L. K. Teuschler, C. Gennings and A. Thiyagarajan. 1Tulane University Medical Center, New Orleans, LA, 2NCEA, USEPA, Cincinnati, OH and 3MCV, VCU, Richmond, VA.

SAR ANALYSES AS PART OF THE HIGH PRODUCTION VOLUME CHEMICAL CHALLENGE INITIATIVE. A. R. Cunningham, H. S. Rosenkranz, E. P. Copelin and G. Klopman. 1University of Pittsburgh, Pittsburgh, PA and 2Case Western Reserve University, Cleveland, OH.


EVALUATION OF THE DERMAL BIOAVAILABILITY OF SOIL-AGED NAPHTHALENE. G. A. Skowronski, R. M. Turkall and M. S. Abdel-Rahman. UMDNJ - New Jersey Medical School, Newark, NJ.

COMPARATIVE ABSORPTION OF ALUMINUM NITRATE IN SOIL AND AQUEOUS SOLUTIONS. J. Reed, R. Garipay, G. Hahn and R. Harbison. 1University of South Florida, Tampa, FL; 2United States Navy, Norfolk, VA and 3EcoLogique & Environment, Inc., Buffalo, NY.

FACTORS AFFECTING THE ACTIVITY AND EXPRESSION OF HUMAN CYTOSOLIC GLUTATHIONE S-TRANSFERASE (GST) ISOFORMS. C. M. Manilwana, M. Follansbee and C. A. Anderson. 1USEPA, OW, Washington, DC and 2ISSI Consulting Group, Yarmouth, ME.

DNA REPAIR GENES-POTENTIAL CANCER SUSCEPTIBILITY GENES. T. R. Smith, M. S. Miller, K. Lehman and J. J. Hu. Wake Forest University School of Medicine, Winston - Salem, NC.


TUESDAY MORNING, MARCH 21
9:30 AM - 12:30 PM
PENNSYLVANIA CONVENTION CENTER
EXHIBIT HALL A

POSTER SESSION: EYE

Chairpersons: Mark E. Blazka, Colgate-Palmolive Company, Piscataway, NJ and Rodger D. Curren, Institute for In Vitro Sciences, Gaithersburg, MD.

Displayed: 9:30 AM - 12:30 PM
Attended: 9:30 AM - 11:00 AM


AN HISTOPATHOLOGICAL ANALYSIS OF DAMAGE TO BOVINE CORNEAS IN VITRO BY SELECTED OCULAR TOXICANTS. R. D. Curren, M. G. Evans, H. A. Raabe, R. R. Ruppalt and J. W. Harbell. 1Institute for in vitro Sciences, Inc., Gaithersburg, MD and 2Pathology Associates International, Frederick, MD.

THE CORNEAL ENDOTHELIUM IN THE BOVINE CORNEA OPACITY AND PERMEABILITY (Bycop) ASSAY. P. L. Casterton, J. L. Ubel and J. T. Sybesma. 1Amway Corporation, Ada, MI and 2Calvin College, Grand Rapids, MI.


A METHOD FOR ASSESSING VISUAL ACUITY IN UNANESTHETIZED RATS USING THE OPTIKOKINETIC REFLEX. M. J. Noll, D. N. Beyus and W. P. Weisburgen. Pfizer Inc., Groton, CT.

HUMAN SENSORY IRRITATION AND ODOR TESTING ON A COMPLEX AROMATIC HYDROCARBON. A. M. Medrano1, W. C. Daugherty1, B. M. Jarnot2, R. Schmidt1 and W. Cain2. 1Exxon Biomedical Sciences, Annandale, NJ and 2Exxon Chemical Company, University of California, San Diego, CA.

TUESDAY AFTERNOON, MARCH 21
12:00 PM - 1:00 PM
PENNAPLAC, PHIL MARROTT
SALON A
GRADUATE STUDENT/POST-DOCTORAL FELLOW LUNCHEON
All graduate students and post-doctoral fellows are invited to attend this luncheon. The 2000 Graduate Student Fellowship recipients will be announced at this time. In addition, students have the opportunity to talk with SOT officers and leadership. Students and fellows must sign up for this luncheon on the Annual Meeting Registration Form.

TUESDAY AFTERNOON, MARCH 21
12:00 PM - 1:00 PM
PENNSYLVANIA CONVENTION CENTER
ROOM(5) 208BC
SOT/EUROTOX DEBATE
MOTION: AN EVALUATION DEMONSTRATING THAT FOODS DERIVED FROM GENETICALLY-MODIFIED CROPS ARE AS SAFE AS THEIR TRADITIONAL COUNTERPARTS IS AN APPROPRIATE PARADIGM FOR ASSESSING THE SAFETY OF GENETICALLY-MODIFIED FOODS.

Moderator: Steve Taylor, University of Nebraska, Lincoln, NE.
Sponsored By: The SOT and EUROTOX (European Societies of Toxicology).

Foods derived from genetically-modified (GM) crops like soybean and corn have now been on the market in the United States and Canada for four years. Prior to their introduction in the market place, the producers of the GM seeds must obtain regulatory approvals both for their introduction into the environment as well as the use of these crops for human food and animal feed. In addition to the thorough characterization of the introduced gene and the protein product, the producers are required to show that foods produced from these crops are substantially equivalent and as safe as the foods derived from traditional crops. Some have questioned whether an evaluation demonstrating that a GM crop is as safe as its traditional counterpart is an appropriate paradigm for assessing the safety of GM crops. The debaters will provide insight on the controversy around this issue and how it is affecting development of this key technology.

Discussant for the Motion: Dr. Ian Munro, Cantax, Mississauga, Ontario, Canada.

Discussant against the Motion: Dr. Bevan Maseley, OBE Independent Consultant, Reading, Berkshire, United Kingdom.
SYMPOSIUM SESSION: FROM EPIEMIOLOGY TO THE GENE: MECHANISMS BY WHICH PARTICULATE MATTER INDUCES ADVERSE EFFECTS

Sponsored By: The Inhalation Specialty Section

Chairpersons: Daniel L. Costa and Robert Devlin, USEPA, Research Triangle Park, NC.

Epidemiology studies have shown a relatively consistent association between outdoor PM concentrations and various adverse health effects, including premature mortality, exacerbation of asthma and other respiratory diseases and decreased lung function. The biological basis of these associations is unknown, although epidemiology, toxicology and clinical studies suggest asthma, young children, elderly people and those with pre-existing cardiopulmonary conditions might be particularly susceptible. Little is known of the contributory factors specific to PM or the host. Consequently, several laboratories are earnestly examining the pathophysiology and toxicological mechanisms that underlie PM effects. The attention being focused on understanding potential physiological linkages between PM and acute mortality has led to the perception that PM may directly or indirectly (via inflammation of the lung) affect the heart. The sequence of biological steps from target dose of PM within the lung to cardiac alterations are likely to be complex. This symposium will provide an update attempting to link the latest cross-discipline research on PM addressing the importance of altered intrapulmonary target dose in those with lung disease, the correlative evidence from field study cardiac monitoring to new findings in experimental animals and the fundamental molecular signaling events that may well trigger the biological cascade from the cell to the whole organism. The attendee will gain an appreciation for the complexity of the PM response, the role of target tissue dose, responses from the cellular to organismic level and the potential for cardio-pulmonary interactions in the clinical impact of PM on health.

#895 1:30 FROM EPIDEMIOLOGY TO THE GENE: MECHANISMS BY WHICH PARTICULATE MATTER (PM) INDUCES ADVERSE EFFECTS. D. L. Costa and R. Devlin. USEPA, Research Triangle Park, NC.


#898 2:35 CARDIAC AND THERMOREGULATORY EFFECTS FOLLOWING EXPOSURE TO PARTICULATE MATTER IN HEALTHY AND COMPROMISED RATS. W. P. Watson1, M. J. Campen2, J. P. Nolan2, U. P. Kodavanti2, K. L. Dreher2 and D. L. Costa2. 1 UNC SPH, Chapel Hill, NC and 2 PTB, ETD, NHEERL, USEPA, Research Triangle Park, NC.


4:05 WRAP-UP: Robert Devlin, USEPA, Research Triangle Park, NC.
SYMPOSIUM SESSION: INTERACTION WITH IONOTROPIC NEUROTRANSMITTER RECEPTORS BY ENVIRONMENTAL TOXICANTS: CONSEQUENCES FOR NEURONAL FUNCTION

Sponsored By: The Neurotoxicology Specialty Section
Chairpersons: William D. Atchison, Michigan State University, Pharmacology/Toxicology, East Lansing, MI and Janusz B. Sztczuk, University of Cincinnati, Cincinnati, OH.

Ionotropic receptors comprise one of two major classes of ligand-gated ion channels. The ligand binding site(s) are directly coupled to the ion conductance pathway in these macromolecules, as opposed to being coupled to a GTP-binding protein or intracellular second messenger. As such, ionotropic receptors provide the simplest and fastest way of transducing an extracellular stimulus into a change in neuronal excitability. Ionotropic receptors comprise the major class of transmitter receptors involved in "fast neurotransmission," and mediate both excitatory and inhibitory synaptic function. Neurotransmitter receptors of the ionotropic class comprise a major gene family which is unrelated to the specific class of neurotransmitter, but rather to the mechanism of signal transduction. Included in this class are the nicotinic receptors for acetylcholine, gamma amino butyric acid (GABA) A-subclass, several types of glutamate receptors (kainate/AMPA, NMDA) glycine and serotonin (5HT3) receptors. This class of receptors shares common structural characteristics, typically consisting of multimeric macromolecules, with similar overall hydrophobicity of the subunits and significant homology in their primary structure. The receptors play crucial roles in functions such as learning and memory, nervous system development and synaptogenesis and regulation of overall neuronal excitability. Additionally, these receptors collectively serve as targets of a number of important therapeutic agents, natural toxins and xenobiotics. As such, these receptors serve as important targets of some major classes of toxicants. Mechanisms by which toxicants may act include direct block of the binding sites for the stimulating ligand, direct effects on the ion channel itself, or effects on the modulatory processes associated with these receptors.

#901 1:30 INTERACTION WITH IONOTROPIC NEUROTRANSMITTER RECEPTORS BY ENVIRONMENTAL TOXICANTS: CONSEQUENCES FOR NEURONAL FUNCTION, J. B. Sztczuk1 and W. D. Atchison2. 
1University of Cincinnati, Cincinnati, OH and 
2Michigan State University, East Lansing, MI.

#902 2:00 PERTURBATION OF EXCITATORY AND INHIBITORY GABA RECEPTOR RESPONSES IN CORTICAL NEURONS IN VITRO BY POLYCHLORINATED BIPHENYLS (PCBS), J. R. Ingelfield1 and T. J. Staver2. 1NHEERL, Research Triangle Park, NC and 2USEPA NHEERL, Research Triangle Park, NC.

#903 2:30 DISRUPTION OF CEREBELLAR GRANULE CELL GABA FUNCTION BY METHYLMERCURY INDUCES EARLY ONSET SYNAPTIC EXCITATION. W. D. Atchison, Y. F. Xu and Y. Yuan. Michigan State University, East Lansing, MI.

#904 3:00 NEURONAL NICOTINE ACETYLCHOLINE RECEPTORS: A NOVEL TARGET OF INSECTICIDES. T. Narahashi, Northwestern University, Chicago, IL.

#905 3:30 INTERACTIONS OF PB2 WITH NICOTINIC RECEPTORS AND WITH GABAERGIC AND GLUTAMATERGIC SYNAPSES: IMPLICATIONS FOR SYNAPTIC PLASTICITY IN THE DEVELOPING HIPPOCAMPUS. E. X. Alberquerque. University of MD, Baltimore, MD.

WORKSHOP: LATEX ALLERGY IN THE WORKPLACE

Sponsored By: The Immunotoxicology and Occupational Health Specialty Sections
Chairpersons: Mark Torrason, NIOSH, Cincinnati, OH and Dori R. Germolec, NIEHS, Research Triangle Park, NC.

The United States Occupational Safety and Health Administration (OSHA) estimates that 8-12% of healthcare workers are sensitized to natural-rubber latex. In addition, approximately 0.5-1% of the general population is reported to be sensitized. Clinical signs and symptoms of latex induced disease range from simple irritation to immunologic manifestations such as urticaria, asthma and anaphylaxis. The mechanisms of latex allergy are complex and are induced by exposure to numerous allergenic proteins found in natural-rubber latex as well as other chemicals used in latex products manufacturing. For example, there are 250 proteins containing multiple epitopes in latex of which at least 30 have allergenic potential. Several latex proteins have been epitope mapped. Sequencing demonstrates both unique epitopes and sequences commonly found in other plant proteins. These common epitopes result in cross-reactivity to other plant allergens found in pollens and foods. A further complication arises from the ability of latex proteins to associate with glove powder. This enhances the potential for respiratory sensitization from aerosolized powdered associated proteins and both human and experimental animals have demonstrated hypersensitivity following exposure to latex via the respiratory route. The diagnosis of latex allergy is complicated by these variables, which in turn hinders the development of intervention strategies. Further epidemiological assessment can more explicitly define the scope, trends and demographics of latex allergy.

Diagnostic accuracy can be improved through greater knowledge of proteins involved in the development of latex allergy and factors analysis of presently available diagnostic tests. in vivo and in vitro models can elucidate mechanisms of sensitization and provide an understanding of
the role of exposure route in latex associated diseases. Combined, these efforts can lead to intervention strategies for reducing latex allergy in the workplace.

#906  1:30  **LATEX ALLERGY IN THE WORKPLACE.** M. Torason and D. Gormley. NIOSH, Cincinnati, OH.


#908  2:15  **MOLECULAR CHARACTERIZATION OF LATEX ALLERGENS.** D. Beezhold, Guthrie Research Institute, Sayre, PA. Sponsor: M. Torason.

#909  2:50  **COMPLICATIONS IN INTERPRETATION OF DIAGNOSTIC TESTS FOR LATEX ALLERGY.** R. Diagani. NIOSH, Cincinnati, OH.

#910  3:25  **ANIMAL MODELS AND MECHANISMS OF LATEX ALLERGY.** B. J. Meade. NIOSH, Morgantown, WV.

4:00  **GENERAL DISCUSSION.**

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**TUESDAY AFTERNOON, MARCH 21**

1:30 PM—4:30 PM  
PENNSYLVANIA CONVENTION CENTER  
ROOMS 5 108B

**WORKSHOP: HARMONIZATION OF CANCER AND NON-CANCER RISK ASSESSMENT: MOVING BEYOND THE NRC BOOK**

*Sponsored By: The Risk Assessment Specialty Section*

This session has been endorsed by the Risk Assessment Task Force as an excellent example of the integration of sound science into the risk assessment process.

*Chairpersons: Hal Zenick, NHEERL, Research Triangle Park, NC and Matthew S. Bogdanoff, E.I. Du Pont de Nemours & Co., Newark, DE.*

The publication of the 1983 NRC report, Risk Assessment in the Federal Government: Managing the Process, established the framework and principles for risk assessment that are still applied today, essentially unmodified. At that time, the primary focus was on cancer risk assessment with the consequence being the emergence of a somewhat dichotomous approach to assessing cancer and non-cancer risks. The rapid increase in our understanding of toxicokinetic and toxicodynamic mechanisms is now challenging the validity of these assumptions and the value of retaining such a disparate approach. Evidence suggests that carcinogens may work initially through a variety of less direct targets/processes, some of which may have thresholds. Similarly, because of factors such as differences in individual susceptibility and existing background rates, certain non-cancer effects may not exhibit a threshold. In this workshop, a more consistent and integrated approach to human health risk assessment will be discussed. In exploring the future directions that risk assessments will take, mechanistic commonalities between cancer and non-cancer effects will be examined as well as issues related to differences in disease expression (e.g. exposure parameters, disease latency). Discussions in this workshop will include an historical perspective, the central roles of mode of action and tissue dosimetry and stochastic vs. tolerance distribution models in integrated approaches to cancer and non-cancer risk assessment.

#911  1:30  **HARMONIZATION OF CANCER AND NON-CANCER RISK ASSESSMENT: MOVING BEYOND THE NRC BOOK.** H. Zenick and M. S. Bogdanoff. NHEERL, Research Triangle Park, NC and E.I. Du Pont de Nemours & Co., Newark, DE.

#912  2:00  **HARMONIZATION IN RISK ASSESSMENT—OVERVIEW HISTORICAL ASSUMPTIONS AND PRACTICES.** G. Kimmel and V. Vu. USEPA, Washington, DC. Sponsor: H. Zenick.

#913  2:30  **MODE OF ACTION AND TISSUE DOSIMETRY—LINCHPINS OF HARMONIZATION OF CHEMICAL RISK ASSESSMENT.** M. E. Anderson and H. A. Barton. Colorado State University, Fort Collins, CO and NHEERL, Research Triangle Park, NC.

#914  3:00  **MODE OF ACTION AS A GUIDE TO QUANTITATIVE ANALYTICAL APPROACHES.** L. R. Rhomberg, Gradien Corporation, Cambridge, MA. Sponsor: H. Zenick.

#915  3:30  **INTEGRATIVE APPROACHES TO RISK ASSESSMENT BASED ON MODE OF ACTION: CANCER AND NON-CANCER ENDPOINTS.** W. Farland, A. Jarbek and V. Vu. USEPA, Washington, DC.

4:00  **GENERAL DISCUSSION.**

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**TUESDAY AFTERNOON, MARCH 21**

1:30 PM—4:30 PM  
PENNSYLVANIA CONVENTION CENTER  
ROOMS 5 202AB

**PLATFORM SESSION: GENE EXPRESSION/GENOMICS**

*Chairpersons: Kenneth Ramos, Texas A&M University, College Station, TX and Kerry Thomas Blanchard, Boehringer Ingelheim Pharmaceuticals, Inc., Ridgefield, CT.*


#917  2:00  **GENETIC VARIABILITY AND ITS IMPLICATIONS FOR TOXICOLOGY.** S. Qureshi, S. Shobha, C. L. Kilara, S. P. Datta, H. B. Singh, R. C. Singh and M. K. Singh. Institute of Medical Sciences, BHU, Varanasi, India.


#919  3:00  **EXPRESSION PROFILING OF CANCER GENES IN HUMAN PRIMARY LUNG CANCER TISSUE.** R. A. Davis and R. B. Nelson. University of Wisconsin, Madison, WI.

#920  3:30  **DNA METHYLATION AS A MAPPING TOOL FOR GENOMIC METABOLISM IN TUMOR PROGRESSION.** P. S. G. Wilson, S. L. Anderson, J. M. Draper and S. L. Elledge. University of Texas Health Science Center at San Antonio, San Antonio, TX.
TOXICOGENOMICS: UNDERSTANDING THE USE OF MICROARRAYS FOR TOXICOLOGY STUDIES IN VIVO. K. T. Blanchard¹, O. DiSorbo¹, R. Burris², R. T. Dunn, II³, S. B. Farr³ and R. E. Stoll¹. ¹Boehringer Ingelheim Pharmaceuticals, Inc., Ridgefield, CT and ²Phase-i Molecular Toxicology, Inc., Santa Fe, NM.

DIFFERENTIAL GENE EXPRESSION IN RATS FOLLOWING CHRONIC SODIUM VALPROATE EXPOSURE. N. J. Plant¹, G. G. Gibson¹, T. Bertram¹, P. Bugelski² and P. Long². ¹School of Biological Sciences, University of Surrey, Guildford, United Kingdom and ²Safety Assessment, SmithKline Beecham Pharmaceuticals, Welwyn, United Kingdom.

THE GENE EXPRESSION SIGNATURE OF TCDD IN HUMAN HEPG2 CELLS. A. Puga, A. Maier and M. Medvedovic. Department of Environmental Health, University of Cincinnati, Cincinnati, OH.

THE USE OF MICROARRAYS TO IDENTIFY AND CHARACTERIZE POTENTIAL HEPATOTOXICANTS BY PATTERN RECOGNITION. P. R. Holden¹, I. D. Tugwood², I. Kimber³ and W. D. Pennie¹. ¹AstraZeneca CTL, Macclesfield, United Kingdom and ²Safety Assessment AstraZeneca, Macclesfield, United Kingdom.


ANALYSIS OF THE DRUG PHARMACOLOGY TOWARDS PREDICTING DRUG BEHAVIOR BY EXPRESSION PROFILING USING HIGH-DENSITY Oligonucleotide ARRAYS. M. Durst¹, R. Kerb², J. T. Ma¹, V. B. Trought¹, E. Khurgin¹, T. R. Gingeras³, B. B. Hoffman² and J. S. Hul¹. Affymetrix, Santa Clara, CA and ²Stanford University, Palo Alto, CA. Sponsor: D. Acosta, Jr.


CONSTITUTIVE AND INDUCIBLE EXPRESSION OF CYP1B1 IN VASCULAR SMOOTH MUSCLE CELLS: DIRECT INVOLVEMENT OF THE ARYL HYDROCARBON RECEPTOR IN BENZO[A]PYRENE-MEDIATED Deregulation of C-DA-RA. J. K. Kerzee and K. S. Ramos. Faculty of Toxicology and Center for Environmental and Rural Health, Texas A&M University, College Station, TX.

FURTHER CHARACTERIZATION OF OXIDANT-ACTIVATED PROTEIN BINDING TO THE ANTIOXIDANT/ELECTROPHILE RESPONSE ELEMENT IN VASCULAR SMOOTH MUSCLE CELLS. M. T. Holdeman and K. Ramos. Center for Environmental & Rural Health, Texas A&M University, College Station, TX.

ACTIVATION OF LIMD RETROTRANSPOSON IN MOUSE VASCULAR SMOOTH MUSCLE CELLS BY BENZO[A]PYRENE METABOLITES AND HYDROGEN PEROXIDE: IMPLICATIONS IN CHEMICAL ATEROGENESIS. K. P. Lu and K. Ramos. Texas A&M University, College Station, TX.

TUESDAY AFTERNOON, MARCH 21
1:30 PM - 4:30 PM
PENNSYLVANIA CONVENTION CENTER
ROOMS S103AB

PLATFORM SESSION: IMMUNOTOXICOLOGY

Chairpersons: Jean F. Regal, University of Minnesota, Duluth, MN and Dennis M. Hinton, USFDA, Laurel, MD.

CHARACTERIZATION OF THE NZB/NZW1 MOUSE MODEL FOR IDENTIFICATION OF DRUG INDUCED AUTOIMMUNE DISEASE. G. C. Llewellyn and D. Wierda. Eli Lilly and Company, Greenfield, IN.


Tuesday afternoon, March 21
1:30 PM – 4:30 PM
Pennsylvania Convention Center
Room(s) 107/108

Poster Discussion Session: Role of Oxidative Stress in Carcinogenesis

Chairpersons: James E. Klaunig, Indiana University School of Medicine, Indianapolis, IN and Howard P. Glauert, University of Kentucky, Lexington, KY.

Displayed: 1:30 PM – 4:30 PM
Discussed: 2:30 PM - 4:30 PM

#938 Non-genotoxic Carcinogens (NGC) Cause Mutations In Vivo by Oxidative Stress. B. S. Shane1 and M. L. Cunningham2.
1Louisiana State University, Baton Rouge, LA and 2National Institutes for Environmental Health Sciences, Research Triangle Park, NC.

#939 A Role for Oxidative Stress in the Promotion of Initiated Cells. Y. Xu, B. Ren and J. E. Klaunig, Division of Toxicology, Department of Pharmacology & Toxicology, Indiana University School of Medicine, Indianapolis, IN.

#940 Role of Acrylonitrile Metabolism in the Induction of Oxidative Stress and Morphological Transformation of Syrian Hamster Embryo (SHE) Cells. L. M. Kamendulis, H. Zhang and J. E. Klaunig, Indiana University School of Medicine, Division of Toxicology, Indianapolis, IN.

#941 Mechanisms for the Induction of Oxidative Stress in Syrian Hamster Embryo (SHE) Cells by Acrlylonitrile. H. Zhang, L. M. Kamendulis and J. E. Klaunig. Division of Toxicology, Department of Pharmacology and Toxicology, Indiana University School of Medicine, Indianapolis, IN.

#942 Modulation of Focal and Non-focal Hepatocyte DNA Synthesis in 2-Butoxyethanol Treated Mice. B. C. Gottschling, L. M. Kamendulis and J. E. Klaunig. Division of Toxicology, Department of Pharmacology and Toxicology, Indiana University School of Medicine, Indianapolis, IN.

#943 Effects of 2-Butoxyethanol, 2-Butoxyacetic Acid, and Ferrous Sulfate on the Morphological Transformation of Syrian Hamster Embryo (SHE) Cells. J. Park, L. M. Kamendulis and J. E. Klaunig. Division of Toxicology, Department of Pharmacology and Toxicology, Indiana University School of Medicine, Indianapolis, IN.
ROLE OF OXYGEN FREE RADICALS IN PCB AND DIOXIN CARCINOGENESIS. J. T. Painter, K. D. Pinella, J. D. Tessari, G. N. Cosna and S. A. Benjamin. Colorado State University, Fort Collins, CO.


RELATING MELANIN DEGRADATION PRODUCTS TO ACTUAL MELANIN CONTENT: APPLICATION TO HUMAN HAIR. C. R. Borges, D. G. Wilkins and D. E. Rollins. University of Utah, Salt Lake City, UT.


DEVELOPMENT OF AN IN VIVO METHOD TO ASSESS SINGLE FIBER ELECTROMYOGRAPHIC JITTER IN JUVENILE AND ADULT RATS. D. B. Finley and D. W. Herr. University of North Carolina, Chapel Hill, NC and USEPA, Research Triangle Park, NC.


EVALUATION OF NMR ANALYSIS OF URINE FOR SCREENING LIVER AND KIDNEY TOXINS. D. G. Robertson, M. D. Reilly, E. E. Sigler, D. F. Wells and D. Paterson. Parke-Davis Pharmaceutical Research, Ann Arbor, MI.


1OSI Pharmaceuticals Inc., Uniondale, NY and
2Harvard School of Public Health, Boston, MA.

A YEAST ASSAY FOR CHROMOSOME GAIN.
N. G. Howlett and R. H. Schiestl, Harvard School of Public Health, Boston, MA.


ELECTRON PARAMAGNETIC RESONANCE (EPR) MEASUREMENTS OF MANGANESE OXIDATION STATE IN BIOLOGICAL SAMPLES: IMPLICATIONS OF THE ROLE OF OXIDATION STATE IN TOXICITY. S. H. Reaney, R. H. Gwiazda and D. R. Smith, University of California, Santa Cruz, Santa Cruz, CA.


A HIGH THROUGHPUT SCREENING ASSAY FOR HEPATOXICITY USING CRYOPRESERVED ANIMAL AND HUMAN HEPATOCYTES. C. Lu, P. M. Silber, C. Ruegg and A. P. Li, In Vitro Technologies, Inc., Baltimore, MD.


SPECIES COMPARISON OF METHEMOGLLOBIN REDUCTASE. G. A. Rockwood1, K. R. Armstrong2, E. J. Michalozzi2, C. B. Carpenter1 and S. J. Baskin3. 1Drug Assessment, 2Comparative Medicine, and 3Pharmacology Divisions, USAMRDC, Aberdeen Proving Ground, MD and 4Division of Veterinary Medicine, WRAIR, Washington, DC.


ELECTROSAYNIONIZATION TANDEM MASS SPECTROMETRY (ESI-MS/MS) ANALYSIS OF URINARY METABOLITES OF 1,1,2,-TETRACHLOROETHYLENE USING AN AUTOMATED SPE SAMPLE PREPARATION SYSTEM. K. L. Cheever, K. L. Marlow, M. A. Butler, M. A. Torrison and D. F. DeBord, NIOSH, ETB, Cincinnati, OH.

INDUSTRIAL COMBUSTOR VALIDATION TEST MEASURING AIR EMISSIONS OF DIOXINS AND FURANS ON A TEF BASIS USING EPA METHOD 23 AND HRGC/HRMS VERSUS THE AMBSTACK SNPERL AND CALUX BIOASSAY. G. C. Clark1, M. Chu1, D. Touati2, B. Rayfield3, J. Stone4 and M. Cooke5.
1Xenobiotic Detection Systems, Durham, NC, 2Aecadis, Durham, NC, 3Killekly Associates, Raleigh, NC, 4URG, Chapel Hill, NC and 5Cooke Companies International, Chapel Hill, NC.

DEVELOPMENT OF A HETEROPLASMIC MITOCHONDRIAL DNA STANDARD REFERENCE MATERIAL FOR DETECTION OF HETEROPLASY AND LOW FREQUENCY MUTATIONS. L. A. Tully, F. P. Schwarz and B. C. Levin. National Institute of Standards and Technology, Gaithersburg, MD.

HISTORICAL CONTROL DATA FROM TOXICOLOGY STUDIES IN THE CAT. L. Bonnot1, M. Greouere1, B. Regnier1 and J. Descotes2. 1Phoenix International Preclinical Services, L’Aresle, France and 2Poison Centre & Inserm U 503, Lyon, France.
Society of Toxicology
38th Annual Meeting

DETERMINATION OF TREMOROGENIC HARMANE AND HARMINE IN HUMAN BLOOD BY A SIMPLE AND RAPID LIQUID CHROMATOGRAPHY METHOD. Y. Guan1, W. Zheng1,2 and E. D. Louis3. 1Division of Environmental Health Sciences, Dept. of 2Pharmacology & 3Neurology, College of Physicians & Surgeons, Columbia University, New York, NY.

USING HISTORICAL CONTROL DATA TO QUANTIFY VARIABILITY INHERENT IN STANDARD NEUROTOXICITY MEASURES: FORE- AND HIND-LIMB GRIP STRENGTH AND HIND LIMB FOOT SPLAY. R. L. Williams1, M. R. Riggs1, R. Mandella2 and B. J. Henry3. 1Research Triangle Institute, Research Triangle Park, NC; 2Huntingdon Life Science, East Millstone, NJ and 3Rhone Poulenc Ag Company, Research Triangle Park, NC.

TUESDAY AFTERNOON, MARCH 21
1:30 PM - 4:30 PM
PENNSYLVANIA CONVENTION CENTER
EXHIBIT HALL A

POSTER SESSION: MOLECULAR/CELLULAR

Chairpersons: Melissa Ann Runge-Morris, Wayne State University, Detroit, MI and Alan R. Parish, Texas A&M University, College Station, TX.

Displayed: 1:30 PM - 4:30 PM
Attended: 3:00 PM - 4:30 PM

ISOLATION OF HUMAN HEMOGLOBIN ADDUCTS AS BIOMARKERS OF EXPOSURE TO ACRYLAMIDE. C. A. Lanteri and C. J. Bonaventura. Duke University Marine Laboratory, Beaufort, NC. Sponsor: M. B. Abou-Dokia.

NEITHER DIRECT CHEMICAL NOR CYANIDE ANTAGONISM CAN FULLY EXPLAIN THE ANTIDOTAL EFFECT OF N-ACETYL-L-CYSTEINE ON ACUTE ACRYLONITRILE INTOXICATION. F. W. Benz, J. Li, D. Corbett and D. E. Nerland. Department Pharmacology & Toxicology, University of Louisville, Louisville, KY.

IDENTIFICATION OF SITES OF HUMAN SERUM ALBUMIN MODIFICATION BY 2,4- AND 2,6-TOLUENE DIISOCYANATE. R. Lemus, B. W. Dey and M. H. Karmi. Department of Environmental and Occupational Health, University of Pittsburgh, Pittsburgh, PA, PA.

EVIDENCE FOR THE PRESENCE OF A PUTATIVE AH RECEPTOR LIGAND IN CV-1 CELLS. C. R. Chiaro1, C. Marcus2 and G. H. Perdew3. 1Graduate Program in Genetics, The Pennsylvania State University, University Park, PA; 2College of Pharmacy, University of New Mexico, Albuquerque, NM and 3Department of Veterinary Science, The Pennsylvania State University, University Park, PA.

FUNCTIONAL IMPORTANT PHOSPHORYLATION SITES IN XAP2, A MEMBER OF THE UNGIANDER ARYL HYDROCARBON RECEPTOR COMPLEX. A. B. Dall1 and G. H. Perdew2. 1Graduate Program in Genetics, Pennsylvania State University, University Park, PA and 2Department of Veterinary Science, Pennsylvania State University, University Park, PA.


NUCLEAR RECEPTOR COACTIVATOR, SRC-1 INTERACTS WITH Q-RICH SUB-DOMAIN OF THE AHR AND MODULATES ITS TRANACTIVATION POTENTIAL. M. B. Kumar1 and G. H. Perdew2. 1Graduate Program in Biochemistry, Microbiology and Molecular Biology, The Pennsylvania State University, University Park, PA and 2Department of Veterinary Science, The Pennsylvania State University, University Park, PA.

ACTIVATION OF EXTRACELLULAR SIGNAL-REGULATED KINASES (ERKs) BY 2,2',4,4'-TETRACHLOROBIPHENYL IN RAT LIVER CELLS: ROLE OF CALCIUM. B. V. Madhukar, X. Y. Zeng and O. M. Hernandez. Michigan State University, East Lansing, MI.

EXPRESSION OF TYPE XII COLLAGEN AND EMPRIN IN NORMAL AND HYPOXIC PULMONARY ARTERIES. M. K. Gordon1, R. Hahn1, P. Zhou1, P. Bhatt1, M. Goyal1, L. Sharma1, D. Heck1, J. D. Laskin1, D. Laskin1, G. Chen2, N. A. McHugh2, C. A. Tozzi2, D. J. Riley2 and D. R. Gerecke1. 1Rutgers University, Piscataway, NJ and 2UMDNJ Robert Wood Johnson Medical School, Piscataway, NJ.

DIFFERENTIAL ACTIVATION OF C-HA-RAS ARE/EpRE BINDING PROTEINS BY BENZO(A)PYRENE AND THAPSIGARGIN IN VASCULAR SMOOTH MUSCLE CELLS. K. P. Miller and K. S. Ramos. Faculty of Toxicology & Center for Environmental and Rural Health, Texas A&M University, College Station, TX.
MECHANISMS OF C-HA-RAS ACTIVATION IN VASCULAR SMOOTH MUSCLE CELLS BY BENZO[α]PYRENE. R. P. Metz, Y. Zhang and K. S. Ramos. Faculty of Toxicology & Center for Environmental and Rural Health, Texas A&M University, College Station, TX.

GENERATION OF MUTANT GLUTATHIONE S-TRANSFERASE P1 CDNAS BY RANDOM MUTAGENESIS OF GSTP1. S. Gullang and F. Ali-Osman. UT M.D. Anderson Cancer Center, Houston, TX.

VIMENTIN GENE EXPRESSION IS ALTERED IN THE CENTRAL NERVOUS SYSTEM (CNS) OF HENS TREATED WITH DISOPROPYLPHOSPHOROFLUORIDATE (DFP). T. R. Damodaran and M. B. Abou-Donia. Duke University Medical Center, Department of Pharmacology and Cancer Biology, Durham, NC.

IMPACT OF CHEMICALLY-INDUCED OXIDATIVE STRESS ON CDAHERIN/CATENIN COMPLEXES. V. J. Schmied1, M. Schmelz2 and A. R. Parrish3. 1Texas A&M University System Health Sciences Center, College Station, TX. 2University of Arizona College of Medicine, Tucson, AZ.

THIOL DISULFIDE REDOX IN GROWTH CONTROL OF HT29 CELLS. L. T. Miller, J. Cui, W. H. Watson, P. Sternberg and D. P. Jones. Emory University, Atlanta, GA.

TOXICANT- & PROSTAGLANDIN-MEDIATED INDUCTION OF ELONGATION FACTOR IA. K. M. Towndrow, H. H. Lo, T. J. Monks and S. S. Lau. The University of Texas at Austin, Austin, TX.

CHANGES IN HISTONE PHOSPHORYLATION IN RESPONSE TO QUINOL THIOETHER INDUCED ONCOTIC AND APOPTOTIC CELL DEATH. K. Tikoo, S. S. Lau and T. J. Monks. Division of Pharmacology & Toxicology, College of Pharmacy, University of Texas at Austin, Austin, TX.


ROLES OF MITOGEN-ACTIVATED PROTEIN KINASES IN OXIDATIVE STRESS MEDIATED CELL DEATH SIGNALING IN LLC-PK1 CELLS. Q. Huang, S. S. Lau and T. J. Monks. University of Texas at Austin, Austin, TX.


PROTEIN-KINASE C (PKC) INHIBITS THE ACTIVITY OF ORGANIC ANION TRANSPORTING POLYPEPTIDE OATP1 AND OATP2 BY DIRECT PHOSPHORYLATION, BUT NOT BY INTERFERENCE WITH INTRACELLULAR VESICLE TRAFFICKING. G. L. Guo and C. D. Claussens. University of Kansas Medical Center, Kansas City, KS.

GENE EXPRESSION ARRAY ANALYSES OF SULFUR MUSTARD-INDUCED PROINFLAMMATORY MEDIATOR RESPONSE IN MOUSE EARS. M. M. Danne1, M. C. Babin2, M. Y. Gazaway2, K. M. Ricketts2, J. J. Slager3 and K. L. Buxton. 1Battelle Memorial Institute, Columbus, OH and 2U.S. Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, MD.

CHARACTERIZATION OF SULFUR MUSTARD-INDUCED PROINFLAMMATORY MEDIATOR RESPONSE IN MOUSE EARS. K. L. Buxton1, M. C. Babin2, K. M. Ricketts2, M. Y. Gazaway2, J. A. Blank1 and M. M. Danne1. 1Battelle Memorial Institute, Columbus, OH and 2U.S. Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, MD.


THE ATM PROTEIN IS INVOLVED IN REPAIRING DNA DOUBLE STRAND BREAKS WITH SPECIFIC ENDS. Y. Li and K. Dixon. University of Cincinnati, Cincinnati, OH.

INDUCTION OF XPA BY CISPLATIN IN CISPLATIN-RESISTANT OVARIAN CARCINOMA CELLS. J. C. States1 and D. J. Kaplan2. 1University of Louisville, Louisville, KY and 2Wayne State University, Detroit, MI.

EVALUATION OF LESION BYPASS IN XEROERDERMA PIGMENTOSUM VARIANTS CELL EXTRACTS. B. R. Johnson and M. P. Carty, University of Cincinnati, Cincinnati, OH. Sponsor: A. Puga.
HIGH FREQUENCY OF LOSS OF HETEROZYGOSITY AT CHROMOSOME 11 IN BENZENE-INDUCED THYMIC LYMPHOMAS IN P53+/− TRANSGENIC MICE. S. E. Boley1, E. Anderson1, J. E. French2, L. Donohower3, D. Walker4 and L. Reche1, 1Chemical Industry Institute of Toxicology, Research Triangle Park, NC; 2National Institute for Environmental Health Sciences, Research Triangle Park, NC; 3Baylor College of Medicine, Houston, TX and 4USEPA, Research Triangle Park, NC.

FURTHER EVIDENCE FOR A PALINDROMIC ORIENTATION OF TRANSGENE PROMOTER SEQUENCE CRITICAL FOR TUMORIGENIC RESPONSIVENESS IN TGAC MICE. B. A. Roszenweig1, R. Honchel1, K. L. Thompson1, C. Strupczewski1, K. T. Blanchard2, S. M. Furst2, R. E. Stoll2 and F. D. Sistare1. 1Center for Drug Evaluation and Research, FDA, Laurel, MD and 2Boehringer Ingelheim Pharmaceuticals, Inc., Ridgefield, CT.


CLONING AND DEXAMETHASON REGULATION OF THE RAT ARYL SULFOTRANSFERASE (SULT1A1) GENE. Z. Durante and M. Range-Morris. Institute of Chemical Toxicology, Wayne State University, Detroit, MI.

TISSUE DISTRIBUTION OF ALCOHOL DEHYDROGENASE, ALDEHYDE DEHYDROGENASE AND CYTOCHROME P450-2E1 IN CHRONIC ETHANOL-TREATED SPRAGUE DAWLEY RATS. J. A. Walliser, M. Panagiotidou, D. R. Petersen and V. Vasilyou. University of Colorado Health Sciences Center, Denver, CO.

METABOLISM OF THE NICOTINE BY-PRODUCT NNAL BY HUMAN UDP-GLUCURONOSYLTANSFERASES (UGTs). N. Nguyen1, C. P. Strassburg2, G. Kuehl3, S. Murphy3 and R. H. Tukey1, 1University of California, San Diego, La Jolla, CA, 2Hannover Medical School, Hannover, Germany and 3University of Minnesota, Minneapolis, MN.

ETHANOL METABOLISM AND SENSITIVITY IN MICE WHICH LACK CY2E1 EXPRESSION. T. L. Ziegler, Z. Kiefer, D. R. Petersen and V. Vasilyou. University of Colorado Health Sciences Center, Denver, CO.

ISOLATION AND SEQUENCING OF CYPIA CDN AS FROM FIVE SPECIES OF BUTTERFLYFISH: A CASE FOR DIET-DRIVEN EVOLUTION IN A CRITICAL BIOTRANSFORMATION ENZYME. B. C. DeBusk, M. Slatery and D. Schlenk. University of Mississippi, University, MS.

SODIUM AZIDE-INDUCED THERMOTOLERANCE AND STRESS PROTEIN INDUCTION IN WILD-TYPE AND MUTANT STRAINS OF C. ELEGANS. M. M. Massie, E. M. Lapoczka, K. D. Boggs, N. D. Smith, G. E. White and K. E. Stine. Department of Biology/Toxicology, Ashland University, Ashland, OH.


ANALYSIS OF GENE EXPRESSION IN F-344 RATS FOLLOWING DERMAL EXPOSURE TO FUELS AND SOLVENTS. C. Garrett, K. Geiss and J. McDougall. Geo-Centers, Inc., Dayton, OH.

EFFECTS OF ADENOVIRAL VECTORS ON MOUSE LIVER PROTEIN PATTERNS. R. M. Lyons1, S. Steiner2, S. Hoy2, M. Kolepp3, S. D. Chibot4, E. Otto2, M. Gorziglia2, M. Kadan2 and M. Kolek1, 1Genetic Therapy, Inc., Gaithersburg, MD, 2Large Scale BiologyCorp., Rockville, MD and 3Novartis Pharma AG, Basel, Switzerland.

PROTEOMIC ANALYSIS IN RENAL TOXICITY. M. D. Kelly1, S. J. Kennedy1, R. Parekh2, C. Moyses2, R. Amess2, N. Downes2 and R. Hill1. 1Quintiles England Ltd., Ledbury, United Kingdom and 2Oxford GlycoSciences, Abingdon, United Kingdom. Sponsor: P. McNairy.
#1019 ARYL HYDROCARBON RECEPTOR-MEDIATED INHIBITION OF MAMMARY TUMOR GROWTH IN AN ATHYMIC NUDE MOUSE MODEL BEARING MCF-7 CELL XENOGRAFTS. A. J. McDougal and S. Safe. Texas A&M University, Department of Veterinary Physiology & Pharmacology, College Station, TX.

#1020 METHYLENE-SUBSTITUTED 1,1'-DIMETHYLDIODOLYMETHANE ANALOGS AS INHIBITORS OF CARCINOGEN-INDUCED MAMMARY TUMOR GROWTH IN RODENTS. M. D. Morrow, A. J. McDougal and S. Safe. Texas A&M University, Department of Veterinary Physiology & Pharmacology, College Station, TX.

#1021 ABERRANT METHYLATION OF THE p16INK4a PROMOTER AND ALTERED PROTEIN EXPRESSION IN AFLATOXIN B1 (AFB1)-INDUCED MOUSE LUNG TUMORS. A. S. Tam1, J. F. Foley1, A. C. Pace1, T. R. Devereux2, R. R. Maronpot2 and T. E. Massey1. 1Department of Pharmacology and Toxicology, Queen’s University, Kingston, ON, Canada and 2National Institute of Environmental Health Sciences, Research Triangle Park, NC.

#1022 POTENTIAL MECHANISMS OF TUMORIGENIC ACTION OF DIETHANOILAMINE IN MICE. W. T. Stott1, M. J. Bartels1, K. A. Brazik1, M. Mars2, D. A. Markham1, C. M. Thornton1, L. Kan1, S. Curry3, M. Purdon3 and S. H. Zeisel2. 1Dow Chemical Company, Midland, MI, 2University of North Carolina at Chapel Hill, Chapel Hill, NC and 3Procter & Gamble Company, Cincinnati, OH.

#1023 CHOLINE INHIBITS DIETHANOILAMINE (DEA)-INDUCED MORPHOLOGICAL TRANSFORMATION IN SYRIAN HAMSTER EMBRYO (SHE) CELLS. L. Lehman-McKeeman and E. Gamsky. Procter and Gamble Co., Cincinnati, OH.

#1024 MODULATION OF MITOMYCIN C CYTOTOXICITY BY OLTIPRAX. D. A. Sachs and R. Fleming. Wake Forest University School of Medicine, Winston-Salem, NC. Sponsor: M. Miller.

#1025 POTASSIUM BROMATE-INDUCED RAT CLEAR CELL RENAL TUMOR IS INDEPENDENT OF CODING REGION MUTATIONS IN THE YON HIPPEL-LINDAU GENE. Y. H. Shiao1, M. Hoot2, L. M. Li1, A. B. DeAngelo2, L. M. Anderson1 and D. C. Wolff2. 1Laboratory of Comparative Carcinogenesis, NCI-FCRDC, Frederick, MD and 2Environmental Carcinogenesis Division, NHEERL/USEPA, Research Triangle Park, NC.


#1027 THE TEMPORAL LOSS OF DNA REPAIR CAPACITY BY ESTROGEN EXPOSURE. J. W. DuMond, Jr. and D. Roy. University of Alabama, Birmingham, AL.

#1028 AN INDUCIBLE DNA REPAIR PROCESS IS INDEPENDENT OF NON-HOMOLOGOUS END-JOINING (NHEJ). E. W. Whisnant-Hurst1, T. D. Stansel2 and S. A. Le INDEX. 1University of North Carolina, Chapel Hill, NC and 2The Lankenu Medical Research Center, Wynnewood, PA.

#1029 DNA-DAMAGE BY HYDROXYLAMINE O-SULFATE AND METHYL ETHYL KETOXIME O-SULFATE. U. Schauer1, M. Friedewald1, M. Derelanko2 and W. DeKantl. 1Institut fuer Toxikologie der Universitaet Wuerzburg, Wuerzburg, Germany and 2U.S. Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, MD.

#1030 MOLECULAR DOSIMETRY AND REPAIR STUDIES ON N2-(3-ETHENOGLUAMINE IN HEPATOCYTES AND NONPARENCHYMAL CELLS FROM RATS EXPOSED TO VIRYL CHLORIDE. U. I. Mozzuto1 and J. A. Swenberg2. 1Curriculum in Toxicology, University of North Carolina, Chapel Hill, NC and 2Curriculum in Toxicology and Department of Environmental Sciences and Engineering, University of North Carolina, Chapel Hill, NC.

#1031 DEOXYADENOSINE (DADO) ADDUCTS FORMED BY THE SYN- AND ANTI-DIOL-EPOXIDES OF 7,12-DIMETHYLBENZ[A]ANTHRACENE (DMBA) ACCOUNT FOR ITS TUMOR INITIATION ACTIVITY IN MOUSE SKIN. S. V. Vuilm1, M. S. Tang2, A. Viaje3, J. X. Chen2, D. S. Bilolik2, R. Morris4, R. G. Harvey5, T. J. Spira5 and J. DiGiovanni1. 1The University of Texas MDACC, Smithville, TX, 2NYU, Tuxedo, NY, 3Yale University, New Haven, CT, 4LMRC, Wynnewood, PA and 5Ben May Institute, Chicago, IL.

#1033 ASSOCIATION BETWEEN THE XRCCI 399 G/L POLYMORPHISM AND ADENOCARCINOMA OF THE LUNG. K. K. Divine, F. Glinel, R. E. Crowell, M. G. Menache and S. A. Belinsky. Lovelace Respiratory Research Institute, Albuquerque, NM. 2University of Southern California, Norris Comprehensive Cancer Center, Los Angeles, CA and 3Veterans Affairs Medical Center, University of New Mexico School of Medicine, Albuquerque, NM.


#1035 INFRÉQUENT P53 MUTATIONS IN LIVER TUMOURS INDUCED BY 3-CHLORO-4-(DICHLOROMETHYL)-5-HYDROXY-2(5H)-FURANONE (MX) IN RATS. P. Hakulinen, V. M. Kosma, K. Makkonen, K. Servomaa, R. Vassara, J. Mäki-Paakkunen and H. Komulainen. Division of Environmental Health, National Public Health Institute, Kuopio, Finland. 2Department of Pathology and Forensic Medicine, University of Kuopio, Kuopio, Finland. 3STUK-Radiation and Nuclear Safety Authority, Helsinki, Finland and 4North Savo Regional Environment Centre, Kuopio, Finland. Sponsor: M. Vilakelma.


#1037 TOXICITY OF INHALED BROMODICHLOROMETHANE IN p53+/- TRANSGENIC MICE. V. R. Torri, A. J. Cobb, J. I. Everitt, M. Marshall, G. Boothman and B. E. Butterworth. 2Chemical Industry Institute of Toxicology, Research Triangle Park, NC and 3National Institute of Environmental Health Sciences, Research Triangle Park, NC.


#1044 CARCINOGENIC ENDPOINT EVALUATION IN TG.AC TRANSGENIC MICE GIVEN CYCLOSPORIN A DERMALLY FOR 26 WEEKS. A. M. Hoberman, L. G. Lomax and J. H. Wedge. Primedica Redfield, Redfield, AR and 2Pathology Consultant, Little Rock, AR.

POSTER SESSION: MIXTURES


Displayed: 1:30 PM - 4:30 PM

Attended: 3:00 PM - 4:30 PM

#1046
A 26-WEEK STUDY IN TRANSGENIC RASH2 MICE WITH ETHYLENYL THIOUREA. B. R. Dudek1, S. W. Curtiss1, D. L. Morris1, R. T. Bunch1, C. E. Wilker1, J. E. Sagartz1, D. E. Morton1, K. L. Kolka1, T. Usui2 and C. A. Alden1. 1G.D. Searle, Metabolism and Safety Evaluation, St. Louis, MO and 2Central Institute for Experimental Animals, Kawasaki, Japan.

#1047
A 26-WEEK STUDY IN TRANSGENIC RASH2 MICE WITH SULFISONAZOLE. B. R. Dudek1, S. W. Curtiss1, D. L. Morris1, R. T. Bunch1, C. E. Wilker1, J. E. Sagartz1, D. G. Morton1, K. L. Kolka1, T. Usui2 and C. L. Alden1. 1G.D. Searle, Metabolism and Safety Evaluation, St. Louis, MO and 2Central Institute for Experimental Animals, Kawasaki, Japan.

#1048

#1049
PAH AND METAL MIXTURES IN METROPOLITAN SOILS OF NEW ORLEANS. H. Mielke, G. Wang, C. Gonzalez, M. K. Smith, L. Binh and N. Quach. Xavier University, New Orleans, LA.

#1050

#1051

#1052

#1053
ANALYSIS OF A MIXTURE OF ESTROGEN AGONISTS IN AN ER-α REPORTER GENE ASSAY. C. Gennings1, G. D. Charles2, B. B. Gollapudi2, T. R. Zacharewski1 and E. W. Carney2. 1Virginia Commonwealth University, Richmond, VA, 2The Dow Chemical Company, Midland, MI and 3Michigan State University, East Lansing, MI.

#1054
REINVENTING MIXTOX: PRIORITY CHEMICAL MIXTURES AND THE INTERACTIONS-ADJUSTED HAZARD INDEX. J. Colman1, R. Hertzberg2, P. McClure1, M. Odin1, F. Llados1, W. Stüevel1 and D. A. Gray1. 1Syracuse Research Corporation, North Syracuse, NY and 2National Center for Environmental Assessment (NCEA), USEPA, Cincinnati, OH. Sponsor: P. McGinnis.

#1055
A MECHANISTIC ANIMAL-REPLACEMENT APPROACH FOR PREDICTING THE MEDIAN LETHAL CONCENTRATION (LC50) OF MIXTURES OF NARCOTIC CHEMICALS IN THE RAT. M. Béliveau and K. Krishnan. Université de Montréal, Montréal, QC, Canada.

#1056
PHYSIOLOGICAL MODEL-BASED ESTIMATION OF AN UNCERTAINTY FACTOR (UF) ACCOUNTING FOR PHARMACOKINETIC INTERACTIONS IN MIXTURES. S. Haddad, G. Charest-Tardif and K. Krishnan. Université de Montréal, Montréal, Quebec, Canada.

#1057
TARGET ORGAN VARIABILITY IN THE TOXICITY OF CHEMICAL MIXTURES. J. G. Pounds1, F. L. Pokerk1, D. G. Chen2 and M. Muntaz3. 1Wayne State University, Detroit, MI, 2Pacific Biological Station, Nanaimo, British Columbia, Canada and 3Agency for Toxic Substances and Disease Registry, Atlanta, GA.

#1058
EFFECT OF ETHYLBENZENE CO-EXPOSURE ON STYRENE'S NASAL TOXICITY IN RATS. D. C. Pedersen. Northeastern University, Boston, MA.

#1059
IN VITRO EVALUATION OF THE WEIGHT OF EVIDENCE METHOD FOR TOXICOLOGIC INTERACTIONS OF CHEMICAL MIXTURES. M. M. Muntaz1, C. T. De Rosa1, J. F. Grote2, V. J. Jeroen1, H. Hansen1 and P. R. Durkin3. 1Agency for Toxic Substances and Disease Registry, Atlanta, GA, 2TNO, Zeist, Netherlands and 3Syracuse Environmental Research Associates, Syracuse, NY.
STUDY DESIGNS FOR ASSESSING INTERACTIONS IN CHEMICAL MIXTURES. B. Price¹, C. J. Bortert², C. Wells³, T. S. Gross¹, P. D. Guiney² and T. G. Osimić³. Price Associates, Washington, DC. Applied Pharmacology and Toxicology, Inc., and Department of Physiological Sciences, University of Florida College of Veterinary Medicine, Alachua, FL. USGS BRD Caribbean Science Center and Department of Physiological Sciences, University of Florida College of Veterinary Medicine, Gainesville, Fl. and S.C. Johnson & Son, Inc., Racine, WI.

EVIDENCE FOR DOSE ADDITIVITY OF CHLOROFORM (CHC13) AND BROMODICHLOROMETHANE (BDCM) IN MICE. J. E. Simmons¹, C. Gennings², L. K. Teuschler¹, Y. M. Sey¹ and A. McDonald¹. USEPA, Research Triangle Park, NC and NCEA, Cincinnati, OH.

TOXICOLOGICAL INTERACTIONS AMONG ARSENIC, CADMIUM, CHROMIUM, AND LEAD IN HUMAN KERATINOCYTES. J. A. Campain¹, D. Bae¹, C. Gennings², W. H. Carter, Jr.² and R. S. H. Yang¹. Center for Environmental Toxicology, Department of Environmental Health, Colorado State University, Ft. Collins, CO and Department of Biostatistics, Virginia Commonwealth University, Richmond, VA.

BIOCHEMICAL EFFECTS OF MANUFACTURED GAS PLANT TAR IN RATS. N. Modi¹, D. Mauro¹, S. Ensmbo-Mattingly², B. Taylor¹ and E. H. Woestenberg³. Rutgers University, Piscataway, NJ and Meta Environmental, Watertown, MA.

REPRODUCTIVE AND DEVELOPMENTAL TOXICITY OF AIDS COMBINATION THERAPIES IN SWISS (CD-1) MICE. G. N. Rao¹ and H. D. Giles². NIHES, Research Triangle Park, NC and Southern Research Institute, Birmingham, AL.

BACKGROUND DNA MODIFICATIONS (I-COMPOUNDS) IN LIVER AND COLON OF FEMALE F-344 RATS FED WITH DIETS SUPPLEMENTED WITH SUNFLOWER, RAPESEED, OLIVE, OR COCONUT OIL. U. Lutz¹, R. C. Gupta² and W. K. Lutz². University of Wuerzburg, Wuerzburg, Germany and University of Kentucky, Lexington, KY.


DNA ADDUCTS IN LIVER, LUNG, AND ISOLATED LUNG CELLS OF RATS AND MICE EXPOSED TO 160 PPM [RING-U-C]-STYRENE BY NOSE-ONLY INHALATION FOR 6 HOURS. K. P. de Kloet¹, P. J. Roojaard², B. Wang², S. C. J. Summers² and N. J. van Sittert³. Shell Research & Technology Centre, Amsterdam, Netherlands and Chemical Industry Institute of Toxicology, Research Triangle Park, NC.

FURFURAL DOES NOT INDUCE UNSCHEDULED DNA SYNTHESIS (UDS) IN THE IN VIVO B6CF1 MALE AND FEMALE MOUSE HEPATOCYTE DNA REPAIR ASSAY. A. J. Edwards¹, T. B. Adams² and B. C. Lake¹. BIBRA International, Carshalton, United Kingdom and FEMA, Washington, DC. Sponsor: R. Ford.

CARCINOGEN INDUCED DNA DELETIONS IN MICE. R. H. Schiestl¹, A. R. Bishop and J. Aubecht. Harvard School of Public Health, Boston, MA.

EFFECT OF DIETARY FOLATE DEFICIENCY ON ARSENIC GENOTOXICITY IN MICE. E. W. McDorman¹, B. W. Collins¹ and J. W. Allen². Curriculum in Toxicology, University of North Carolina at Chapel Hill, Chapel Hill, NC and Environmental Carcinogenesis Division, NIEER, USEPA, Research Triangle Park, NC. Sponsor: D. J. Holbrook.
#1071 GENOTOXICITY OF METHYLPHENIDATE HYDROCHLORIDE IN THE IN VIVO MOUSE MICRONUCLEUS ASSAY. B. E. Stewart1, P. T. Curry2, G. Ng1, N. B. Modi1 and M. E. Prevo1.
1ALZA Corporation, Mountain View, CA and 2Covance Laboratories, Vienna, VA.

#1072 N7-(1-(HYDROXYMETHYL)-2,3-DIHYDROXYPROPYL)GUANINE IS THE MAJOR DNA ADDUCT AFTER EXPOSURE TO 1,2-BUTADIENE BUT NOT 1,2-EPoxy-3-BUTENE. P. J. Boogaard, K. P. De Kloé and N. J. van Sitten. Shell Research & Technology Centre Amsterdam, Amsterdam, Amsterdam, Netherlands.

#1073 THE PRODUCTION OF MICRONUCLEI BY DI-N-BUTYL PHTHALATE IN MALE F-344 RATS. R. D. Thomas, M. McDaniel and T. Wombie. Florida A & M University, Tallahassee, FL.

#1074 COMPARISON OF THE MUTAGENICITY OF METHYLEUGENOL (ME) IN VIVO IN THE LIVER OF BIG BLUE® TRANSGENIC RATS AND MICE. S. P. Tyrrell1, X. Zhang1, M. L. Cunningham2 and R. S. Shane1. 1Institute for Environmental Studies, Louisiana State University, Baton Rouge, LA and 2Laboratory of Pharmacology and Chemistry, NIEHS, Research Triangle Park, NC.

#1075 FREQUENCY AND SPECTRUM OF MUTATIONS INDUCED IN THE LAC I GENE OF TRANSGENIC MICE AFTER COMPLEX EXPOSURES TO GENOTOXIC CARCINOGENS. D. A. Deiker, K. M. Jackson and B. B. Gollapudi. The Dow Chemical Company, Midland, MI.


#1077 INVESTIGATION OF THE RADIOADAPATIVE RESPONSE IN BRAIN AND LIVER OF PUR58 LacZ TRANSGENIC MICE. J. A. Kind1, R. N. Winn1, C. H. Jagoe2, M. E. Boerrigter3 and C. E. Dallas4. 1University of Georgia, Athens, GA, 2Savannah River Ecology Laboratory, Aiken, SC and 3Leven, Inc., Bogart, GA.

#1078 MUTATION FREQUENCIES OF MINISATELLITE REPEAT NUMBERS IN HUMAN SPERM BEFORE AND AFTER CANCER CHEMOTHERAPY WITH ALKYLATED AGENTS. N. Zheng1, D. G. Monckton1, G. Wilson1, F. Hagemeister1, R. Chakraborty2, T. H. Connor2, M. J. Siciliano1 and M. L. Meistrich1. 1The University of Texas, M. D. Anderson Cancer Center, Houston, TX and 2The University of Texas, School of Public Health, Houston, TX.

#1079 ASSESSMENT OF DNA DAMAGE IN WORKERS EXPOSED TO ROOFING ASPHALT. T. Reid1, C. Hayden1, D. Marlow1, R. Rinehart2, J. Mierz2, D. W. Deren, M. Toraison1 and D. G. DeBord1. 1NIOSH, Cincinnati, OH and 2Harvard School of Public Health, Boston, MA.

#1080 ANALYSIS OF THE COMPONENTS OF EDIBLE OIL FUMES IN THE KITCHEN AND THEIR GENOTOXICITY IN DROSOPHILA. S. Li, J. Zhang, X. Zhao and S. Xu. Shanghai Tiedao University Medical College, Shanghai, China. Sponsor: K. G. Hoffer.

#1081 SINGLE-STRAND DNA BREAKS FOLLOWING EXPOSURE TO COMBINED THERAPEUTIC HIV/AIDS AGENTS. J. T. Chen and B. C. Levin. National Institute of Standards and Technology, Gaithersburg, MD.

#1082 A GENOTOXICITY STUDY WITH P-ARAMID RFP (RESPIRATORY-SIZED, FIBER-SHAPED PARTICULATES). D. B. Warheit1 and H. Murli1. 1DuPont Haskell Laboratory, Newark, DE and 2Covance Labs., Inc., Vienna, VA.

#1083 SPONTANEOUS HYDROLYSIS AND AN ACTIVE REPAIR PROCESS DETERMINE THE OVERALL RATE OF REMOVAL OF DNA-PROTEIN CROSSLINKS FROM FORMALDEHYDE-EXPOSED CELLS. G. Quievrin and A. Zhukovich. Brown University, Department of Pathology and Lab Medicine, Providence, RI.

#1084 MECHANISM OF METHYLENE DI-PHENYL DISOCYANATE GLUTATHIONE CONJUGATE MICRONUCLEI INDUCTION DISTINGUISHABLE FROM THAT OF METHYLENEDIANILINE. B. Z. Zhong and P. D. Siegel. NIOSH/HELD, Morgantown, WV.

Society of Toxicology
39th Annual Meeting

#1086

#1087
SUPRA-ADDITIVE GENOTOXICITY OF A COMBINATION OF γ-IRRADIATION AND ETHER METHANESULFONATE IN MOUSE LYMPHOMA L1210X CELLS. S. O. Maelzer1, H. Stopper2 and W. K. Laut1. 1NIH, LRDT, Research Triangle Park, NC and 2Department of Toxicology, University of Wuerzburg, Wuerzburg, Germany.

#1088
SATURATION OF BASE EXCISION REPAIR RESULTS IN PERSISTENT 5'-NICKED AP SITES IN HUMAN CULTURED CELLS EXPOSED TO METHYL METHANESULFONATE. J. Nakamura, B. F. Puchkowskij and J. A. Swenberg. Department of Environmental Sciences and Engineering, University of North Carolina, Chapel Hill, NC.

#1089
EVALUATION OF MUTAGENICITY OF BENZO[a]PYRENE, DIBENZOTHIOPHENE, ISOQUINOLINE AND CARBAZOLE USING A NEWLY IMPROVED A4 MUTAGENICITY ASSAY. C. J. Belfiore1, Y. C. Ou1, D. L. Gustafson2 and R. S. H. Yang1. 1Center for Environmental Toxicology and Technology. Department of Environmental Health, Colordo State University, Fort Collins, CO and 2University of Colorado Health Sciences Center, School of Pharmacy, Denver, CO.

#1090
IN VITRO STUDIES ON THE INDUCTION OF APOPTOSIS-RELATED DNA STRAND BREAKS (AR-DNASB) BY THE BENZENE METABOLITES MUCONALDEHYDE (MUC) AND HYDROQUINONE (HQR), SINGLY AND IN COMBINATION. R. P. Amin and G. Wirz. Joint Graduate Program in Toxicology, Rutgers University/UMDNJ-RWJ Medical School, Piscataway, NJ.

#1091
ASSESSMENT OF THE GENOTOXICITY OF THALOMID (THALIDOMIDE). S. Teo1, M. Morgan1 and S. Thomas1. 1Celgene Corporation, Warren, NJ and 2Therimmune Corporation, Gaithersburg, MD.

#1092
THE INDUCTION OF BASE-SUBSTITUTION MUTATIONS BY DAUNOMYCIN IN SALMONELLA TYPHIMURIUM. W. J. Mackay1 and A. A. Cauchi1. 1Edinboro University of Pennsylvania, Edinboro, PA and 2Texas Tech Health Sciences Center, Lubbock, TX.

#1093
INDUCTION OF MUTAGENIC DNA DAMAGE DURING REDUCTION OF CHROMATE BY CYSTEINE IS DEPENDENT ON FORMATION OF CHROMIUM(III)-DNA ADDUCTS. Y. Song, G. Quieveyn, V. Valtkun, A. DeLucia, M. Goldfarb and A. Zhikovitch. Brown University, Dep. of Pathology and Lab Medicine, Providence, RI.

#1094

#1095
UTILITY OF AN AMES SCREENING ASSAY FOR THE EARLY EVALUATION OF PHARMACEUTICAL COMPOUNDS FROM A COMBINATORIAL LIBRARY. M. D. Todd1 and L. E. Stankowski Jr2. 1Chiron Corporation, Emeryville, CA and 2Chrysalis Preclinical Services, Olyphant, PA.

#1096
GENOTOXIC INTERACTIONS OF MODEL COMPOUNDS AND BINARY MIXTURES. S. S. Garcia1, M. G. Mantas2 and R. C. Donnelly3. 1Texas A&M, College Station, TX, 2Agency for Toxic Substances & Disease Registry, Atlanta, GA and 3Texas A&M University, College Station, TX.

#1097

#1098

TUESDAY AFTERNOON, MARCH 21
1:30 PM - 4:30 PM
PENNSYLVANIA CONVENTION CENTER
EXHIBIT HALL A

POSTER SESSION: ENDOCRINE SYSTEM I

Chairpersons: Kevin W. Gaido, Chemical Industry Institute of Toxicology, Research Triangle Park, NC and Timothy R. Zacharewski, Michigan State University, East Lansing, MI.

Displayed: 1:30 PM - 4:30 PM
Attended: 3:00 PM - 4:30 PM

#1099
COMPARATIVE MECHANISMS OF ACTIVATION OF ESTROGEN RECEPTOR α BY ESTROGEN AND 4'-HYDROXYTAMOXIFEN. E. Castro Rivera and S. Safe. Department of Veterinary Physiology & Pharmacology, Texas A&M University, College Station, TX.

ESTROGEN-MEDIATED ACTIVATION OF c-Fos PROTO-ONCOGENE THROUGH PROTEIN BINDING THE SERUM RESPONSE ELEMENT. R. Duan and S. Safe. Texas A&M University, Department of Veterinary Physiology & Pharmacology, College Station, TX.

EFFECTS OF LIGAND-STRUCTURE ON ESTROGEN/ANTIESTROGEN INDUCTION VIA ESTROGEN RECEPTOR/SPI INTERACTIONS WITH GC-RICH PROMOTER ELEMENTS. X. Li, W. Porter, E. Castro-Rivera, Q. Chin, R. Duan, B. Saville, G. Sun, W. Xie and S. Safe. Texas A&M University, Department of Veterinary Physiology & Pharmacology, College Station, TX.

CELL AND PROMOTER-SPECIFIC INTERACTIONS OF STEROID RECEPTOR COACTIVATORS WITH ESTROGEN RECEPTOR (ERα) AND ERβ/Sp1. T. A. Nguyen and S. Safe. Texas A&M University, Department of Veterinary Physiology & Pharmacology, College Station, TX.

CELL CONTEXT-DEPENDENT ESTROGEN RECEPTOR (ERα) AGONIST AND ERβ ANTAGONIST ACTIVITIES OF METHOXYCHLOR METABOLITES. L. Pullaron1, B. Saville1, J. E. Lee1, M. Stoner1, K. Guido2, S. C. Maness2 and S. Safe1. 1Texas A&M University, Department of Veterinary Physiology & Pharmacology, College Station, TX and 2Chemical Industry Institute of Toxicology, Research Triangle Park, NC.

TRANSCRIPTIONAL ACTIVATION OF ORNITHINE DECARBOXYLASE GENE EXPRESSION BY ESTROGENS IN MCF-7 BREAST CANCER CELLS. C. Qin and S. Safe. Texas A&M University, Department of Veterinary Physiology & Pharmacology, College Station, TX.

LIGAND-ACTIVATED ESTROGEN RECEPTOR α (ERα)/Sp1 ACTION IN BREAST CANCER CELLS IS DEPENDENT ON THE ACTIVATION FUNCTION 1 DOMAIN OF ERα. B. Saville, M. Wormke and S. Safe. Texas A&M University, Department of Veterinary Physiology & Pharmacology, College Station, TX.

DOWNREGULATION OF VASULAR ENDOTHELIAL GROWTH FACTOR EXPRESSION IN HECA ENDOMETRIAL CANCER CELLS THROUGH INTERACTIONS OF ESTROGEN RECEPTOR α AND Sp3 PROTEINS. M. Stoner1, F. Wang1, I. Samudio1, C. Vyhlidal1, M. Klaude2, T. Nguyen1 and S. Safe1. 1Texas A&M University, Department of Veterinary Physiology & Pharmacology, College Station, TX and 2Texas A&M University, Department of Biochemistry & Biophysics, College Station, TX.

REGULATION OF TRANSFERRIN GENE EXPRESSION BY 17β-ESTRADIOL IN HUMAN BREAST CANCER CELLS. C. Vyhlidal, M. Chach and S. Safe. Texas A&M University, Department of Veterinary Physiology & Pharmacology, College Station, TX.

TRANSCRIPTIONAL ACTIVATION OF CATHEPSIN D GENE EXPRESSION BY GROWTH FACTORS. F. Wang, R. Duan and S. Safe. Texas A&M University, Department of Veterinary Physiology & Pharmacology, College Station, TX.

INSULIN-LIKE GROWTH FACTOR-1 INDUCES ADENOSINE DEAMINASE IN MCF-7 HUMAN BREAST CANCER CELLS THROUGH ESTROGEN RECEPTOR-SPI INTERACTIONS. W. Xie, R. Duan and S. Safe. Texas A&M University, Department of Veterinary Physiology & Pharmacology, College Station, TX.

LIGAND STRUCTURE-DEPENDENT DIFFERENCES IN ACTIVATION OF ESTROGEN RECEPTOR α IN HUMAN HepG2 LIVER AND U2 OSTEOGENIC CANCER CELL LINES. K. Yoon1, L. Pullaron1, K. Ramamoorthy1, K. Guido2 and S. Safe1. 1Texas A&M University, Department of Veterinary Physiology & Pharmacology, College Station, TX and 2Chemical Industry Institute of Toxicology, Research Triangle Park, NC.

ACTIVITY OF BENZOA|PYRENE AND ITS HYDROXYLATED METABOLITES IN AN ER-α REPORTER GENE ASSAY. E. W. Carney1, G. D. Charles1, M. J. Bartels1, T. R. Zacharewski2, N. L. Freshour1 and B. B. Gollapudi1. 1The Dow Chemical Company, Midland, MI and 2Michigan State University, East Lansing, MI.

INCLUSION OF S-9 ACTIVATION INTO AN ER-α REPORTER GENE ASSAY. G. D. Charles1, M. J. Bartels1, C. Gennings2, T. R. Zacharewski2, N. L. Freshour1, B. B. Gollapudi1 and E. W. Carney1. 1The Dow Chemical Company, Midland, MI, 2Virginia Commonwealth University, Richmond, VA and 3Michigan State University, East Lansing, MI.
A COMPARISON OF (ANTI-) ESTROGENICITY AMONG TEN POLYCHLORINATED BIPHENYL (PCB) METHYL SULFONUFACTS AND THEIR PRECURSOR PCBs IN TWO HUMAN CELL LINE-BASED ER-CALUX ASSAYS. R. J. Letcher1, J. Lemmen3, A. Brouwer2, B. van der Burg4 and M. van den Berg1. 1Research Institute for Toxicology, Utrecht University, Utrecht, Netherlands; 2Hubrecht Laboratory, Netherlands Institute for Developmental Biology, Utrecht, Netherlands and 3Institute of Environmental Studies, Free University of Amsterdam, Amsterdam, Netherlands.

ESTABLISHMENT OF XENOPUS LAEVIS AS A MODEL FOR INVESTIGATING IN VITRO AND IN VIVO ENDOCRINE DISRUPTION IN AMPHIPIANS. Y. W. Huang, J. B. Mattews and T. R. Zacharewski. Department of Biochemistry and the National Food Safety and Toxicology Center, Michigan State University, East Lansing, MI.

IN VITRO ESTROGENIC POTENCY OF POLYBROMINATED DIPHENYL ETHERS. S. Hoving2, L. A. Meerts2, R. Letcher2, A. Bergman2, B. van der Burg4 and A. Brouwer2. 1Wageningen University, Wageningen, Netherlands; 2Research Institute of Toxicology (RIFOX), Utrecht, Netherlands; 3Stockholm University, Stockholm, Sweden; 4Netherlands Institute for Developmental Biology, Utrecht, Netherlands and 5Institute of Environmental Studies, Free University of Amsterdam, Amsterdam, Netherlands.

DIFFERENCES IN (ANTI) ESTROGENICITY BETWEEN TECHNICAL TOXAPHENE AND FOUR OF ITS ENVIRONMENTALLY IMPORTANT CONGENERS IN THE ER-CALUX ASSAY. H. Drenth1, R. Letcher1, J. Legler2, M. Oehmen1, A. Brouwer2 and M. Vanden Berg1. 1RIFOX, Utrecht University, Utrecht, Netherlands; 2Department Toxicology, Wageningen University and Research Centre/Netherlands Institute for Developmental Biology, Utrecht, Netherlands; 3Organic Analytical Chemistry, University of Basel, Basel, Switzerland and 4Institute of Environmental Studies, Amsterdam, Netherlands.

IN VITRO STUDIES OF POTENTIAL DEVELOPMENTAL TOXICITY OF SOME AGROCHEMICALS COMMONLY USED IN RED RIVER VALLEY, MN. N. Lin4 and V. F. Garry2. 1Toxicology Graduate Program, University of Minnesota, Minneapolis, MN and 2Environmental Medicine and Pathology, University of Minnesota, Minneapolis, MN.

ACETAMINOPHEN ALTERS ESTROGEN RECEPTOR-REGULATED PROCESSES IN DIFFERENT CELLS IN A LIGAND-BINDING-INDEPENDENT MANNER. J. Dowdy, S. Gadd, S. Rhodes and M. R. Miller. West Virginia University, Morgantown, WV.

INVESTIGATING THE MECHANISM OF METHYCHLOR TOXICITY THROUGH ESTROGEN RECEPTORS α AND β USING CDNA ARRAY TECHNOLOGY. K. M. Waters1, S. Soles3, K. S. Korach2 and E. W. Gaido1. 1Chemical Industry Institute of Toxicology, Research Triangle Park, NC, 2Texas A & M University, College Station, TX and 3NIHES, Research Triangle Park, NC.

EFFECTS OF OCTYPHENOL ON TESTOSTERONE BIOSYNTHESIS BY CULTURED PRECURSOR CELLS (PC) AND IMMATURE LERYDIG CELLS (ILC) FROM RAT TESTES. E. P. Muromo, R. C. Dierk and J. H. de Leon. NIOSH, HEI, Morgantown, WV. Sponsor: V. Cieslar.

MONO-(2-ETHYLPHEXYL) PHthalATE SUPPRESSES ESTRADIOL BY DECREASING AROMATASE MRNA EXPRESSION LEVEL AS SHOWN BY REAL TIME RT-PCR. T. N. Lovenkamp1 and B. J. Davis2. 1North Carolina State University, Raleigh, NC and 2NIHES, Research Triangle Park, NC.

OXIDATIVE STRESS BY SODIUM ARSENITE INHIBITS ADRENAL CHOLESTEROL METABOLISM WHILE SHOWING BOTH STIMULATION AND SUPPRESSION STEROIDOGONIC ACUTE REGULATORY PROTEIN. D. Zhao, J. Artemenko and C. R. Jeferette. University of Wisconsin-Madison, Madison, WI.

EFFECTS OF CHLORO-s-TRIAINE HEPATIC AND HEPATOCELLULAR CARCINOGENESIS IN MALE CARP FISH. T. J. Sanderson, R. J. Letcher, M. Henwoer and M. van den Berg. RIFOX, Utrecht, Netherlands.

DIETHYLSTILBESTROL REGULATES COX-2 EXPRESSION IN VAGINAL EPITHELIAL CELLS. D. Davison, P. Palal and D. E. Heck. Rutgers University, Piscataway, NJ.

8-BROMO CYCLIC-AMP AND DEXAMETHASONE (DEX) FAIL TO REVERSE THE DECREASE IN CATECHOLAMINES (CA) INDUCED BY ATRAZINE (ATZ) AND SIMAZINE (SIM) IN PC12 CELLS. P. C. Das1, W. K. McElroy1 and R. L. Cooper2. 1Curriculum In Toxicology, UNC-CH, Chapel Hill, NC and 2Reproductive Tox. Division, NHEERL, EPA, Research Triangle Park, NC. Sponsor: R. J. Kivelock.
ANNUAL BUSINESS MEETING

Chaired By: Jay I. Goodman, SOT President
SOT Members Only.

Members are invited and encouraged to attend the business meeting. If you have long-range planning ideas that you would like added to the agenda, please send them to Shawn Laub at SOT Headquarters. The agenda includes a financial summary and a review of the 1999-2000 activities, as well as plans for the future. In addition, the Society’s two new honorary members, Takashi Sogimura (1999) and Findlay Russell (2000), will be inducted.

PUBLIC LECTURE: LIVING SAFELY WITH CHEMICALS IN THE NEW MILLENNIUM, HOW TOXICOLOGISTS DECIDE WHAT IS SAFE

Toxicologists and other experts will offer a lively, informative discussion and answer questions from the audience about how chemical products are tested and regulated, what to do if poisoning by a chemical is suspected, and how a basic understanding of toxicology can help you to live safely with potentially toxic substances in and around your home. This annual public education event is sponsored by the Society of Toxicology and held in conjunction with Poison Prevention Week (March 19-25, 2000).

SPECIALTY SECTION MEETINGS:

BIOLOGICAL MODELING, CARCINOGENESIS, INHALATION, METALS, NEUROTOXICOLOGY, REGULATORY AND SAFETY EVALUATION.

REGIONAL CHAPTER MEETINGS
INNOVATIONS IN TOXICOLOGICAL SCIENCES SESSION: ROLE OF CO-REPRESSORS AND CO-ACTIVATORS IN REGULATION OF SOLUBLE RECEPTOR MEDIATED TRANSCRIPTION

Sponsored By: The Mechanisms and Molecular Biology Specialty Sections

Chairpersons: Gary H. Peredew, Penn State University, University Park, PA and Oliver Hankinson, UCLA, Los Angeles, CA.

One of the primary areas of interest to toxicologists is to understand the mechanisms underlying tissue-, cell- and species-specific expression of genes involved in a given toxic response. Recently it has become increasingly apparent that a major contributing factor to transcriptional activation and repression of target genes is the recruitment of co-activators and co-repressors. In addition, there are several examples of tissue-specific expression of co-activators (e.g., ARA70) that may contribute to a unique pattern of gene expression. Transcriptional regulation by co-activators/co-repressors has been predominantly studied in the context of steroid receptors, such as Estrogen and PPARγ receptors. Many of the co-activators such as p300 and SRC-1, which have been extensively characterized, bind to a growing list of enhancer binding transcription factors, this may indicate that these factors compete for a limiting pool of available co-activators. It has also been shown that even small differences in expression of transcription factors and co-activators can lead to threshold effects during growth and development. In addition to affecting steroid hormone receptors, recent studies revealed that co-activators play a role in regulating transcriptional activation by the Ah receptor/ARNT heterodimer. Studies presented in this symposium will examine the ability of co-activators/co-repressors to alter expression of enzymes by the Ah receptor and several steroid receptors in a tissue- and ligand-specific manner.


#1132 10:35 NUCLEAR RECEPTOR CO-ACTIVATORS RIP140 AND SRC-1 INTERACT WITH GLUTAMINE-RICH DOMAIN OF THE ARYL HYDROCARBON RECEPTOR AND MODULATE ITS TRANSCRIPTIONAL ACTIVITY. M. B. Kumar and G. H. Peredew. The Pennsylvania State University, State College, PA.

11:05 GENERAL DISCUSSION.

1LSU Medical Center, Shreveport, LA and 2Omaha VA Medical Center, Omaha, NE.

SUPPRESSION OF NK CELL ACTIVATION AND MHC CLASS II EXPRESSION ON B CELLS BY ACUTE ETHANOL EXPOSURE IN MICE: MECHANISMS OF ACTION AND INVOLVEMENT OF ENDOGENOUS CORTICOSTERONE, S. B. Prueti. LSU Medical Center, Shreveport, LA.

THE EFFECTS OF SUB-CHRONIC ETHANOL FEEDING ON IMMUNE-MEDIATED HOST DEFENSES TO INTRACELLULAR BACTERIA AND VIRUSES, T. R. Jerrells. Omaha VA Medical Center & University of Nebraska Medical Center, Omaha, NE.

RESULTS FROM A CHRONIC LIQUID DIET MODEL—INDIRECT, TIME-DEPENDENT EFFECTS ON THE HUMORAL IMMUNE RESPONSE, M. P. Holsapple. Dow Chemical Co., Midland, MI.

ROLE OF NF-κB IN INHIBITION OF INFLAMMATORY MEDIATOR PRODUCTION BY ALCOHOL IN HUMAN MONOCYTES, G. Szabo and P. Mandrekar. UMass Medical School, Worcester, MA. Sponsor: S. B. Prueti.

CHRONIC ETHANOL EXPOSURE—COMPARISONS OF HUMAN AND EXPERIMENTAL DATA, R. T. Cook. University of Iowa & Veterans Administration Medical Center, Iowa City, IA. Sponsor: S. B. Prueti.

MYCOTOXINS: RECENT ADVANCES AND THEIR RELEVANCE TO CARCINOGENESIS AND TOXICOLOGY, K. Voss1, Y. Dragan2 and W. M. Haschek3. 1USDA ARS Russell Research Center, Athens, GA, 2Ohio State University, Columbus, OH and 3College of Veterinary Medicine, University of Illinois, Urbana, IL.


APOTOPSIS AND ITS IMPLICATIONS FOR TOXICITY, CARCINOGENICITY AND RISK: FUMONISIN B1 AS AN EXAMPLE, S. M. Cohen. University of Nebraska Medical Center, Omaha, NE.

INHIBITORS OF SPHINGOLIPID BIOSYNTHESIS AS RESEARCH TOOLS FOR UNDERSTANDING THE MECHANISM OF ACTION, R. T. Riley1 and A. H. Merrill Jr2. 1USDA/ARS, Athens, GA and 2Department of Biochemistry, Emory University, Athens, GA.

RELATING MOLECULAR MECHANISMS TO PATHOPHYSIOLOGICAL EFFECTS: FUMONISIN AS A CASE STUDY, P. D. Constable1, L. A. Gumprecht1, G. W. Smith1, M. E. Tumbleson1, R. M. Eppley2, S. Mathur1 and W. M. Haschek1. 1University of Illinois, Urbana, IL and 2USFDA, Washington, DC.

WRAP-UP: Wanda M. Haschek-Hock, University of Illinois, Urbana, IL.
**WORKSHOP SESSION: THE INFLUENCE OF CO-POLLUTANTS OF THE TOXICITY OF AIRBORNE PARTICULATE MATTER**

**Sponsored By:** The Inhalation Specialty Section

**Chairpersons:** Michael C. Madden, USEPA, Research Triangle Park, NC and Kent E. Pinkerton, University of California, Davis, Davis, CA.

Recent epidemiological reports have shown an association between ambient air particulate matter (PM) concentrations and human mortality and morbidity, such as increased hospitalizations. PM coexists in the ambient air with many other pollutants and, therefore, complicates the assessment of the contribution of PM to the affected health endpoints. In the National Research Council’s Report in 1998 that concerned Airborne PM Research Priorities, one of the research aspects emphasized was performance of controlled toxicological studies and epidemiological studies related to examining effects of co-pollutants on possible PM-induced health endpoints. In this session, evidence of the support for co-pollutant influences on PM-associated health effects will be examined from epidemiological studies. Evidence of co-pollutants affecting PM-induced responses will be drawn from findings of controlled in vivo and in vitro exposure studies that examine cardiopulmonary effects of PM. These controlled co-pollutant studies can potentially suggest which pollutants are likely to influence PM-induced lung and extrapulmonary toxicity and potential mechanisms for these interactions. Additionally, the characteristics and components of PM likely to be influenced by other ambient pollutants can be identified in these studies. Oxidants including ozone, inorganic compounds such as sulfates, organic constituents such as aromatic compounds and biological substances (i.e., endotoxin) can all play an important role in modifying PM-induced effects by allowing co-pollutant interactions. Data presented from gaseous pollutant interaction with cigarette smoke, more typically an indoor pollutant, will complement the understanding of outdoor PM toxicology.

**#1144 8:30**

**THE INFLUENCE OF CO-POLLUTANTS ON THE TOXICITY OF AIRBORNE PARTICULATE MATTER. M. C. Madden** and K. E. Pinkerton. USEPA, Research Triangle Park, NC and University of California, Davis, CA.

**#1145 8:35**

**EPIDEMIOLOGIC EVIDENCE OF CO-POLLUTANT INFLUENCE ON PARTICULATE-INDUCED TOXICITY. C. A. Pope. Brigham Young University, Provo, UT. Sponsor: M. C. Madden.**

**#1146 9:05**

**EFFECT OF CO-POLLUTANTS (SO₂, NO₂, AND NH₃) ON THE ACUTE PULMONARY TOXICITY OF PARTICLES AND PARTICULATE MATTER (PM)—ASSOCIATED METALS. K. L. Dreher. USEPA, Research Triangle Park, NC. Sponsor: D. L. Costa.**

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**#1147 9:35**

**EXPOSURE TO ENVIRONMENTAL TOBACCO SMOKE (ETS) ENHANCES THE SENSITIVITY OF THE LUNGS TO OZONE-INDUCED INJURY. K. E. Pinkerton, M. Yu and H. P. Witschi. University of California, Davis, CA.**

**#1148 10:05**


**#1149 10:35**


**11:05 GENERAL DISCUSSION.**

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**ROUNDTABLE SESSION: ARE DIETARY SUPPLEMENTS SAFE?**

**Sponsored By:** The Regulatory & Safety Evaluation and Risk Assessment Specialty Sections

**Chairperson:** Robert E. Osterberg, USFDA, Rockville, MD.

Most dietary supplements are regulated under the Dietary Supplement Health and Education Act (DSHEA) and are not subjected to the same standards and labeling requirements as medicines and foods. With over half of the U.S. public now consuming dietary supplements, (Americans spent almost $4 billion in 1998 on herbal remedies), more are turning to “natural” products than ever before for many reasons. They want something less toxic than prescription drugs and/or they want to prevent sickness and/or improve their quality of life. The demand for dietary supplements necessitates that the industry makes efforts to ensure that its products are safe and that its claims are substantiated. Manufacturers must also become more vigilant because international groups (i.e., Codex Alimentarius Commission) and federal and state regulators are becoming more concerned about product safety and standards. Although most dietary supplements have extensive marketing histories, the published literature contains relatively few documented safety studies in humans, including information on supplement-drug or supplement-food interactions.

This roundtable will discuss the concerns that regulators have with dietary supplements and the steps that the dietary industry is taking to address those concerns within the context of DSHEA. Also discussed will be the information that is known and assumed about the safety/toxicities of selected dietary supplements.

**#1150 8:30**

**ARE DIETARY SUPPLEMENTS SAFE? R. E. Osterberg, USFDA, Rockville, MD.**
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#1152 9: 15 Dietary Supplements—Human Health Risk Standards and Methods of Assessment. M. Belger, USDA, Washington, DC.


11: 00 General Discussion.

Wednesday Morning, March 22
8: 30 AM — 11: 30 AM
Pennsylvania Convention Center
Room(s) 203AB

Platform Session: Hypersensitivity


1RITOX Immunotoxicology, Utrecht, Netherlands, 2TNO Nutrition and Food Research Institute, Zeist, Netherlands and 3RIVM National Institute of Public Health, Bilthoven, Netherlands. Sponsor: M. van der Berg.


#1158 9: 15 Systemic Administration of Bordetella Pertussis Enhances Pulmonary Sensitization to Dust Mite in Juvenile Rats. W. Dong, L. Gregg, M. I. Selgrade and M. I. Gilmore. Immunotoxicology Branch, USEPA, Research Triangle Park, NC and 2Department of Immunology, North Carolina State University, Raleigh, NC.


#1160 9: 45 Natural Rubber Latex Allergy: A Critical Review. B. L. Finley, D. J. Cheri and S. M. Hays. Exponent, Menlo Park, CA and 2Exponent, Boulder, CO.


#1162 10: 15 Divergent Antibody Responses Induced in Mice by Food Proteins. F. Kimber, D. A. Basketter and R. J. Dearman. AstraZeneca Central Toxicology Laboratory, Macclesfield, United Kingdom and 2Unilever Safety and Environmental Assurance Centre, Sharnbrook, United Kingdom.

#1163 10: 30 The Role of the Liver in the Mechanism of Oral Tolerance. C. Ju and L. R. Pohl. NIH, Bethesda, MD.

#1164 10: 45 Lack of Allergenicity of Recombinant Lactoferrin: Role of Glycosylation. R. J. Dearman, D. R. Headon and I. Kimber. AstraZeneca Central Toxicology Laboratory, Macclesfield, United Kingdom and 2Agenixs, Inc., Houston, TX.

#1165 11: 00 The Involvement of Epidermal γδ T Cells in the Initiation Phase of a Contact Hypersensitivity. R. H. H. Pieters, R. Biemink, M. Bol, C. de Heer and E. van ‘t Erve. RITOX, Utrecht, Netherlands. Sponsor: M. van der Berg.

#1166 11: 15 Chemical Structure Activity Relationships in Skin Sensitization. D. W. Roberts, G. F. Gerberich, L. Blakie and D. A. Basketter. Unilever Research, Port Sunlight, United Kingdom, Procter & Gamble Company, Cincinnati, OH and 3SEAC Toxicology Unit, Unilever Research Colworth, Sharnbrook, United Kingdom.
Society of Toxicology
39th Annual Meeting

WEDNESDAY MORNING, MARCH 22
8:30 AM — 11:30 AM
PENNSYLVANIA CONVENTION CENTER
ROOM(5) 202AB

PLATFORM SESSION: RISK ASSESSMENT

Chairpersons: Ronald W. Hart, National Center for Toxicological Research, Jefferson, AR and Dorothy A. Canter, USEPA, Washington, DC.

#1167 8:30 COMPARATIVE SAR MODELING OF THE MOUSE LYMPHOMA ASSAY: THE NTP AND GENE-TOX DATABASES. S. G. Grant1, Y. P. Zhang1, B. Henry1, G. Klopman2 and H. S. Rosenkranz3. 1University of Pittsburgh, Pittsburgh, PA and 2Case Western University, Cleveland, OH.

#1168 8:45 THE ROLE OF OUTDOOR DUST IN EXPOSURES TO CHEMICALS IN SOIL: CASE STUDIES FOR ARSENIC. J. A. Schoof and J. S. Tsuji. Exponent, Bellevue, WA.

#1169 9:00 NONMONOTONIC DOSE RESPONSE TUMOR INCIDENCES USING STANDARD MODELS RESULTING FROM THE COMPENSATION OF INDUCED INCREASED MORTALITY RATES BY CHANGES IN PARAMETERS INDUCED BY BODY WEIGHT DECREASES. A. Tortuero, Q. Zheng, B.S. Hass and R.W. Hart. National Center for Toxicological Research, Jefferson, AR.


#1171 9:30 CONSIDERATION OF ALTERNATE EXPOSURE PATHWAYS IN THE POSSIBLE RELATION TO PREVALENCE CHRONIC BERYLLIUM DISEASE. D. J. Pautztenbach1, D. Deubner2, M. Kelsh1, Y. Lowney3 and M. Kolansz4. 1Exponent, Menlo Park, CA, 2Brush Wellman Inc., Elmore, OH, 3Exponent, Boulder, CO and 4Brush Wellman Inc., Cleveland, OH.

#1172 9:45 THE PERSISTENT, BIOACCUMULATIVE TOXICANT (PBTox) PROJECT: RISK-BASED INTENTIONS—TOXICOLOGICAL LIMITATIONS. D. J. Pautztenbach1, H. Estreich1, T. E. Connors1, 1Exponent, Menlo Park, CA, 2Covington & Burling, Washington, DC and 3Exponent, Landover, MD.

#1173 10:00 A PROBABILISTIC HUMAN HEALTH RISK ASSESSMENT FOR THE INTAKE OF POLYCHLORINATED BIPHENYLs (PCBs) IN ANGLERS OF THE LOWER FOX RIVER, WISCONSIN. K. Connor1, V. Crane2, B. Wilson2, T. Iannuzzi1, D. Ludwig1 and B. Finkley3. 1Exponent, Landover, MD, 2Exponent, Farmington Hills, MI and 3Exponent, Oakland, CA.

#1174 10:15 IS SULFATE IN DRINKING WATER A HAZARD FOR INFANTS? M. Goodman and J. S. Tsuji. Exponent Health Group, Landover, MD.

#1175 10:30 TRANSLATING THE RESULTS OF RISK CHARACTERIZATION INTO HUMAN HEALTH CONDITIONS (HHC) IN USEPA'S COMPARATIVE RISK FRAMEWORK METHODOLOGY (CRFM). G. E. Rice1, J. C. Lipsett1, B. Boutin1, M. Brown1, R. Clark2, J. Cohen2, T. Harvey2, D. Milner2, P. Murphy2, L. K. Teuscher1, R. Rheingans3 and L. R. Papal4. 1USEPA, NCEA, Cincinnati, OH, 2USEPA, NRML, Cincinnati, OH, 3Harvard Ctr Risk Analysis, Boston, MA and 4CDC, ATSDR, Atlanta, GA.

#1176 10:45 INDEPENDENT PEER REVIEW AND RISK VALUES DATABASE. J. Patterson, A. Maier and M. L. Duson. Toxicology Excellence for Risk Assessment, Cincinnati, OH.


POSTER DISCUSSION SESSION: K-12 EDUCATIONAL PROGRAMS IN TOXICOLOGY & HEALTH

Chairpersons: Mary O. Dereksi, Wayne State University, Detroit, MI and Frederick L. Tyson, NIEHS, Research Triangle Park, NC.

Displayed: 8:30 AM — 11:30 AM
Discussed: 9:30 AM — 11:30 AM

#1178 IMPROVING UNDERSTANDING OF WATER QUALITY AND HUMAN HEALTH ISSUES IN STUDENTS, TEACHERS, AND COMMUNITY MEMBERS IN RURAL OREGON. E. Davis-Butts1, M. M. Bloomfield1, C. L. Dahl2, H. Sherburne3 and N. I. Kerkvijk3. 1SMILE Program, Oregon State University, Corvallis, OR, 2CH2M Hill, Corvallis, OR and 3Environmental Health Sciences Center, Oregon State University, Corvallis, OR.


ENVIRONMENTAL AND RURAL HEALTH EDUCATION PARTNERSHIP: L. Johnson, J. J. Denton, T. Davis, K. C. Donnelly, N. Ing and I. Ramos. Center for Environmental and Rural Health, Texas A&M University, College Station, TX.

ENVIRONMENTAL CYBER SCHOOLHOUSE. M. O. Dereski and L. Pietrantoni. Wayne State University, Detroit, MI.

THE TOXKAP™ NETWORK: A SUCCESSFUL MODEL FOR BRINGING TOXICOLOGY TO SCHOOLS. J. K. Norman1, B. D. Steinberg2, A. R. Gotsch2, B. Schlegel2, B. L. Weidner2 and C. A. McQueen1. 1University of Arizona, Tucson, AZ and 2University of Medicine and Dentistry, Piscataway, NJ.


RISKS & CHOICES: TEACHING ENVIRONMENTAL HEALTH SCIENCE. B. W. Lloyd1, A. M. Sarquis1, J. C. Loper2 and M. W. Tabor2. 1Miami University, Middletown, OH and 2University of Cincinnati Medical Center, Cincinnati, OH. Sponsor: D. Acosta, Jr.

EATING FOR YOUR HEALTH. M. O. Dereski. Wayne State University, Detroit, MI.

MOUSE GLUTAMATE-CYSTEINE LIGASE REGULATORY SUBUNIT: GENE STRUCTURE AND REGULATION BY OXIDATIVE STRESS. W. A. Solis, D. W. Nebert, M. Z. Dieter, S. Freshwater and T. P. Dalton. Department of Environmental Health, University of Cincinnati Medical Center, Cincinnati, OH.


1,2-DICHLOROBENZENE ACTIVATES THE NUCLEAR TRANSLOCATION OF ACTIVATOR PROTEIN-1, NUCLEAR FACTOR-κB AND ELECTROPHILE RESPONSIVE ELEMENT IN HEPATOCYTES ISOLATED FROM MALE FISCHER 344 RATS. H. S. Younis1, A. R. Parrish2 and I. G. Sipes1. 1University of Arizona, Tucson, AZ and 2Texas A&M University, College Station, TX.

OXIDATIVE INJURY MODULATES EXTRACELLULAR MATRIX-REGULATED NFκB BINDING ACTIVITY IN VASCULAR SMOOTH MUSCLE CELLS. E. E. Williams, E. Wilson and K. S. Ramek. Faculty of Toxicology and Center for Environmental and Rural Health, Texas A&M University, College Station, TX.

ACTIVATION OF HEPATIC NF-κB BY POLYCHLORINATED BipHENYLS (PCBs) IN VIVO AND IN CULTURED RAT HEPATOCYTES. Z. Lu, B. T. Spear, L. W. Robertson and H. P. Glauert. University of Kentucky, Lexington, KY.

BCL-XI AND BCL-2 EXPRESSION IN RAT VESTIBULAR AND AUDITORY BRAINSTEM NUCLEI FOLLOWING IN VIVO EXPOSURE TO M-DINITROBENZENE. M. L. Hann and M. A. Philbert. University of Michigan, Ann Arbor, MI.


ACTIVATION OF ACTIVATOR PROTEIN-1 BY REACTIVE OXYGEN SPECIES ASSOCIATED WITH ASBESTOS. V. Valleyathan, M. Ding, X. Shi and V. Castranova. NIOSH, Morgantown, WV. Sponsor: D. Jones.
METHODS FOR MEASURING EXPRESSION OF IL-1α, NITRIC OXIDE SYNTHASE, AND NITRIC OXIDE IN F-344 RAT SKIN IN RESPONSE TO DERMAL EXPOSURES TO FUELS OR SOLVENTS. M. Kabbur¹, C. Garrett², K. Geiss³, W. Brinkley¹ and J. McDougall².
¹AHRL/HEST, Wright-Patterson AFB, OH and ²Geo-Centers, Inc., Dayton, OH.

INDUCTION OF TRANSFORMING GROWTH FACTOR-β1 IN SPLENOCYTES OF ANILINE-TREATED RATS. M. F. Khan, X. Wu and G. A. S. Ansari. University of Texas Medical Branch. Galveston, TX.

HYPEROXIA DIMINISHES GLUTATHIONE REDUCTASE (GR) ACTIVITIES IN MurINE LUNG AND LIVER MITOCHONDRIA BUT NOT IN NUCLEI. Y. L. Wong, C. V. Smith, H. W. McMicken and S. E. Welty. Baylor College of Medicine, Houston, TX.

#1202 THE EFFECT OF SAMPLING DESIGN ON THE OUTCOME OF ENDOCRINE, REPRODUCTIVE AND DEVELOPMENTAL TOXICITY STUDIES. D. B. Janssen, B. A. Elswick and F. Welisch. Chemical Industry Institute of Toxicology, Research Triangle Park, NC.


#1204 EFFECTS OF PERINATAL EXPOSURE TO LOW DOSES OF BISPHENOL A ON FEMALE OFFSPRING OF SPRAGUE DAWLEY RATS. F. Welisch, B. A. Elswick and D. B. Stedman. Chemical Industry Institute of Toxicology, Research Triangle Park, NC.


#1206 LOCALIZATION OF GLUTAMATE CYSTEINE LIGASE (GCL) SUBUNIT MRNAS WITHIN THE RAT OVARY. U. Ludeker¹, D. Diaz², T. J. Kavanagh² and E. M. Feusman³. ¹University of California at Irvine, Irvine, CA and ²University of Washington, Seattle, WA.

#1207 IN UTERO ANTI-ANDROGEN (FLUTAMIDE) EXPOSURE INCREASES LEYDIG CELL ACTIVITY IN ADULT RATS. F. Chuzel¹, F. Bernaud¹, C. Try¹ and M. Benahmed². ¹Rhône-Poulenc Agro, Sophia Antipolis, France and ²Inserm, Lyon, France. Sponsor: A. Blacker.

#1208 LONG-TERM GENISTEIN EXPOSURE HAS MINIMAL EFFECTS ON SEX BEHAVIOR IN FEMALE RATS. K. M. Flynn¹, S. A. Ferguson¹, K. B. Delcos¹ and R. R. Newbold². ¹FDA/National Center for Toxicalogical Research, Jefferson, AR and ²National Institute for Environmental Health Sciences, Research Triangle Park, NC.

#1209 EVALUATION OF THE EDSTAC MALE PUBERTAL ASSAY IN CD RATS USING TESTOSTERONE, STEROID BIOSYNTHESIS INHIBITORS, DOPAMINERGIC (DA) AGENTS AND THYROID INHIBITORS. M. S. Merry, J. W. Crissman and E. W. Carney. The Dow Chemical Company, Midland, MI.
| #1211 | COMPARATIVE ENDOCRINOLOGY STUDY OF DEHYDROEPIANDROSTERONE (DHEA) AND A FLUORINATED ANALOGUE IN BEAGLE DOGS. B. S. Levine1, A. P. Brown1, R. L. Morrissey2, S. Das3 and J. A. Crowell3. 1University of Illinois, Chicago, Chicago, IL; 2Pathology Associates Intl., Chicago, IL; 3AmiLytics Inc., Gaithersburg, MD and 4National Cancer Institute, Rockville, MD. | #1219 | ATRAZINE DISRUPTION OF THE HYPOTHALAMIC-PITUITARY AXIS: CONSEQUENCES FOR REPRODUCTIVE FUNCTION. M. M. Ford and J. C. Eldridge. Department of Physiology & Pharmacology, Wake Forest University School of Medicine, Winston-Salem, NC. |
| #1213 | DETECTION OF DOPAMINERGIC MODULATORS IN A TIER I SCREENING BATTERY FOR IDENTIFYING ENDOCRINE-ACTIVE COMPOUNDS (EACs). J. C. Cook1, L. G. Davis1, S. R. Frame2 and J. C. O'Conner2. 1Pfizer, Inc., Groton, CT and 2DuPont Haskell Laboratory, Newark, DE. | #1221 | EFFECT OF 3,3',4,4',5,5'-HEXACHLOROBIPHENYL (PCB 169) ON FREE AND TOTAL THYROXINE IN RATS. J. M. Hedge, M. J. DeVito and K. M. Crofton. USEPA, Research Triangle Park, NC. |
| #1214 | EFFECTS OF AFLATOXIN-B1 (AFB1) AND ITS METABOLITES AFLATOXICOL (AFLQ) AND AFLATOXIN M1 (AFM1) ON THE RODENT UTERUS. C. F. Browneke. North Carolina State University, College of Veterinary Medicine, Raleigh, NC. | #1222 | EFFECT OF NONYLPHENOL ON SERUM TESTOSTERONE LEVELS AND TESTICULAR STEROIDOGENIC ENZYME ACTIVITY IN NEONATAL AND PUBERTAL RATS. F. M. Laurenzango1, C. C. Weiss1, B. B. Blaydes1, R. R. Newbold2 and K. B. Delclos1. 1NCTR, Jefferson, AR and 2Chemospray, Research Triangle Park, NC. |
| #1216 | EVALUATION OF A TIER I SCREENING BATTERY FOR DETECTING ENDOCRINE-ACTIVE COMPOUNDS (EACs) USING THE POSITIVE CONTROLS TESTOSTERONE, COUMESTROL, PROGESTERONE, AND RU486. L. G. Davis1, S. R. Frame1, J. C. Cook2 and J. C. O'Connor1. 1DuPont Haskell Laboratory, Newark, DE and 2Pfizer, Inc., Groton, CT. | #1224 | PURE POLYCHLORINATED BIPHENYL (PCB) METABOLITES CROSS THE PLACENTA IN THE RAT AND MAY REDUCE FETAL THYROID HORMONE LEVELS. I. A. T. Meerts1, Y. Assink1, P. H. Cenijn1, B. M. Weijers1, A. Bergman1, J. Koeman1 and A. Brouwer1. 1Wageningen University, Wageningen, Netherlands; 2Stockholm University, Stockholm, Sweden and 3Free University of Amsterdam, Amsterdam, Netherlands. |
| #1217 | PHYSIOLOGICALLY BASED MODELING OF THE RAT ESTRUS CYCLE AND HUMAN MENSTRUAL CYCLE INCLUDING A LINK TO BREAST CANCER INCIDENCE RATES. B. A. T. Willems, B. J. Davis and C. J. Portier. NIEHS, Research Triangle Park, NC. |
COMPARISON OF THE ORAL (Gavage) AND INTRAPERITONEAL ROUTES OF ADMINISTRATION FOR IDENTIFYING ENDOCRINE-ACTIVE COMPOUNDS (EACS) USING AN IN VIVO MALE BATTERY, AND EVALUATION OF IMMUNE SYSTEM ENDPOINTS. J. C. O'Connor, S. R. Frame, C. Smith and G. Ladies. Dupont Haskell Laboratory, Newark, DE.


IMPOSEX INDUCTION BY NEUROHORMONES. E. Obendorf and P. McClellan-Green. 1Clemson University, Pendleton, SC and 2Duke University Marine Laboratory, Beaufort, NC.

MOLECULAR CLONING OF ESTROGEN RECEPTOR ISO Types IN LARGEMOUTH BASS, MICROPTERUS SALMOIDES. T. L. Sabo-Attwood, C. J. Bowman and N. D. Denslow. University of Florida Department of Pharmacology & Therapeutics, Gainesville, FL.


WEDNESDAY MORNING, MARCH 22
9:30 AM — 12:30 PM
PENNSYLVANIA CONVENTION CENTER
EXHIBIT HALL A

POSTER SESSION: NEUROTOXICOLOGY OF PESTICIDES

Chairpersons: Janice E. Chambers, Mississippi State University, Mississippi State, MS and Virginia C. Moser, USEPA, Research Triangle Park, NC.

Displayed: 9:30 AM - 12:30 PM
Attended: 11:00 AM - 12:30 PM


#1238 THE EFFECT OF REPEATED ORAL EXPOSURES TO CHLORPYRIFOS OR METHYL PARATHION ON BRAIN CHOLINERGIC AND DOPAMINERGIC SYSTEMS IN DEVELOPING RATS. J. Tung and J. E. Chambers. Center for Environmental Health Science, College of Veterinary Medicine, Mississippi State University, Mississippi State, MS.

#1239 ANALYSIS OF THE ADDITIVITY OF IN VITRO INHIBITION OF AcChE BY MIXTURES OF CHLORPYRIFOS-OXON AND AZINPHOS-METHYL-OXON. J. R. Richardson1, H. W. Chambers2, and J. E. Chambers3. 1Center for Environmental Health Sciences, College of Veterinary Medicine, Mississippi State University, MS and 2Department of Entomology and Plant Pathology, Mississippi State University, MS.

#1240 BRAIN ACETYLCHOLINESTERASE SENSITIVITY TO INHIBITION BY ORGANOPHOSPHATES IN JUVENILE AND ADULT RATS. A. Kachroo, J. E. Chambers and H. W. Chambers. Mississippi State University, Starkville, MS.

#1241 EFFECTS OF PCB EXPOSURE ON THE TOXIC IMPACT OF ORGANOPHOSPHORUS INSECTICIDES. R. L. Carr, J. E. Chamber, T. A. Couch, G. C. Duranuna, J. A. Guarrisco, A. Kachroo, E. C. Meek and J. R. Richardson. Center for Environmental Health Sciences, College of Veterinary Medicine, Mississippi State University, Mississippi State, MS.

#1242 ELECTROENCEPHALOGRAM (EEG), CORE TEMPERATURE (Tc) AND MOTOR ACTIVITY (MA) IN THE RAT EXPOSED TO CHLORPYRIFOS (CHP). O. A. Timofeeva1,2 and C. J. Gordon1. 1USEPA NHEERL at Chapel Hill, Research Triangle Park, NC and 2UNC, Chapel Hill, NC. Sponsor: R. C. MacPhail.


#1244 NEUROLOGIC ASSESSMENT OF RATS FOLLOWING LOW DOSES OF SARIN, PYRIDOSTIGMINE, CHLORPYRIFOS, AND DEET. C. T. Olson, J. A. Blank, P. H. Kinney, A. W. Singer, G. B. Freeman and R. A. Lordo. Battelle, Columbus, OH.

#1245 ACUTE SARIN EXPOSURE LEADS TO CHOLINERGIC DYSREGULATION IN CENTRAL NERVOUS SYSTEM OF RATS. W. A. Khan, A. Dechkovskaya, K. H. Jones and M. B. About-Dona. Duke University Medical Center, Department of Pharmacology and Cancer Biology, Durham, NC.

#1246 TOXICITIES OF ORGANOPHOSPHORUS COMPOUNDS IN A HUMAN NEUROBLASTOMA (SH-SY5Y) CELL LINE. T. Cho and E. Tiffany-Castiglioni. Texas A&M University, College Station, TX.

#1247 DELAYED INTERACTIVE EFFECTS OF SARIN, PYRIDOSTIGMINE AND EXERCISE ON THE BIOCHEMICAL AND HISTOPATHOLOGICAL CHANGES IN MICE. T. Asha, K. Hauain, R. Helfert, S. Verhulst and S. M. Somani. Southern Illinois University School of Medicine, Springfield, IL.

#1248 EFFECT OF LOW LEVEL SARIN EXPOSURE ON PHYSIOLOGICAL PARAMETERS IN RATS. R. F. Henderson1, C. A. Conn1, E. B. Barr1, T. H. March1, J. R. Krone1, M. L. Sopori1, Y. Tesfaigzi1, M. Wachulec1 and D. B. Marsh1. 1Lovelace Respiratory Research Institute, Albuquerque, NM and 2University of Miami, Miami, FL.

#1249 PERSISTENT NEUROBEHAVIORAL EFFECTS IN SPRAGUE DAWLEY RATS FOLLOWING PRENATAL EXPOSURE TO THE ENVIRONMENTAL ESTROGEN, CHLORDECHONE. S. A. Laessig, A. P. Auger, M. M. McCarthy and E. K. Silbergeld. University of Maryland, Baltimore, Baltimore, MD.

#1250 LINDANE PER OS INHIBITS ITS OWN ABSORPTION; PK 1195 EXACERBATES AND DEVAZEPIDE ANTAGONIZES THIS. D. Woolley, E. Garcia, L. Drummer and K. Dai. University of California, Davis, CA.
POSTER SESSION: CARCINOGENESIS II–CARCINOGENESIS & ANTI-CARCINOGENESIS

Chairpersons: Brad L. Upham, Michigan State University, East Lansing, MI and Michael L. Cunningham, NIEHS, Research Triangle Park, NC.

Displayed: 9:30 AM - 12:30 PM
Attended: 9:30 AM - 11:00 AM

#1251
CHRONIC GAVAGE TOXICITY/CARCINOGENICITY STUDY OF METHYLEugenol IN F-344 RATS. J. D. Johnson1, M. J. Ryan1, S. W. Graves1, M. R. Hejmanick1, R. Herbert2 and K. M. Abdo3. 1Battelle, Columbus, OH and 2NIEHS, Research Triangle Park, NC.

#1252
CHRONIC GAVAGE TOXICITY/CARCINOGENICITY STUDY OF METHYLEugenol IN B6C3F1 MICE. M. R. Hejmanick1, J. D. Johnson1, J. D. Toft1, S. W. Graves1, R. Herbert2 and K. M. Abdo3. 1Battelle, Columbus, OH and 2NIEHS, Research Triangle Park, NC.

#1253
SUBCHRONIC TOXICITY OF METHYLEugenol ADMINISTERED BY GAVAGE TO F-344 RATS AND B6C3F1 MICE. M. L. Snell1, K. M. Abdo2, R. A. Herbert1, S. Eldridge2 and M. L. Cunningham1. 1NIEHS, Research Triangle Park, NC and 2Pharm, Frederick, MD.

#1254
CHEMOPREVENTION OF BPA-INDUCED MORPHOLOGICAL TRANSFORMATION IN SYRIAN HAMSTER EMBRYO CELLS BY STRAWBERRY EXTRACTS. H. Xue1, R. M. Aziz2, N. Sun3, M. Kamendulis4, Y. Xu5, G. D. Stoner2 and J. E. Klaunig1. 1Division of Toxicology, Department of Pharmacology and Toxicology, Indiana University School of Medicine, Indianapolis, IN and 2Division of Environmental Health Sciences, Ohio State University School of Public Health, Columbus, OH.

#1255
REVERSIBILITY OF PRENEOPLASTIC NODULES INDUCED IN RAT PANCREAS BY SOY FLOUR. R. E. Sigler, L. A. Deliloff, M. S. LaGrutta and F. A. de la Iglesia. Parke-Davis Pharmaceutical Research, Ann Arbor, MI.

#1256
EFFECT OF GREEN AND BLACK TEA POLYPHENOLs ON CYCLOOXGENASE (COX)- AND LIPOOXGENASE (LOX)-DEPENDENT METABOLISM OF ARACHIDONIC ACID IN HUMAN COLON TISSUES. J. I. Hong1, T. J. Smith1, C. T. Ho2, D. A. August3 and C. S. Yang1. 1Lab. for Cancer Research, Rutgers University, Piscataway, NJ; 2Department of Food Sci., Rutgers University, New Brunswick, NJ and 3Robert Wood Johnson Medical School-UMDNJ, Piscataway, NJ. Sponsor: K. Reuhl.

#1257
EVALUATION OF THE TUMORIGENIC ACTIVITY OF A CRUCIFEROUS VEGETABLE JUICE IN A SHORT-TERM BIOASSAY USING TRANSGENIC MICE. P. J. Spencer1 and B. B. Golgudi2. 1University of Michigan, Environmental Health Sciences/Toxicology Program, Ann Arbor, MI and 2The Dow Chemical Company, Toxicology & Environmental Research and Consulting, Midland, MI.

#1258

#1259
CHEMOPREVENTIVE EFFECTS OF ORALLY ADMINISTERED IMPERATORIN AND ISOPIMPINEllIN. H. E. Kleiner1, L. L. Miller1, S. V. Vulimiri1, W. H. Johnson2, C. P. Whitman2 and J. DiGiovanni1. 1University of Texas MD Anderson Cancer Center, Smithville, TX and 2University of Texas at Austin, Austin, TX.

#1260
EFFECTS OF INTERMITTENT EXPOSURE TO AFLATOXIN B1 (AFB1) ON DNA AND RNA ADDUCT FORMATION IN RAT LIVER. R. E. Sotomayor1, D. M. Hutson1, M. Washington1, L. Nguyen2, R. Nyang’anyi2 and M. Chou3. 1ICFSAN, USFDA, Laurel, MD; 2JHFSAN, University Maryland, College Park, MD and 3NCTR, USFDA, Jefferson, AR.

#1260A
COMPARATIVE ANALYSIS OF CHEMICAL; DNA ADDUCT FORMATION IN MOUSE LUNG FOLLOWING DERMAL APPLICATION OF COAL TAR SHAMPOO AND MGP TAR. B. L. Ma, A. Yarbrough, B. Frimpong and K. Rozetti. Rutgers University, Piscataway, NJ.

#1261
INDOLE-3-CARBINOL DEMONSTRATES ESTROGENIC PROPERTIES IN THE RAINBOW TROUT: CONTRIBUTION OF 3,3‘-DINDOLYL METHANE. A. D. Shilling, D. B. Carlson and D. E. Williams. Department of Environmental & Molecular Toxicology & Marine/Freshwater Biomedical Sciences Center, Oregon State University, Corvallis, OR.

#1263 INDUCTION OF TUMORS IN THE COLONS AND LIVERS OF FEMALE SCID MICE BY 2-AMINO-3-METHYLIMIDAZO[4,5-F]QUINOLINE (IQ), AND THEIR MODULATION BY FATTY ACIDS. E. I. Salim, H. Waniubuchi, K. Morimura, S. Yamamoto and S. Fukushima. Osaka City University Medical School, First Department of Pathology, Osaka, Japan.


#1266 MECHANISM OF NEPHROCARCINOGENICITY OF A SHORT CHAIN CHLORINATED PARAFFIN, G. D. Wanasuriya1, J. R. Foster2, B. M. Elcombe1 and C. R. Elcombe1. 1University of Dundee, Dundee, United Kingdom and 2AstraZeneca Central Toxicology Laboratory, Alderley Park, Macclesfield, United Kingdom.

#1267 EKER RAT MODEL CHARACTERIZATION, PHASE II: THE RESPONSE TO A GENOTOXIC CARCINOGEN AND TWO NON-CARCINOGENIC NEPHROTOXINS FOLLOWING FOUR OR SIX MONTHS OF DOSING. A. F. Youssif1, L. D. Morton1, E. Lloyd1, A. Kooper2 and E. L. Fort1. 1TAP Holdings, Inc., Deerfield, IL and 2Redfield Laboratories, Redfield, AR.

#1268 EFFECT OF CHLOROFORM WITH DICHLOROACETIC ACID OR TRICHLOROACETIC ACID ON N-METHYL-N-NITROSOUREA-INITIATED LIVER AND KIDNEY TUMORS IN FEMALE AND MALE B6C3F1 MICE. M. A. Pereira, P. B. Conran and P. M. Kramer. Medical College of Ohio, Toledo, OH.

#1269 A MULTISTAGE BIOLOGICALLY BASED MODEL FOR MOUSE LIVER TUMORS RESULTING FROM EXPOSURE TO DICHLOROACETIC ACID. J. R. Rabinowitz1, M. O. Schonwalder2, A. B. DeAngelo1, M. J. Mass1, J. Ross1, H. W. Carter1, J. H. Carter3, R. E. Richardson3 and S. Nessew1. 1USEPA NHEERL/ECD, Research Triangle Park, NC, 2ESE/UNC, Chapel Hill, NC and 3Wood Hudson Cancer Research Laboratory, Newport, KY.

#1270 SODIUM CHLORATE TREATMENT RESULTS IN A DOSE-DEPENDENT INCREASE IN RAT THYROID FOLLICULAR CELL HYPERPLASIA FOLLOWING SUBCHRONIC EXPOSURE IN DRINKING WATER. M. J. Hoots1, A. B. DeAngelo1, M. H. George1, G. A. Boorman2 and D. C. Wolf. 1USEPA/NHEERL, Research Triangle Park, NC and 2NIEHS/NTP, Research Triangle Park, NC.

#1271 EFFECT OF 2,2',4,4',5,5'-HEXACHLOROBIPHENYL (PCB-153) AND 3,3',4,4'-TETRACHLOROBIPHENYL (PCB-77) ON NF-KB AND AP-1 ACTIVATION, ALTERED HEPATIC FOSS FORMATION, CELL PROLIFERATION AND APOPTOSIS IN RATS. I. C. Tharapel, L. W. Robertson, E. Y. Lee, B. T. Spear and H. P. Glauert. University of Kentucky, Lexington, KY.

#1272 COMPARATIVE 30-WEEK DERMAL TUMOR PROMOTION EVALUATION OF CIGARETTE SMOKE CONDENSATE FROM A REFERENCE CIGARETTE AND AN ECLIPSE PROTOTYPE (9-014) TEST CIGARETTE IN FEMALE SENCAR MICE. D. R. Meckley1, K. R. Van Kampen2, J. D. deBethizy1 and A. T. Mosberg1. 1R.J. Reynolds Tobacco Company, Winston-Salem, NC and 2The Van Kampen Group, Inc., Ogden, UT.

#1273 REVERSIBILITY STUDY OF THE HEPATIC AND PULMONARY EFFECTS OF PERMETHRIN IN MICE. W. H. Butler1, M. A. Morelli2, J. D. McCarty2, J. M. Finch3 and S. J. Barton3. 1Bleichingley, Surrey, United Kingdom, 2FMC Corp., Princeton, NJ and 3Inveresk Research, Tranent, United Kingdom.


OCcupational Exposure Limits (OELs) for 30 organophosphate pesticides (OPS) and Supporting Rationale. J. L. Storm, K. K. Rozman, and J. Donal. University Kansas Medical Center, Kansas City, KS and University Kansas Medical Center, Kansas City KS: GSF Institut fur Toxikologie, Neurheideberg, Germany.


PROPOSED GUIDELINES FOR THE GLOBAL PRECLINICAL DEVELOPMENT OF VARIOUS NUTRACEUTICALS. C. B. Spahn and V. B. Cidafal. Chrysalis Preclinical Services Corporation, Olyphant, PA.


DOSE-DEPENDENT HYPOXIROXINEMIA IN FEMALE SD RATS FOLLOWING A SINGLE ORAL DOSE OF 2,3,7,8-TCDD. M. Sato, Y. Miyahara, J. Yonemoto, Y. Matsuzaki, F. Aoki, C. Tsuchimura, and N. Nishimura. National Institute for Environmental Studies, Tsukuba, Japan and Institute of Clinical Toxicology, University of Tsukuba, Tsukuba, Japan.

DIFFERENTIAL EFFECTS OF ESTRADIOL CONGENERS ON THE EXPRESSION OF CYP1A1 INDUCED BY 2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN IN A MOUSE OVARIAN EPITHELIAL CANCER CELL LINE. D. Sam, K. F. Rozy, K. K. Rozman and P. F. Terranova. University of Kansas Medical Center, Center for Reproductive Sci., Deps. Mol. & Integ. Physiology, Kansas City, KS. University of Kansas Medical Center, Department of Anatomy & Cell Biology, Kansas City, KS. University of Kansas Medical Center, Department of Pharmacology, Toxicology & Therapeutics, Kansas City, KS. Sect. Environmental Toxicology, GSF-Institut für Toxikologie, Neuherberg, Germany and University of Kansas Medical Center, Center Reprod. Sci., Depts. of Mol. & Integ. Physiology, Obstetrics & Gynecology, Kansas City, KS.

INCREASED OXIDATIVE DNA DAMAGE IN FEMALE SPRAUGE DAWLEY RATS CHRONICALLY TREATED WITH 2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN AND 17-β-ESTRADIOL. M. E. Wyde, G. W. Lucier and N. J. Walker. UNC, Chapel Hill, NC and NIEHS, Research Triangle Park, NC.

INHIBITION OF ESTROGEN-INDUCED RETINOIC ACID RECEPTOR α1 GENE EXPRESSION BY TCDD - MECHANISMS OF ACTION. G. Sun, J. Samudio and S. Safe. Texas A&M University, Department of Veterinary Physiology & Pharmacology, College Station, TX.

3',4'-DIMETHOXYFLAVONE AS AN ARYL HYDROCARBON RECEPTOR ANTAGONIST IN BREAST CANCER CELLS. J. E. Lee, M. Sethi-Gupta and S. Safe. Texas A&M University, Department of Veterinary Physiology & Pharmacology, College Station, TX.

TESTICULAR TOXICITY OF TCDD IN A TCDD-SENSITIVE AND A TCDD-RESISTANT RAT STRAIN: A STERELOGICAL ANALYSIS. J. T. Tuomisto, C. Celebi, U. Simanainen, A. M. Haavisto, N. E. Skakkebaek, J. Tuomisto, J. Toppari and M. Viluksele. National Public Health Institute, Kuopio, Finland. Department of Growth and Reproduction, Juliane Marie Center, National University Hospital, Copenhagen, Denmark and Department of Physiology, University of Turku, Turku, Finland.

TUMOR PROMOTION IN THE LIVERS OF MALE RATS CHRONICALLY EXPOSED TO 2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (TCDD). N. J. Walker, M. E. Wyde, M. S. Lebetkin, T. E. Cambre and G. W. Lucier. National Institute of Environmental Health Sciences, Research Triangle Park, NC.


ANEMIA AND LUNG CANCER IN 1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN (HPCDD)-TREATED FEMALE SPRAUGE DAWLEY RATS AFTER VARIOUS SINGLE AND MULTIPLE ORAL DOSES. K. K. Rozman, M. Lebodsky and D. M. Fannon. Section of Environmental Toxicology, GSF-Institut für Toxikologie, Neuherberg, Germany; University of Kansas Med. Center, Department Pharmacology, Toxicology & Therapeutics, Kansas City, KS. University of Kansas Med. Center, Department Pharmacology, Toxicology and Therapeutics, Kansas City, KS and University of Kansas Med. Center, Department Pathology and Lab. Medicine, Kansas City, KS.

2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (TCDD) ACCELERATES DIFFERENTIATION, BUT NOT APOPTOSIS, OF HUMAN KERATINOCYTES IN ORGANOTYPIC CULTURE. J. A. Loetscher, C. A. Satter and B. L. Allen-Hoffmann. University of Wisconsin-Madison, Madison, WI.

TCDD INDUCES EXPRESSION OF MATRIX REMODELING PROTEASES. L. A. White, C. D. Capparino and B. L. Allen-Hoffmann. University of Wisconsin, Madison, WI.

DERMAL AND ORAL EXPOSURE OF TCDD IN TG:AC MICE: DOSE- AND TIME-RESPONSE STUDIES. A. P. J. van Birgelen, J. D. Johnson, A. F. Fucirelli, J. D. Toft, M. Hejtmancik, I. Mahler and J. R. Bucher. NIEHS, Research Triangle Park, NC. Battelle Memorial Laboratories, Columbus, OH and Battelle-Toxicology Northwest, Richland, WA.
#1301 IDENTIFICATION AND CHARACTERIZATION OF TIGI, A NOVEL TCDD-INDUCIBLE GENE. Q. Mao1 and K. Baldwin2. 1HELD/NIOSH, Morgantown, WV and 2TMB/HELD/NIOSH, Morgantown, WV.

#1302 INDUCTION OF METALLOTHIONEIN IN LIVER OF FEMALE RATS TREATED WITH 2,3,7,8-TCDD.
1National Institute for Environmental Studies, Tsukuba, Japan and 2CREST, JST, Kagawa, Japan.

1University of North Carolina, Chapel Hill, NC and 2NIH, Research Triangle Park, NC.

#1304 MARKERS OF EXPOSURE AND EFFECT IN REPRODUCTIVE AND NON-REPRODUCTIVE TISSUES OF FEMALE CHICKENS FOLLOWING IN VIVO TCDD TREATMENT. B. I. Stanton, F. El-Sabawy, E. Enan, B. L. Lasley and D. M. Fry.
University of California, Davis, CA.

#1305 AGONIST ACTIVATION OF THE ARYL HYDROCARBON RECEPTOR COMPARED TO AVIAN CARDIOTOXICITYMediated BY TCDD. S. E. Heid1, M. K. Walker2 and H. L. Swanson1.
1Department of Pharmacology, College of Medicine, University of Kentucky, Lexington, KY and 2College of Pharmacy, University of New Mexico, Albuquerque, NM.

#1306 TCDD INDUCED NF-KB BINDING TO THE KB CONSENSUS MOTIF IN MURINE B-CELL LINES. S. B. K. Stoughton.
Michigan State University, East Lansing, MI. Sponsor: D. Eaton.

#1307 ANTAGONISTIC EFFECTS OF DI-ORTHO POLYCHLORINATED BIPHENYLS ON ARYL HYDROCARBON RECEPTOR-DEPENDENT CYP1A1 AND IGM GENE EXPRESSIONS IN CH12.LX B CELLS. J. Sub1, J. Kang2, K. Yang1 and N. E. Kaminski1.
1Korea Advanced Institute of Science and Technology, Taejon, Republic of Korea and 2Michigan State University, E. Lansing, MI.

#1308 THE AHR SIGNALING PATHWAY AND TRANSCRIPTIONAL REGULATION OF IGM EXPRESSION BY 2,3,7,8-TCDD.
C. E. W. Salentic1, N. E. Kaminski1 and M. P. Holsteppel2.
1Michigan State University, East Lansing, MI and 2Dow Chemical, Midland, MI.

#1309 MODULATION OF MOUSE IGH 3'α-HS4 ENHANCER ACTIVITY BY 2,3,7,8-TCDD.
I. Kang1, K. Yang1 and N. E. Kaminski1.
1Michigan State University, E. Lansing, MI and 2Korea Advanced Institute of Science and Technology, Taejon, Republic of Korea.

#1310 EXOGENOUS GONADOTROPIN RELEASING HORMONE (GnRH) INDUCES LUTEINIZING HORMONE (LH) AND FOLLICLE STIMULATING HORMONE (FSH) SURGES AND PARTIALLY RESTORES OVULATION IN AN ECG-PRIMED IMMATURE RAT MODEL TREATED WITH 2,3,7,8-TCDD.
P. F. Terranova1, X. Gao1, B. K. Petroff1 and K. K. Reisman1.
1University of Kansas Med. Center, Depts. of Mol. & Integ. Physiology, Obstetrics & Gynecology, Center Reproductive Science, Kansas City, KS, 2University of Kansas Med. Center, Department Pharmacology & Therapeutics, Kansas City, KS, 3University of Kansas Med. Center, Department of Mol. & Integ. Physiology, Kansas City, KS and 4University of Kansas Med. Center, Department Pharmacology & Therapeutics: Kansas City, KS, Section of Environ. Toxicology, GSF-Institut für Toxikologie, Neuhberg, Germany.

#1311 BLOCKAGE OF OVULATION BY POLYCHLORINATED DIBENZOFURANS (PCDFs), BIPHENYLS (PCBs) AND THEIR MIXTURE WITH DIBENZO-P-DIOXINS (PCDDS) SUPPORTS THE TOXIC EQUIVALENCY (TEQ) CONCEPT. X. Gao1, P. F. Terranova1 and K. K. Reisman1.
1Kansas University Med. Center, Department of Pharmacology, Toxicology & Therapeutics, Kansas City, KS, 2Kansas University Medical Center, Depts. of Molecular & Integ. Physiology, Obstetrics & Gynecology, Center Reproductive Science, Kansas City, KS and 3Section of Environmental Toxicology, GSF-Institut für Toxikologie: Neuhberg, Germany: University of Kansas Med. Center, Department Pharmacology, Toxicology & Therapeutics, Kansas City, KS,
INTERACTION OF ESTRADIOL AND 2,3,7,8-
TETRAChLOROBENZo-P-DIOXIN IN AN
OVULATION MODEL: EVIDENCE FOR
SYSTEMIC AND LOCAL EFFECTS. B. K.
1University of Kansas Medical Center, Department of
Mol. and Integr. Physiol., Kansas City, KS, 2University of
Kansas Medical Center, Department of Pharmacol,
Toxicol. and Therap., Kansas City, KS, 3University of
Kansas Medical Center, Department of Pharmacology,
Toxicology & Therapeutics, Kansas City, KS: Section
of Environmental Toxicology, GSF-Institut for
Toxikologie, Neuherberg, Germany and 4University of
Kansas Medical Center, Department of Mol. & Integr.
Physiology of Obstetrics & Gynecology, Center for
Reprod. Sci., Kansas City, KS.

MONOMETHYLARSONOUS ACID (MMAI)) IS
MORE TOXIC THAN ARSENITE IN CHANG
HUMAN HEPATOCYTES. J. S. Petrick1, F. Ayala-
Fierro1, W. R. Cullen2, D. E. Carter3 and H. V.
Aposhan1. 1The University of Arizona, Tucson, AZ
and 2The University of British Columbia, Vancouver,
British Columbia, Canada.

METHYLATED ARSENIC IN URINE AS A
FUNCTION OF EXPOSURE TO INORGANIC
ARSENIC IN DRINKING WATER.
D. Schreinemachers1, E. E. Hudgens2, X. C. Le2, R. L.
Calderon1 and D. J. Thomas3. 1EPA, Chapel Hill, NC,
2University of Alberta, Edmonton, Canada and
3EPA, EPA, Research Triangle Park, NC.

POTENTIATION OF AGONIST-INDUCED
PLATELET AGGREGATION BY ARSENIC.
University, Seoul, Republic of Korea.

INDUCTION OF c-myc PROTEIN BY
ARSENITE IN PRECISION-CUT MOUSE
KIDNEY SLICES. C. Guzman and A. R. Parrish.
Texas A&M University System Health Science Center,
College Station, TX.

ALTERATIONS IN THE UBIQUITIN-
DEPENDENT PROTEOLYTIC PATHWAY
CAUSED BY LOW-LEVEL ARSENITE
EXPOSURE IN RABBIT RENAL CORTICAL
SLICES. D. S. Kirkpatrick1, J. M. Catania1, F. M.
Bautista1, A. R. Parrish2 and A. J. Gandolfi1.
1University of Arizona, Tucson, AZ and 2Texas A &
M University, College Station, TX.

ARSINE TOXICITY IN THE PERFUSED RAT
KIDNEY AND CORTICAL EPITHELIAL CELLS.
F. Ayala-Fierro, A. L. Baldwin, L. M. Wilson, J. E.
Valeski and D. E. Carter. University of Arizona,
Tucson, AZ.

INTERACTIONS OF DIMETHYLARSONIC ACID
WITH RAT ERYTHROCYTES. M. A. Peraza-
Lopez and D. E. Carter. University of Arizona,
Tucson, AZ.

STUDY ON METABOLISM OF ARSENIC AND
DNA DAMAGE IN THE PATIENTS WITH
ACUTE ARSENIC POISONING. H. Yamauchi.
St. Marianna University School Medicine, Kawasaki,

ROLE OF METALLOTHIONEIN IN ORGAN
DISTRIBUTION AND EXCRETION OF
CADMIUM COMPLEXES. K. Shanka and G.
Cherian. University of Western Ontario, London,
Ontario, Canada.
**SOCIETY OF TOXICOLOGY**

**39th Annual Meeting**

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**#1326**

**EXPRESSION OF IMMEDIATE EARLY GENES IN CULTURED HUMAN PROXIMAL TUBULE CELLS AND THE DERIVED CELL LINE, HK-2, EXPOSED TO CADMIUM.** D. Dutta, V. L. Phillips, S. Somji, S. H. Garrett, J. H. Todd, M. A. Sens and D. A. Sears. Department of Pathology, West Virginia University, Morgantown, WV.

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**#1327**

**CADMIUM-INDUCED ALTERATIONS IN CRONICALLY EXPOSED HUMAN PROSTATE EPITHELIAL CELLS.** W. E. Achauer, M. M. Wehber and M. P. Wray. NCI at NIEHS, Research Triangle Park, NC.

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**#1328**

**EFFECT OF CADMIUM ON PANCREATIC PROTEASE ACTIVITIES IN MICE.** S. Hide1, T. Funakoshi2 and M. P. Wray. 1Kumamoto University, Research Triangle Park, NC, 2Kyushu University, Research Triangle Park, NC and 3NCI at NIEHS, Research Triangle Park, NC.

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**#1329**

**CADMIUM-INDUCED HEPATOXICITY IN TUMOR NECROSIS FACTOR-α KNOCKOUT MICE.** E. B. Horstad and C. D. Klauss. University of Kansas Medical Center, Kansas City, KS.

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**#1330**

**THE MECHANISM OF GLYCEMIC PROTECTION AGAINST CADMIUM-INDUCED CYTOTOXICITY IN LLC-PK1 CELLS.** Z. A. Shesh and W. Tang. Department of Biomedical Sciences, College of Pharmacy, University of Rhode Island, Kingston, RI.

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**#1331**

**MITOCHONDRIAL DAMAGE UPON CADMIUM-METALLOTHIONEIN ADMINISTRATION IS CAUSED BY CD++.** W. Tang and Z. A. Shesh. Department of Biomedical Sciences, College of Pharmacy, University of Rhode Island, Kingston, RI.

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**#1332**

**CADMIUM (CD)-INDUCED ACUTE HEPATIC INJURY IS EXACERBATED IN HUMAN INTERLEUKIN-8 TRANSGENIC MICE (HIL-8TG).** H. Horiguchi, A. Harada, E. Oguma, M. Satoh, Y. Homma, F. Kayama, M. Fukushima and K. Matsushima. 1Ichii Medical School and CREST, Tochigi, Japan, 2Kanazawa University, Kanazawa, Japan, 3Fukuoka Medical University, Fukuoka, Japan, 4Tokushima Bunri University, Tokushima, Japan and 5Tokyo University and CREST, Tokyo, Japan.

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**#1333**

**DIETARY EXPOSURES OF CADMIUM IN THE UNITED STATES.** S. Tao and F. M. Bolger. FDA, Washington, DC.

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**#1334**

**HIGHLY SENSITIVE MINIATURIZED ASSAY FOR CADMIUM IN BLOOD OR URINE.** M. H. Bhatia and E. A. Cerny. Argonne National Laboratory, Argonne, IL.

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**#1335**


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**#1336**

**CADMIUM DISRUPTS VE-CADHERIN-DEPENDENT CELL-CELL JUNCTIONS IN HUMAN UMBILICAL VEIN ENDOTHELIAL CELLS.** P. C. Lamar, C. A. Pearson and W. C. Prozialeck. Midwestern University, Downers Grove, IL.

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**#1337**

**CADMIUM DISRUPTS CADHERIN-DEPENDENT CELL-CELL JUNCTIONS IN ROS 17/28 CELLS.** W. C. Prozialeck, P. C. Lamar and C. A. Pearson. Midwestern University, Downers Grove, IL.

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**#1338**

**CADMIUM CHLORIDE (CdCl₂) INDUCES REGIONAL EXPRESSION OF HEAT SHOCK PROTEIN-72 (hsp72) IN RAT LIVER.** P. L. Goering1, R. R. Bugialli1, B. R. Fisher2 and R. J. Martin2. 1Center for Devices and Radiological Health, FDA, Rockville, MD and 2Covance Laboratories, Vienna, VA.

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**#1339**

**SUPPRESSION OF A HIGH-AFFINITY MANGANESE TRANSPORT PATHWAY IN CADMIUM-RESISTANT METALLOTHIONEIN NULL FIBROBLASTS.** S. Himeno1, T. Yanagita2, S. Emoto3, Y. Kondo4 and N. Imura5. 1Kitsato University, Tokyo, Japan, 2Kitsato University, RIKEN, Tokyo, Saitama, Japan, 3RIKEN, Saitama, Japan and 4Nippon Medical School, Tokyo, Japan.

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**#1340**


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**#1341**

**CHRONIC CADMIUM TOXICOSIS IN PRIMATES: RENAL TUBULAR ATROPHY AND OSTEOMALACIC OSTEONECOSIS INDUCED IN OVARIECTOMIZED CYMONEGLUS MONKEYS.** Y. Kunita1, T. Doi1, T. Kawai1, O. Katsuta1, H. Hirasaka2, M. Tsuchihashi1 and T. Umemura3. 1Mitsubishi Chemical Safety Institute Ltd., Kashima, Japan and 2Hokkaido University, Sapporo, Japan.


PROTECTIVE EFFECTS OF ZINC ON RAT HEPATIC STELLATE CELLS TO CADMIUM. M. C. Escobar, M. C. Gutiérrez-Ruiz, L. Bucio, E. Hernández-Pérez and V. Souza. Universidad Autónoma Metropolitana-Iztapalapa, México, D.F., Mexico.

EFFECTS OF CADMIUM ON THE EXPRESSION OF CYCLIN D1 AND CYCLIN DEPENDENT KINASE (CDK4), TUMOR SUPPRESSOR GENES P27 AND P53, AND ONCOGENE C-MYC IN IN VITRO TWO STAGE TRANSFORMATION PROCESS. M. Z. Fang and M. H. Cho. Laboratory of Toxicology, College of Veterinary Medicine, Seoul National University, Suwon, Republic of Korea.

EARLY MORPHOGENETIC EVENTS ARE ALTERED IN THE FORMATION OF THE LOWER REPRODUCTIVE TRACT IN FEMALE RAT FETUSES GESTATIONALLY EXPOSED TO 2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (TCDD). C. H. Hurst², B. D. Abbott² and L. S. Birnbbaum². ¹University of North Carolina-Chapel Hill, Chapel Hill, NC and ²USEPA, Research Triangle Park, NC.

TCDD DOSE RESPONSIVENESS AND EARLY GESTATIONAL EXPRESSION OF A TCDD RESPONSIVE LACZ REPORTER TRANSGENE IN MICE. D. A. Nazarenko, S. D. Dertinger and T. A. Gasiowski. University of Rochester, Rochester, NY.

POLYBROMINATED BIPHENYL EXPOSURE IN UTERO: POSSIBLE EFFECTS ON BEHAVIOR IN THE MOUSE. K. A. Miller, C. V. Vorhees, H. G. Shertzer and D. W. Nebert. Department of Environmental Health, Department of Pediatrics, University of Cincinnati Medical Center, Cincinnati, OH.


INSULIN-LIKE GROWTH FACTOR EXPRESSION IN MURINE EMBRYOS EXPOSED IN VITRO TO o,p'-DDT. A. R. Greenlee, C. A. Quail, L. M. Misner and K. Liu. Marshfield Medical Research Foundation, Marshfield, WI.

RABBIT ORAL DEVELOPMENTAL TOXICITY STUDIES WITH TWO PERFLUORINATED COMPOUNDS. R. G. York⁴ and M. T. Case⁵. ¹Primedica Argus Research Laboratories, Inc., Horsham, PA and ²3M Corporate Toxicology, Saint Paul, MN.

EVALUATING THE ROLE OF GAVAGE TREATMENT OF TRICHLOROETHYLENE, TRICHLOROACETIC ACID, AND DICHLOROACETIC ACID ON THE DEVELOPING SPRAUGE DAWLEY RAT FETUS. L. J. Graeter1, S. R. Channell1, J. S. Eggens1, C. D. Goodyear1, P. D. Johnson2, K. MacMahon1, G. L. Sudberry1, D. A. Warren1, J. W. Fisher1 and J. R. Latendresse1. 1Air Force Research Laboratory, Wright-Patterson AFB, OH and 2University of Arizona, Tucson, AZ.

ALTERED GENE EXPRESSION IN THE DEVELOPING MALE REPRODUCTIVE TRACT FOLLOWING IN UTERO EXPOSURE TO DI-N-BUTYLPHTHALATE. V. D. Shultz, S. L. Phillips, K. P. Reischmann, K. W. Guido and P. M. D. Foster. Chemical Industry Institute of Toxicology, Research Triangle Park, NC.

NONYLPHENOLS DIFFERENTIALLY AFFECT γ GLUTAMYL TRANSPEPTIDASE IN TESTIS AND MALE ACCESSORY ORGANS IN RATS DURING DEVELOPMENT. P. C. Lee, B. H. Jelinek, P. Ho and M. Struve. Medical College of Wisconsin, Milwaukee, WI.

EXPOSURE TO 2,4,5-TRICHLOROPHENYL-4'-NITROPHENYL ETHER INHIBITS DEVELOPMENT OF OTOLITHS IN CD-1 MICE. B. M. Francis. University of Illinois at Urbana-Champaign, Urbana, IL.

DEVELOPMENTAL NEUROTOXIC EFFECTS OF 2,2',4,4',5-PENTABROMODIPHENYL ETHER (PBB99) IN THE NEONATAL MOUSE. H. Viber1, A. Fredriksson1, E. Jacobsson1, U. Öhrn1 and P. Eriksson1. 1Department Environmental Toxicology, Uppsala University, Uppsala, Sweden and 2Department Environmental Chemistry, Stockholm University, Stockholm, Sweden. Sponsor: K. M. Crofton.


DEVELOPMENTAL TOXICITY OF OCTYLTLN STABILIZER IN MICE. A. S. Fuji, H. Schweinfurth2 and I. Chaloud1. 1Institute of Clinical Pharmacology and Toxicology, Berlin, Germany and 2Schering Institute for Experimental Toxicology, Berlin, Germany. Sponsor: R. Stahlmann.

DEVELOPMENTAL TOXICITY IN RATS TREATED ORALLY WITH 2-(2-IODOETHYL)-1,3-PROPANEDIOL DIACETATE. F. J. Guerrier1. C. W. Seaman2, G. L. Sprague2, T. J. Sutton3 and C. D. N. Toseland4. 1SmithKline Beecham Pharmaceuticals, King of Prussia, PA and 2SmithKline Beecham Pharmaceuticals, Welwyn, United Kingdom.

SUBCRONIC AND DEVELOPMENTAL TOXICITY STUDIES OF N-BUTYL PROPIONATE VAPOR IN RATS. C. E. Ullrich1, M. D. Neese1, M. I. Bonitum2, T. R. Tyler3 and R. H. Garner1. 1WIL Research Laboratories, Ashland, OH, 2Shell Chemical Company, Houston, TX, 3Union Carbide Corporation, Danbury, CT and 4Consultants in Veterinary Pathology, Murrysville, PA.


ASSESSMENT OF THE TERATOGENICITY OF TRIVALENT AND HEXAVALENT CHROMIUM COMPOUNDS IN FEMALE RABBITS. O. S. E. El-Tawil and A. M. Morgan. Cairo University, Faculty of Veterinary Medicine, Forensic Medicine and Toxicology Department, Giza, Egypt.


TERATOGENICITY SCREENING OF ANTISENSE PHOSPHORODIAMIDATE MORPHOLINO OLIGOMERS IN ZEBRAFISH EMBRYO MODEL. C. Ghosh and P. L. Iversen. AVI BioPharma Inc., Corvallis, OR.


EFFECTS OF 5-aza-2-deoxycytidine (D-aza) ON REPRODUCTIVE CAPACITY AND POST-NATAL DEVELOPMENT OF CD-1 MICE. F. J. Cisneros and S. Branch. North Carolina State University, Department of Toxicology, Raleigh, NC.


DEVELOPMENTAL TOXICITY OF AMINOPERIN IN DROSOPHILA. D. W. Lynch. NIOSH, Experimental Toxicology Branch, Cincinnati, OH.

AMPHETAMINE-STIMULATED DOPAMINE (DA) RELEASE IN F1 AND F2 MALE RATS EXPOSED TO THE ESTROGENIC COMPOUND, GENINSTEIN. B. J. Gough1, S. A. Ferguson1, K. M. Flynn1, K. B. Delclos1 and R. R. Newbold2. 1National Center for Toxicological Research/FDA, Jefferson, AR and 2NIH, Research Triangle Park, NC.

TERATOGENIC EFFECTS OF VALPROIC ACID IN THE FETAX SYSTEM: SIMILARITIES TO EFFECTS OBSERVED IN HUMANS. E. O'Brien, A. Fietz and D. R. Dietrich. Environmental Toxicology; University of Konstanz, Konstanz, Germany.

ASSESSMENT OF THE EFFECTS OF PEGVISOMANT ADMINISTERED SUBCUTANEOUSLY ON EMBRYO-FETAL DEVELOPMENT, FERTILITY AND IGF-I CONCENTRATIONS IN RABBITS. P. Frank1, D. G. Stump2, T. Kern2 and R. J. Davis3. 1Patricia Frank & Associates, Evansville, IN; 2WIL Research Laboratories, Inc., Ashland, OH and 3Sensus Drug Development Corp., Austin, TX.

STREPTOZOCIN TREATED DAMS: F1 GESTATIONAL THROUGH POST-LACTATIONAL EXPOSURE TO CADMIUM CHLORIDE. B. A. Gentles, K. Burge and E. E. Smith. Texas Tech University, Lubbock, TX.

GENETIC DIFFERENCES IN SENSITIVITY TO ETHANOL TERATOGENESIS IN ZEBRA FISH. M. J. Carver, III and D. W. Nebert. Center for Environmental Genetics and Department of Environmental Health, University of Cincinnati Medical Center, Cincinnati, OH.

COMPARISON OF AUDITORY STARTLE REFLEX AND MOTOR ACTIVITY IN RATS DOSED WITH AMPHETAMINE AND CHLOPROMAZINE. H. M. O'Meara and M. Watson. Ricerca, Inc., Painesville, OH.

CHARACTERIZATION OF URINARY METABOLITES OF [1, 2, 3-14C] ACRYLAMIDE IN MALE F-344 RATS FOLLOWING DERMAL APPLICATION OR IP INJECTION. M. Friedman1, S. J. Summer2, C. Williams3 and T. R. Fennell3. 1UMDNJ, Newark, NJ and 2Chemical Industry Institute of Toxicology, Research Triangle Park, NC.

GESTATIONAL THROUGH POST-LACTATIONAL EXPOSURE OF AMMIONIUM PERCHLORATE TO DEER MICE (PEROMYSCUS MANICULATUS). E. H. Roots, K. A. Thuet, B. A. Gentles, R. J. Kendall and E. E. Smith. Texas Tech University, Lubbock, TX.

DEVELOPMENTAL TOXICITY OF AMMIONIUM PERCHLORATE ADMINISTERED ORALLY IN DRINKING WATER TO DEER MICE (PEROMYSCUS MANICULATUS). K. A. Thuet, E. H. Roots, B. A. Gentles, R. J. Kendall and E. E. Smith. Texas Tech University, Lubbock, TX.

EVALUATION OF RAT EPIDIDymAL SPERM MOTION PARAMETERS GENERATED BY THE HAMILTON-TORNE SPERM ANALYZER (IVOS) FOR USE IN TOXICOLOGICAL ASSESSMENT. M. Horimoto1, S. Ito2 and M. Kato3.
1Pfizer Pharmaceuticals Inc., Taketoyo, Japan,
2Yamanouchi Pharmaceutical Co. Ltd., Tokyo, Japan and 3Nihon Biorasuech Inc., Hashima, Japan.
Sponsor: M. S. Tastinari.

MATERNAL IMMUNOSTIMULATION AND PREVENTION OF TERATOGENESIS. R. M. Gogall, L. V. Sharova, P. Sura, M. R. Prater and S. D. Holladay, Virginia-Maryland Regional College of Veterinary Medicine, Virginia Tech, Blacksburg, VA.

GLUCOSE-DEPENDENT EXPRESSION OF EXTRACELLULAR MATRIX PROTEINS IN EMBRYONIC MOUSE HEART. J. Joyner and L. W. Sneed, North Carolina State University College of Veterinary Medicine, Raleigh, NC.

A STUDY OF VEHICLES FOR DOSING CULTURED RODENT EMBRYOS WITH NON-AQUEOUS SOLUBLE COMPOUNDS. K. A. Augustine1, Q. Zhang1 and M. J. Welsh2. 1SmithKline Beecham Pharmaceuticals, King of Prussia, PA and 2University of Michigan, Ann Arbor, MI.

THE EFFECT OF TIME OF CESAREAN SECTION ON FETAL BODY WEIGHTS IN RATS ON DEVELOPMENTAL TOXICITY STUDIES. D. E. Rodwell. Huntington Life Sciences, East Millstone, NJ.

COMPUTATIONAL EVALUATION OF HAZARDOUS AIR POLLUTANTS FOR DEVELOPMENTAL TOXICITY USING A STRUCTURE ACTIVITY APPROACH. O. T. Macina1, N. B. Sussman2, S. G. Grant3, C. A. Thomas4, D. R. Mattison5, T. Woodruff6, J. Caldwell7 and R. Smith8. 1University of Pittsburgh, Pittsburgh, PA and 2USEPA, Research Triangle Park, NC.
action information will be covered. Finally, the issues that regulatory agencies such as the USEPA must consider in deciding when a new cancer risk assessment, such as the formaldehyde assessment, is appropriate for use in regulatory activities will be discussed.

#1395 1:30 APPLICATION OF CLONAL GROWTH MODELS TO CANCER RISK ASSESSMENT. R. B. Conolly and E. Miller. Chemical Industry Institute of Toxicology, Research Triangle Park, NC.


#1398 2:35 NEED FOR IDENTIFICATION OF TARGET CELL POPULATIONS WHEN DEVELOPING CLONAL GROWTH MODELS OF CARCINOGENICITY. E. J. Miller. Chemical Industry Institute of Toxicology, Research Triangle Park, NC.

#1399 3:00 FORMALDEHYDE CANCER DOSE-RESPONSE ASSESSMENT USING A 2-STAGE CLONAL GROWTH MODEL. R. B. Conolly. Chemical Industry Institute of Toxicology, Research Triangle Park, NC.


4:05 GENERAL DISCUSSION.

WEDNESDAY AFTERNOON, MARCH 22
1:30 PM – 4:30 PM
Pennsylvania Convention Center
ROOM(S) 201ABC

SYMPOSIUM SESSION: MOLECULAR APPROACHES TO STUDIES OF GLUTATHIONE METABOLISM AND FUNCTION

Sponsored By: The Mechanisms Specialty Section

Chairperson: Charles V Smith. Ohio State University, Columbus, OH.

Glutathione (γ-glutamylcysteinylglycine: GSH) is a critical participant in many biochemical and physiological processes, serving as a key metabolic intermediate and cofactor and functioning in cellular protection mechanisms against many chemically reactive intermediates and xenobiotics that would otherwise alkylate or oxidize critical biological molecules. In part because of these multiple primary functions in cellular
WORKSHOP SESSION: HUMAN IMMUNOTOXICITY: EXAMPLES AND STRATEGIES FOR DETERMINING RISK

Sponsored By: The Immunotoxicology and Risk Assessment Specialty Sections

Chairpersons: Mary Jane Selgrade, USEPA, Research Triangle Park, NC and Michael J. McCabe, Wayne State University, Detroit, MI.

Laboratory rodent studies indicate that a number of chemicals are immunotoxic. Human data has been more difficult to obtain. In some cases parallel effects have been demonstrated in humans and rodents following exposure to immunosuppressive chemicals. However, for many chemicals, different endpoints have been assessed in humans and rodents making comparisons across species difficult. Rodent studies often assess antigen-driven responses, whereas human studies usually assess less invasive, static indicators of immune competence. Examples of human studies that assessed antigen-driven responses will be presented in this workshop as well as attempts to relate immune suppression to enhanced disease susceptibility in humans. Because data from human in vivo exposures is difficult to obtain, studies on in vitro exposure of human cells will be described as a tool for assessing human immunotoxicity. Evidence for a common mechanism underlying rodent and human effects will also be presented. Human data has been more readily available for the study of protein allergens. The use of this data along with animal data to understand how magnitude, frequency and duration of exposure affect risk of sensitization will be described. The workshop will conclude with a discussion of the best approaches and designs for human immunotoxicity studies, use of animal data in assessing human risk and research needed to improve assessment of immunotoxicity in humans.

#1406 1:30 HUMAN IMMUNOTOXICITY: EXAMPLES & STRATEGIES FOR DETERMINING RISK: INTRODUCTION. M. J. K. Selgrade, USEPA NHEERL, Research Triangle Park, NC.

#1407 1:50 IMMUNOLOGIC EFFECTS OF POLYCHLORINATED BIPHENYL (PCB) AND DIOXIN EXPOSURE IN DUTCH TODDLERS. N. Weisglas-Kuperus, Sophia Children's Hospital, Rotterdam, Netherlands. Sponsor: M. J. Selgrade.


#1409 2:50 MECHANISMS OF HUMAN IMMUNOTOXICITY INDUCED BY POLYCYCLIC AROMATIC HYDROCARBONS (PAHs): LESSONS FROM MURINE IN VITRO IN VIVO AND HUMAN IN VITRO STUDIES. S. W. Burchiel. University of New Mexico, Albuquerque, NM.

#1410 3:20 ALLERGY TO ENZYMES: USE OF PRE-ClinICAL AND CLINICAL DATA TO ASSESS THE RISK TO MAN. K. Sarlo. Procter & Gamble Company, Cincinnati, OH.

3:50 GENERAL DISCUSSION.
MECHANISM OF MACROPHAGE ACTIVATION BY ANGELAN ISOLATED FROM ANGELICA GIGAS NAKAG, TRADITIONAL ORIENTAL DRUGS. H. M. Kim, Y. J. Jeon, K. S. Ahn and S. B. Han, Kor Res Inst Biosci Biotech, Taegon, Republic of Korea.

EVIDENCE FOR A ROLE BY SMADS IN TGF-B1-INDUCED MODULATION OF T-CELL EFFCTOR FUNCTION. S. C. McKarns and N. E. Kaminski, Michigan State University, Department of Pharmacology and Toxicology, East Lansing, MI.

2,3,7,8-TCDD CHLORODIBENZO-P-DIOXIN (TCDD) ALTERS DENDRITIC CELL MATURATION AND INTERFERES WITH NF-kB/REL SIGNALING. C. E. Rohy and N. I. Kerklie, Oregon State University, Corvallis, OR.

THE EFFECTS OF PCS AND ESTROGENS ON PHAGOCYTE INOS, COX-2, NRAMP, AND CYPIA EXPRESSION IN THE CHANNEL CATFISH MONOCYTE/MACROPHAGE CELLINE 42TA. C. D. Rice and X. Xiang, Clemson University, Pendleton, SC. Sponsor: D. Schlekan.

ROLE OF NF-RB IN THALIDOMIDE AND DEXAMETHASONE INDUCED TUMOR NECROSIS FACTOR a EXPRESSION. T. R. Rowland1, S. M. McHugh2, J. Deighton2, P. W. Ewan2, R. J. Dearman1 and R. Kimball3. 1GlaxoWellcome, Stevenage, United Kingdom, 2Addenbrooke's Hospital, Cambridge, United Kingdom and 3AstraZeneca Central Toxicology Laboratory, Macclesfield, United Kingdom.

SUPPRESSIVE EFFECTS ON LYMPHOCYTES FUNCTION BY MICROCYSTIN COMPOUNDS. S. S. You1, H. M. Kim2, H. M. Oh2 and K. H. Yang1. 1Korea Advanced Institute of Science and Technology, Taejon, Republic of Korea and 2Korea Research Institute of Bioscience and Biotechnology, Taejon, Republic of Korea.

IN VIVO INDUCTION OF TRANSCRIPTION FACTORS BY LIPOPOLYSACCHARIDE (LPS) THAT CONTROL SPLENIC PROINFLAMMATORY CYTOKINE TRANSCRIPTION. H. R. Zhou and J. J. Pestka. Michigan State University, East Lansing, MI.

39th Annual Meeting

SOCIETY OF TOXICOLOGY

WEDNESDAY AFTERNOON, MARCH 22
1:30 PM - 4:30 PM
PENNSYLVANIA CONVENTION CENTER
EXHIBIT HALL A

POSTER SESSION:
BIOMARKERS/BIOTRANSFORMATION

Chairpersons: Cecil Frei-George Brownie, Brownie Consulting, Raleigh, NC and Terry V Zenzer, VA Medical Center, St. Louis, MO.

Displayed: 1:30 PM - 4:30 PM
Attended: 1:30 PM - 3:00 PM

#1427

#1428
DISSECTION OF THE EFFECTS OF PROPOFOL ON T-CELL SIGNALING PROCESSES USING DNA ARRAY TECHNOLOGY. K. Brundage, R. Shofer, and J. R. Barnett. West Virginia University, Morgantown, WV.

#1429
MICROARRAY ANALYSIS OF GENE EXPRESSION PATTERNS INDUCED BY IRRITANT AND SENSITIZING CHEMICALS. B. He, A. E. Munson, and B. J. Meade. National Institute for Occupational Safety and Health, Morgantown, WV.

#1430
A STUDY ON AN EXPOSURE MARKER FOR SAFROLE. M. J. W. Chang and C. Y. Ko. Chang Gung University, Tao-Yuan, Taiwan Republic of China.

#1431

#1432

#1433
BIOMARKERS OF INTERNAL DOSE IN WORKERS EXPOSED TO CHLORONITROBENZENE. C. R. Jones1, G. Sabbioni2, and O. Sepai1. 1Department of Environmental & Occupational Medicine, Newcastle University, Newcastle Upon Tyne, United Kingdom and 2Walther-Stratmann Institut für Pharmakologie und Toxikologie, Ludwig-Maximilians Universität, München, Germany.

#1434
BIOMARKERS OF OXIDATIVE STRESS STUDY I: ARE PLASMA ANTIOXIDANTS MARKERS OF CC14 POISONING? M. B. Kadiiska1, B. C. Gladen1, D. D. Baird1, G. E. Hatch2, D. J. James3, R. P. Mason1 and J. C. Barrett1. 1NIHES, Research Triangle Park, NC, 2EPA, Research Triangle Park, NC and 3Emory University, Atlanta, GA.

#1435
DETERMINING OCCUPATIONAL DERMAL EXPOSURE BIOMARKERS FOR ATRAZINE THROUGH MEASUREMENT OF METABOLITES IN HUMAN URINE BY HPLC-ACCELERATOR MS. B. A. Buchholz1, S. J. Gee2, S. D. Gilman3, B. D. Hamrock3, H. H. Hsu2, H. I. Mihalich2, J. S. Vogel3 and R. C. Wester4. 1LLNL, Center for Accelerator Mass Spectrometry, Livermore, CA, 2UC-Davis, Department of Entomology, Davis, CA, 3University of Tennessee, Department of Chemistry, Knoxville, TN and 4UCSF, Department of Dermatology, San Francisco, CA. Sponsor: B. Hamrock.

#1436
PMN FUNCTION AS BIOMARKER OF OXIDATIVE EXPOSURE. E. Hoffer1, Y. Baum1, T. Machani2, A. Aloufi3, A. Tamir4 and A. Tabak1. 1Israel Poison Information Center, Haifa, Israel, 2Kupat Holim Clalit, Afula, Israel, 3Ministry of Health, Haifa, Israel and 4Technion, Haifa, Israel.

#1437

#1438
NITROUS OXIDE EXPOSURE ASSESSMENT IN OPERATING-ROOM PERSONNEL: METHIONINE SYNTHASE AND HOMOCysteine Monitoring. A. Tabak1, Y. Katz2 and E. Hoffer3. 1Israel Poison Information Center, Haifa, Israel and 2Haemek Medical Center, Afula, Israel.

#1439
FUMONISIN B1-INDUCED LIVER TOXICITY, LIVER FREE SPHINGANINE, AND LIPID PEROXIDATION COMPARED IN SIX DIFFERENT STRAINS OF MALE MICE. R. T. Riley1, J. L. Showker1, K. A. Voss2, E. N. Enomura1, F. I. Meredith3 and R. P. Sharma4. 1Russell Research Center, USDA/VARS, Athens, GA and 2University of Veterinary Medicine, University of Georgia, Athens, GA.
ASSESSING THE STABILITY OF HEMOGLOBIN ADDUCTS AFTER ADMINISTRATION OF BENZENE TO MALE F-344 RATS. M. A. Troester1, L. L. Kupper2 and S. M. Rapaport1. 1Department of Environmental Sciences and Engineering, School of Public Health, University of North Carolina, Chapel Hill, NC and 2Department of Biostatistics, School of Public Health, University of North Carolina, Chapel Hill, NC. Sponsor: J. A. Swenberg.

ARSENIC AND LEAD EXPOSURE IN CHILDREN LIVING IN SMELTER AREAS OF MEXICO AND BOLIVIA. L. Carrizales1, L. Yáñez1, J. Calderon1, E. Paiz2 and F. Díaz-Barrig1. 1Autonomous University of San Luis Potosí, School of Medicine, San Luis Potosi, Mexico and 2Pan American Health Organization, El Paso, TEXAS.

FORMATION OF HEMOGLOBIN ADDUCTS IN FEMALE RATS AND MICE EXPOSED TO BUTADIENE. P. B. Upton1, A. Ranasinghe1, V. E. Walker2 and J. A. Swenberg1. 1Department of Environmental Sciences & Engineering, University of North Carolina, Chapel Hill, NC and 2New York State Department of Health, Wadsworth Center, Albany, NY.

PROTEOMIC ANALYSIS OF RENAL AND HEPATIC PROTEIN EXPRESSION IN RATS EXPOSED REPEATEDLY TO JET FUEL VAPOR. F. Witzmann1, G. D. Ritchie2, R. L. Carpenter2, A. F. Nordholm2, C. L. Wilson2 and J. Rossi, III2. 1Molecular Anatomy Laboratory, Indiana University, Purdue University, Columbus, IN and 2Beverly Health Care Center, Detachment-Toxicology (NHRC-TD), Wright-Patterson Air Force Base, OH.

ANTIOXIDANT EFFECTS OF BLACK TEA IN SMOKERS AND NON-SMOKERS. B. Ren, Y. Xu, L. M. Komendulis, N. Dun, J. Meng and J. E. Klaasig. Division of Toxicology, Department of Pharmacology & Toxicology, Indiana University School of Medicine, Indianapolis, IN.

CRITICAL END POINTS SELECTED IN A REPORT SYSTEM FOR AFLATOXIN-OCCUPATIONAL EXPOSED POPULATION IN THAILAND. P. Sinhaseni, T. Suramana and N. Dusitsin. The Institute of Health Research, Chulalongkorn University, Bangkok, Thailand.

CYP1A1, CYP1A2 AND CYP1B1 MRNA EXPRESSION LEVELS IN HUMAN BLOOD USING A REAL-TIME REVERSE TRANSCRIPTION-PCR SYSTEM. H. Sone1, C. Tohyama1, C. Suzuki2, M. Kubo1 and J. Yonemoto1. 1National Institute for Environmental Studies, Tsukuba, Japan and 2CREST, Kawaguchi, Japan.

A NEW APPROACH FOR EVALUATION OF EXPOSURE TO ENVIRONMENTAL HAZARDOUS AGENTS. J. S. Kritzler1, B. Brodsky1, A. Nyska2, Y. Weisman3, I. Shalz1, M. Furth4, E. Ashash5 and U. Wormer1. 1The Hebrew University, Jerusalem, Israel, 2National Institute of Environmental Health and Sciences, NIH, Research Triangle Park, NC, 3Kimmel Center for Research in Otolaryngology, National Cancer Institute, Bethesda, MD, 4The Hebrew University, Jerusalem, Israel and 5Asbestos and Lung Disease Foundation, Jerusalem, Israel. Sponsor: E. Hoffner.

DNA ADDUCT FORMATION IN THE LUNGS OF FEMALE SPARGAL DAWLEY RATS TREATED WITH THE ENVIRONMENTAL CARCINOGEN 1-NITROPYRENE. M. R. Santiago1, I. Vargas1, L. S. Von-Tungeln2, P. P. Fu2 and D. H. D. Sanz3. 1Pharmacology and Toxicology, School of Medicine, University of Puerto Rico, San Juan, Puerto Rico and 2Division of Biochemical Toxicology, National Center for Toxicological Research, Jefferson, AR.

THE USE OF AN ANDROGEN RECEPTOR-ACTIVATED LUCIFERASE EXPRESSION (ARCALUX) ASSAY FOR SCREENING OF STEROID GROWTH PROMOTERS IN CATTLE. B. M. G. Blankvoort1, E. M. de Groene1, D. C. Timmer1, A. Brandenburger2, R. F. Witkamp1 and J. M. M. Aarts1. 1INO Nutrition, Zeist, Netherlands, 2Free University, Amsterdam, Netherlands and 3Wageningen University Research Center, Wageningen, Netherlands.

ANALYSIS OF ENVIRONMENTAL AND BIOLOGICAL EXTRACTS FOR DIOXIN-LIKE ACTIVITY UTILIZING A LUCIFERASE REPORTER GENE BIOASSAY. D. E. Shubert1, F. D. Stephen1, P. J. Kostyniak1, H. B. Gretherstein1, J. E. Vena2, T. A. Gasiewicz2, P. F. DeHart1 and J. R. Olson1. 1Department of Pharmacology, SUNY at Buffalo, Buffalo, NY and 2Department of Social Preventive Medicine, SUNY at Buffalo, Buffalo, NY. 3Department of Environmental Medicine, University of Rochester, Rochester, NY. 4Department of Biology, Canisius College, Buffalo, NY.


CELLULAR AND SUBCELLULAR LOCALIZATION OF PERIPHERAL BENZODIAZEPINE RECEPTORS FOLLOWING TRIMETHYLTIN-INDUCED BRAIN INJURY. A. C. Klahn and T. R. Guiltner. Johns Hopkins University, Baltimore, MD.


DEVELOPMENT OF METHODS FOR ANALYSIS OF BIOMARKERS OF BENZENE EXPOSURE USING GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS) AND MATRIX ASSISTED LASER DESORPTION IONIZATION (MALDI). J. M. Siu1, J. R. Krone1, M. G. Menache and R. F. Henderson. Lovelace Respiratory Research Institute, Albuquerque, NM.

ANALYSIS OF URINARY METABOLITES OF BUTADIENE. J. R. Krone1, M. R. Bish1, D. A. Krack1, R. W. Nelson2 and R. F. Henderson1. 1Lovelace Respiratory Research Institute, Albuquerque, NM and 2Intrinsic Bioprobes, Inc., Phoenix, AZ.

AN EMPIRICAL MODEL OF BENZENE EXPOSURE BASED ON MULTIPLE BIOMARKERS. M. G. Menache1, N. Lian2, J. M. Siu3 and R. F. Henderson1. 1Lovelace Respiratory Research Institute, Albuquerque, NM and 2Medical & Scientific Research Services, Albuquerque, NM.

3-NITRO-ACETAMINOPHEN FORMATION BY REACTIVE NITROGEN SPECIES. T. V. Zenser1, V. J. Lakshmi1, F. Hsu2 and B. B. Davis1. 1VA Medical Center, Saint Louis University, St. Louis, MO and 2Washington University, St. Louis, MO.

APPLICATION OF SOLID PHASE MICROEXTRACTION TO THE MEASUREMENT OF URINARY BENZENE IN WORKERS EXPOSED TO BENZENE. S. Waidyanath1, N. Rothman1, S. Fusinoni3, M. T. Smith4, R. B. Hayes5, W. Bechtold6, M. Dosemerci7, G. Li8, S. Yint8 and S. M. Rappaport1. 1Department of Environmental Sciences and Engineering, University of North Carolina, Chapel Hill, NC, 2Div. of Cancer Epidemiology and Genetics, National Cancer Institute, Bethesda, MD, 3Istituti Clinici di Perfezionamento, Via S. Barnaba 8, Italy, 4School of Public Health, University of California, Berkeley, CA, 5Lovelace Respiratory Research Institute, Albuquerque, NM and 6Chinese Academy of Preventative Medicine, Beijing, China.

SPECTROPHOTOMETRIC ANALYSIS OF SOLUBILIZED RAT HAIR PROTEINS FOLLOWING INTRAPERITONEAL INJECTION OF 2,5-HEXANEDIONE. C. F. Brownie1, L. Lack2, T. J. Ribar3 and M. R. Abou-Daaiq4. 1North Carolina State University, College of Veterinary Medicine, Raleigh, NC and 2Department of Pharmacology and Cancer Biology, Duke University Medical Center, Durham, NC.

METALLOTHIONEIN ISOFORM 3 AS A POTENTIAL BIOMARKER FOR HUMAN BLADDER CANCER. D. A. Sens1, S. Somji1, D. L. Lam2, S. H. Garrett3, F. Sovinsky1, J. H. Todd1 and M. A. Sens. 1Department of Pathology & Urology, West Virginia University, Morgantown, WV.

METALLOTHIONEIN ISOFORM 1 AND 2 GENE EXPRESSION IN THE HUMAN BLADDER: EVIDENCE FOR UPREGULATION OF MT-1X AND DOWN REGULATION OF MT-1E mRNA IN BLADDER CANCER. M. A. Sens1, S. A. Somji1, D. L. Lam2, D. A. Sens1, S. H. Garrett3, F. Sovinsky1 and J. H. Todd1. Department of 1Pathology & 2Urology, West Virginia University, Morgantown, WV.

CLONING OF ZONA RADIATA PROTEINS FROM RAINBOW TROUT (Oncorhynchus mykiss): A MARKER FOR INVESTIGATING ESTROGENIC ENDOCRINE MODULATORS IN FISH. T. Celius1, J. B. Matthews1, T. R. Zacharewski1 and J. Giesy1,2. 1Department of Biochemistry & Zoology and 2National Food Safety & Toxicology Ctr., Michigan State University, East Lansing, MI.

INDUCTION OF CYTOCHROME B6 BY CCl4 IN RAINBOW TROUT LIVER. M. W. Room. Linus Pauling Institute, Oregon State University, Corvallis, OR.

#1472 MECHANISMS OF AGE-RELATED SENSITIVITY TO OZONE IN WISTAR RATS. K. L. Kraft1, M. C. Mudden2, D. L. Costa3, J. D. Carter1 and R. B. Devlin1. 1University of North Carolina, Chapel Hill, NC; 2USEPA/NHEERL/HSR/CRB, Chapel Hill, NC and 3USEPA/NHEERL/ETD/PTB, Research Triangle Park, NC.

#1473 PRODUCTION OF EXHALED BREATH CARBONYLS IN HUMAN SUBJECTS EXPOSED TO OZONE. M. C. Mudden, L. A. Dailey and J. M. Samet. USEPA, NHEERL, Research Triangle Park, NC.


#1475 LUNG TUMORIGENICITY FROM EXPOSURES OF F-344 RATS TO COMBINATIONS OF BERYLLIUM AND PLUTONIUM. G. L. Finch, E. F. Hahn, L. F. Blair, M. D. Hoover and C. H. Hobbs. Lovelace Respiratory Research Institute, Albuquerque, NM.

#1476 PULMONARY RESPONSES OF RATS, MICE, AND HAMSTERS TO INHALED TITANIUM DIOXIDE (TiO2). E. Bermudez, J. B. Mangum, E. E. Reverdy, B. A. Wong, B. Asgharian, P. M. Hexi, D. B. Warheit and J. I. Everitt. 1CIIT, Research Triangle Park, NC; 2Zeneca, Central Toxicology Lab, Macclesfield Cheshire, United Kingdom and 3Dupont Haskell Lab, Newark, DE.

#1477 SEVERITY OF PULMONARY EPITHELIAL AND INFLAMMATORY RESPONSES IN CARBON BLACK-EXPOSED RATS IS DEPENDENT ON PARTICLE SURFACE AREA. J. R. Harkema1, J. A. Hotchkiss1, C. B. Beaney1, A. C. P. Elder2 and G. Oberdorster3, 1Michigan State University, East Lansing, MI; 2University of Rochester, Rochester, NY.

#1478 CYTOKINE, OXIDANT, AND MUTATIONAL RESPONSES AFTER LUNG OVERLOAD TO INHALED CARBON BLACK. J. M. Carter1, G. Oberdorster2 and K. E. Driscoll1. 1Proctor & Gamble Company, Cincinnati, OH and 2University of Rochester, Rochester, NY.
PARTICLE SURFACE AREA-ASSOCIATED PULMONARY EFFECTS FOLLOWING OVERLOADING WITH CARBON BLACK. A. C. P. Elder1, N. Corson1, R. Gelein1, P. Mercere1, K. Nguyen1, C. Cox1, P. Keng3, J. N. Finkenstein4 and G. Oberdorster1. 1University of Rochester - Department of Environmental Medicine, Rochester, NY. 2University of Rochester - Department of Biostatistics, Rochester, NY. 3University of Rochester - Department of Radiation Oncology, Rochester, NY and 4University of Rochester - Department of Pediatrics, Rochester, NY.

TUMOR NECROSIS FACTOR-α (TNF-α) ADMINISTRATION MIMICS ALLERGIC ADJUVANT EFFECT OF RESIDUAL OIL FLY ASH (ROFA) PARTICLES. A. L. Lambert1, M. J. K. Selgrade1 and M. J. Gilnaur2. 1University of North Carolina, Chapel Hill, Chapel Hill, NC and 2U.S. EPA, NHEERL, Research Triangle Park, NC.


METAL-CONTAINING PARTICULATE MATTER-INDUCED AUTOXIDATION OF SYNTHETIC LUNG EPITHELIAL Lining FLUID. G. Sun1 and G. E. Huch2. 1Curriculum in Toxicology, University of NC, Chapel Hill, NC and 2U.S. EPA, NHEERL, Research Triangle Park, NC.

SURFACE CHARGE AND SIZE AS CONTRIBUTING FACTORS TO PARTICULATE MATTER (PM) TOXICITY. M. O'gigleisen1, S. A. Simon1, L. Lee2 and B. Vernes3. 1Duke University Medical Center, Department Anesthesiology and Neurobiology, Durham, NC and 2U.S. EPA, NHEERL, NTD, Research Triangle Park, NC.

CHANGES IN HEART RATE VARIABILITY IN YOUNG AND ELDERLY HUMANS EXPOSED TO CONCENTRATED AMBIENT AIR PARTICLES. R. B. Devlin1, W. Cascio2, H. Kehrl1 and A. Ghio3. 1Environmental Protection Agency, Research Triangle Park, NC and 2University of North Carolina, Chapel Hill, NC. Sponsor: M. Madden.

LUNG INJURY FROM EXPOSURE TO RESIDUAL OIL FLY ASH (ROFA), OTTAWA DUST (OTT), OR MT. STE. HELENS ASH (MSH) IN A RAT MODEL OF HYPOXIA-INDUCED PULMONARY HYPERTENSION (PHH). W. J. Burke1, J. R. Lehmann2, U. P. Kodavanti3, M. J. Schladeweiler2, D. Winnert2, T. Krantz2, J. Richards2 and D. L. Costa1. 1North Carolina Central University, Durham, NC and 2U.S. EPA, Research Triangle Park, NC.

1. N2 PROPANOPOXYGUANOSINE-DNA ADDUCTS AND ARTERIOSCLEROTIC PLAQUES IN COCKERELS EXPOSED TO ACROLEIN. A. Pena1, R. Nath2, J. Pan2, L. C. Chen3, K. Widmer1, W. Henk4 and E. L. Chung5. 1Physiol., Pharm, Tox., and 2Anat. School of Veterinary Medicine, Baton Rouge, LA, 3American Health Foundation, Valhalla, NY and 4Nelson Institute, NYU School of Medicine, Tuxedo, NY.


LUNG INFLAMMATION AND DAMAGE AFTER SILICA INHALATION IN RATS: IS THERE RECOVERY? D. W. Porter1, V. A. Robinson1, D. Ramsey2, A. Khan2, J. L. McLaurin2, A. Teas2, R. Mercer1 and V. Castronovo1. 1HELD NIOSH, Morgantown, WV and 2DBBS NIOSH, Cincinnati, OH.

EXPOSURE TO SILICA ACTIVATES MACROPHAGES AND INCREASES THE PULMONARY CLEARANCE OF LISTERIA MONOCYTOGENES IN RATS. H. Yang, J. Y. C. Ma, J. R. Roberts, M. W. Barger, L. Butterworth, V. Castronovo and J. M. Antonini. NIOSH, Morgantown, WV.


THE INHALATION BIOPERSISTENCE AND MORPHOLOGIC LUNG DISPOSITION OF PURE CHRYSOTILE SERPENTINE ASBESTOS IN COMPARISON TO TREMOLITE AMPHIBOLE ASBESTOS IN RATS. D. M. Bernstein1, R. A. Rogers2 and P. Theneva3.
1Consultant in Toxicology, Geneva, Switzerland, 2Rogers Imaging Corporation, Needham, MA and 3Research & Consulting Company Ltd., Fullinsdorf, Switzerland.

CRITICAL ROLE OF FIBER LENGTH IN THE BIOACTIVITY AND CYTOTOXICITY OF GLASS FIBERS. V. Castranova1, W. Jones2, T. Blake1, J. Yel1, X. Li1, G. Dey3 and P. Baron3. 1HELD or 2DRDS, NIOSH, Morgantown, WV and 3DPSE, NIOSH, Cincinnati, OH.

DIETARY VITAMIN E SUPPLEMENTATION DOES NOT PREVENT LUNG MITOCHONDRIAL DYSFUNCTION INDUCED BY IN VITRO AMIODARONE AND N-DESETHYLAMIODARONE. J. W. Carol, M. J. Steenbakkers, K. M. Beard, W. J. Racz, J. F. Brien, B. M. Bennett and T. E. Mussey. Department of Pharmacology & Toxicology, Queen's University, Kingston, Ontario, Canada.

AMIODARONE (AM) DISRUPTS MITOCHONDRIAL MEMBRANE POTENTIAL IN ISOLATED LUNG CELLS: POTENTIAL MECHANISM OF AN INDUCED PULMONARY TOXICITY. M. W. Bole, W. J. Racz, J. F. Brien, B. M. Bennett and T. E. Mussey. Departments of Pharmacology and Toxicology and Medicine, Queen's University, Kingston, Ontario, Canada.

ASSESSMENT OF ACUTE LUNG INJURY IN RATS EXPOSED TO DIPHENYL METHANE-4,4'-DIISOCYANATE (MDI): ANALYSIS OF BREATHING PATTERNS AND LUNG LAVAGE. R. Pauluhn. Bayer AG, Wuppertal, Germany.

FATE OF DIESEL SOOT-ADSORBED BENZO(A)PYRENE FOLLOWING DEPOSITION AND RETENTION IN THE LUNGS OF DOGS. P. Gerde1, B. A. Muggenburg2, M. Lundberg1 and A. R. Dahl1. 1Institute of Environmental Medicine, Karolinska Institutet, Stockholm, Sweden, 2Lovelace Respiratory Research Institute, Albuquerque, NM and 3Battelle Pulmonary Therapeutics, Columbus, OH.

GENETIC MODELING OF TOLERANCE TO ZINC OXIDE INHALATION IN INBRED MICE. S. Wesselskamp, L. C. Chen and T. Gordon. New York University, Tuxedo, NY.

DNA SEQUENCE POLYMORPHISMS OF INTERLEUKIN-1 AND TUMOR NECROSIS FACTOR-α IN SILECOSIS. B. Yuceo, J. M. Matheson, V. Vallyathan, D. S. Sharp, A. Weston and M. I. Lastie. NIOSH, Morgantown, WV.

EFFECTS OF SULFUR DIOXIDE EXPOSURE ON NEUTROPHIL RESPIRATORY RESPONSE IN CATTLE. L. Komarnisky1, A. A. Khan2, R. J. Christopherson1 and R. W. Cooper3. 1Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, Alberta, Canada and 2Toxicology Unit, Alberta Research Council, Vegreville, Alberta, Canada.

CHANGES IN GENE EXPRESSION IN NHBE CELLS EXPOSED TO TRANSITION METALS. J. Steinhauer1, I. Jaspers2, S. Nierkens2 and R. Devlin1. 1National Health & Environmental Effects Research Laboratory, USEPA, Research Triangle Park, NC and 2Center for Environmental Medicine and Lung Biology, University of North Carolina, Chapel Hill, NC. Sponsor: M. Madden.

WEDNESDAY AFTERNOON, MARCH 22
1:30 PM — 4:30 PM
PENNSYLVANIA CONVENTION CENTER
EXHIBIT HALL A

POSTER SESSION: RECEPTOR BIOLOGY/SIGNAL TRANSDUCTION

Chairpersons: Stephen H. Safe, Texas A&M University, College Station, TX and David E. Williams, Oregon State University, Corvallis, OR.

Displayed: 1:30 PM - 4:30 PM

Attended: 1:30 PM - 3:00 PM

EFFECT OF CRF RECEPTOR-1 INHIBITION ON LEYDIG CELL TESTOSTERONE PRODUCTION. P. J. Ciuccio, S. I. Wert, B. Germz and B. D. Car. Dupont Pharmaceuticals, Newark, DE.

1Chemical Industry Institute of Toxicology, Research Triangle Park, NC, 2Duke University Medical Center, Durham, NC, 3University of Massachusetts Medical Center, Worcester, MA and 4Texas A & M University, College Station, TX.

ANDROGEN RECEPTOR AGONIST DIHYDROTESTOSTERONE REDUCES ESTROGENIC RESPONSES IN RAINBOW TROUT. D. E. Williams and A. E. Shilling, Oregon State University, Corvallis, OR.


TRANSCRIPTIONAL ACTIVATION OF DNA POLYMERASE α BY ESTROGEN IN MCF-7 CELLS REQUIRES INTERACTION OF ESTROGEN RECEPTOR α/Spl WITH A GC-RICH ELEMENT. I. Samudio, C. Vyhlidal and S. Safe. Texas A&M University, Department of Veterinary Physiology & Pharmacology, College Station, TX.

ENHANCED DNA-INDEPENDENT TRANSCRIPTIONAL ACTIVITY OF ZINC FINGER DOMAIN - DELETED MOUSE ESTROGEN RECEPTOR THROUGH THE ESTROGEN RECEPTOR/SPL PROTEIN INTERACTION. K. H. Kim and S. Safe. Texas A&M University, Department of Veterinary Physiology & Pharmacology, College Station, TX.

IDENTIFICATION OF PEROXISOME PROLIFERATOR-ACTIVATED RECEPTOR α-DEPENDENT GENES RESPONSIVE TO A HEPATOCARCINOGENIC PEROXISOME PROLIFERATOR CHEMICAL. W. S. Lee and S. S. T. Lee. The Chinese University of Hong Kong, Hong Kong, Hong Kong Special Administrative Region of China. Sponsor: K. Chan.


INHIBITION OF PEROXISOME PROLIFERATOR ACTIVATED RECEPTOR α BY MK886. J. P. Kehrer, S. Bossall, P. Thuillier, J. P. Vanden Heuvel and S. Fischer. 1The University of Texas at Austin, Austin, TX, 2M.D. Anderson Cancer Center, Smithville, TX and 3Penn State University, University Park, PA.

THE MAPK SIGNAL TRANSDUCTION PATHWAY REGULATES PPAR-α THROUGH DIRECT PHOSPHORYLATION OF THE RECEPTOR. C. A. Nugent, J. W. Davis, J. P. Vanden Heuvel, E. T. McCune and A. J. Mundis. 1Penn State University, University Park, PA and 2University of New Mexico, Albuquerque, NM.

ARSENITE ALTERS SIGNAL TRANSDUCTION BY INDUCING THE P38/E2F PATHWAY AND NOT VIA EFFECTS ON P53. B. L. Vogt and T. G. Rossman. NYU Medical Center, Tokyo, NY.


MAP KINASE ACTIVATION IN HUMAN AIRWAY EPITHELIAL CELLS EXPOSED TO AMBIENT AIR PARTICULATE MATTER. W. Wu, J. M. Samei, A. J. Ghio and R. B. Devlin. 1Center for Environmental Medicine and Lung Biology, University of North Carolina, Chapel Hill, NC and 2Human Studies Division, National Health Effects and Environmental Research Laboratory, Chapel Hill, NC. Sponsor: M. C. Madden.

SARIN AND STRESS MODULATION OF NICOTINIC AND MUSCARINIC ACETYLCHOLINE RECEPTORS IN SARIN EXPOSED RATS. K. H. Jones, A. M. Dechovkova, W. A. Khan and M. B. Arouk-Daniu. Duke University Medical Center, Department of Pharmacology, Durham, NC.

A NOVEL MECHANISM FOR ELECTRICAL SIGNALING BY INTERLEUKIN-4. M. T. Romanò, A. S. Stern and E. J. Flynn. 1UMD-Graduate School of Biomedical Sciences, Newark, NJ and 2Hoffmann-LaRoche, Nutley, NJ. Sponsor: L. G. Saltatos.
STIMULUS-RESPONSE RELATIONSHIPS
DEMONSTRATE THE CONTRIBUTIONS OF
AFFINITY AND INTRINSIC EFFICACY TO
ARYL HYDROCARBON RECEPTOR LIGAND
POTENCY. E. V. Hestermann, J. J. Stegemann and M.
E. Hahn. Woods Hole Oceanographic Institution,
Woods Hole, MA.

DIFFERENTIAL EXPRESSION OF ARYL
HYDROCARBON RECEPTOR ISOFORMS IN A
FISH MODEL OF DIOXIN RESISTANCE.
R. Bright1, W. H. Powell2 and M. E. Hahn3.
1Haverford College, Haverford, PA and 2Woods Hole
Oceanographic Institution, Woods Hole, MA.

ANALYSIS OF THE NUCLEAR EXPORT
signal of the Murine Aryl
Hydrocarbon receptor. E. R. Barbour and
R. S. Pollenz. Medical University of South Carolina,
Charleston, SC.

ANALYSIS OF RAINBOW TROUT
ARNT RECEPTOR PROTEINS IN VITRO. R. S. Pollenz
and B. M. Neece. Medical University of South
Carolina, Charleston, SC.

SCREENING FOR GENETIC VARIABILITY OF
THE HUMAN ARNT GENE AND ANALYSIS OF
THE 5'-FLANKING REGION. J. Schoel, H. J.
Schmitz and D. Schrenk. University of Kaiserslautern,
Kaiserslautern, Germany.

SUBCELLULAR LOCALIZATION OF THE
ARNT PROTEIN IN RAINBOW TROUT,
MOUSE, AND CHICKEN OVER
DEVELOPMENTAL TIME. K. Marks-Sjoka, C. B.
Kern, E. L. Krug and R. S. Pollenz. Medical University of
South Carolina, Charleston, SC.

ECDYSTEROIDS ELICIT LATE LIFE-CYCLE
TOXICITY WITHOUT REDUCING FECUNDITY
IN DAPHNIA MAGNA. R. Coffey1 and W. S.
Baldwin2. 1Anderson College, Biology Department,
Anderson, SC and 2Anderson College, Biology
Department: Anderson, SC; Clemson Institute of
Environmental Toxicology, Clemson University,
Pendleton, SC.

REPRODUCTIVE CHANGES IN THE
ESTUARINE FISH CUNNER (TAUTOGOLABRUS
ADSPERUS) EXPOSED TO 17B-ESTRADIOL
AND ETHINYL ESTRADIOL IN THE
LABORATORY. L. J. Mills, R. E. Gutjah-Gobell, D.
Borsay-Horowitz and G. Zaroggian. USEPA,
NHEERL, Atlantic Ecology Division, Narragansett,
RI Sponsor: W. Boyes.

VITELLOGENIN TRANSCRIPTIONAL
ACTIVATION IN SHEEPSHEAD MINNOW
FOLLLOWING ACUTE ESTROGEN EXPOSURE IN VIVO. C. J. Bowman1, K. Krol2, L. C. Folmar3,
M. J. Hemmer3 and N. D. Denslow2. 1Department of
Pharmacology & Therapeutics, University of Florida,
Gainesville, FL, 2Molecular Biomarkers Core-
Interdisciplinary Center for Biotechnology Research,
University of Florida, Gainesville, FL and 3United
States Environmental Protection Agency, Gulf Breeze,
FL.

NON-MAMMALIAN ESTROGENICITY
SCREEN: RAINBOW TROUT ESTROGEN
RECEPTOR BINDING. T. R. Henry1, J. S. Denny2
and P. K. Schmidt2. 1NHEERL, Toxicology
Division, Duluth, MN and 2NHEERL, Mid-Continent
Ecology Division, Duluth, MN.

SYNERGISTIC EFFECTS OF THE
XENOESTROGEN 4-OCTYLPHENOL (4-OP)
AND UV-B RADIATION ON SOMATIC
DEVELOPMENT AND GENE EXPRESSION IN
THE FOREBRAIN OF THE LEOPARD FROG
(RANA PIPIENS). D. Crump, V. L. Trudeau and D.
R. S. Lean. University of Ottawa, Ottawa, Ontario,
Canada. Sponsor: M. E. Hahn.

INVESTIGATION OF THE POTENTIAL IN
VIVO INTERACTION OF ESTRADIOL AND
TCDD IN FUNDULUS HETEROCILUS. T. A.
Young and K. R. Cooper. Rutgers, The State
University of New Jersey, UMDNJ, Piscataway, NJ.

THYROID DISRUPTING CAPACITY OF
SELECTED PESTICIDES IN XENOPUS:
POTENCIES AND MODES OF ACTION. D. J.
Fort1, M. F. Miller1, R. L. Rogers1, E. L. Stover1, P. D.
Guiney2 and J. A. Weeks2. 1The Stover Group,
Stillwater, OK and 2S.C. Johnson Wax, Racine, WI.

AN ADVANCED PHYSIOLOGICALLY BASED
PHARMACOKINETIC MODEL FOR MDA
ARENARIA USING 2,3,7,8-
TETRACHLORODIBENZO-P-DIOXIN (TCDD).
M. Wintemuter1, A. Skaiadas2, P. Georgopoulou2, J.
Burger2, A. Roy2 and K. Cooper1. 1Rutgers, The State
University of New Jersey, New Brunswick, NJ and
2Environmental and Occupational Health Sciences
Institute, Piscataway, NJ.
MODELING BIOACUMULATION OF POLYCYCLIC AROMATIC HYDROCARBONS IN AN AQUATIC ECOSYSTEM. K. H. Watanabe and R. Luna. Tulane University, New Orleans, LA. Sponsor: M. B. Anderson.


AURAL ABSCESS IN WILD-CAUGHT TURTLES: POSSIBLE INVOLVEMENT OF ORGANOCHLORINE-INDUCED HYPOVITAMINOSIS. A. S. D. Holladay, J. C. Wolfe, S. A. Smith, D. E. Jones and J. L. Robertson. Virginia-Maryland Regional College of Veterinary Medicine, Virginia Tech, Blacksburg, VA.


STUDIES EVALUATING THE ENVIRONMENTAL TOXICITY OF ARSENIC PENTOXIDE, CUPRIC CHLORIDE, PENTACHLOROPHENOL, AND 1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN IN SINGLE AND BINARY MIXTURES. S. H. Adair, B. Buckley and K. R. Cooper. Rutgers, The State University of New Jersey, New Brunswick, NJ.

CHANGES IN ARSENIC SPECIATION DURING MICROBIAL GROWTH. E. Casarez and D. E. Carter. Department of Pharmacology and Toxicology, Center for Toxicology, University of Arizona, Tucson, AZ.

HEAVY METALS, PESTICIDES AND ENVIRONMENTAL CONTAMINANT RESIDUES IN RESIDENT GIANT CANADA GEESE (BRANTA CANADENSIS) FROM NORTH EAST AND SOUTH WEST OHIO. A. M. Kadry, M. K. Hoffman, W. M. Hockman, D. Risely and I. S. Kim. 1Emerging Issues Branch, Chemistry and Toxicology Division, Food Safety and Inspection Service, United States Department of Agriculture, Washington, DC, 2Animal Disease Diagnostic Laboratory and Division of Meat Inspection, Ohio Department of Agriculture, Reynoldsburg, OH and 3Division of Wildlife, Ohio Department of Natural Resources, Columbus, OH. Sponsor: D. Acosta, Jr.

PARASITE SUSCEPTIBILITY AND STRAIN-SPECIFIC RESPONSES TO LONG-TERM CADMIUM EXPOSURE IN THE FRESHWATER GASTROPOD, BIOMPHALRIA GLABRATA. C. J. Salice and G. Rosebini. University of MD Chesapeake Biological Laboratory, Solomons, MD.

GLYCEROL-MEDIATED PHOTOREDUCTION OF HEXAVALENT CHROMIUM. E. J. Yorkow, J. Hong, S. Min, S. Wang, D. R. Cerven and G. L. DeGeorge. 1MB Research Laboratories, Spinnerstown, PA and 2Rutgers University, Piscataway, NJ.

REPRODUCTIVE TOXICITY OF ERGOT ALKALOIDS IN MINK. C. Sharma, S. J. Barssan, R. J. Aulerich, J. A. Bender, T. Reimers and G. E. Rottinghaus. 1Department of Animal Science, Michigan State University, East Lansing, MI, 2Department of Pathology, Michigan State University, East Lansing, MI, 3Diagnostic Laboratory, Cornell University, Ithaca, NY and 4Veterinary Medical Diagnostic Lab., University of Missouri, Columbia, MO.


STRESS PROTEINS AND MDA. J. J. Moreland and B. S. Washburn. UTEP, El Paso, TX.

#1547 IMMUNOCHEMICAL DETECTION OF MICROCYSTIN-LR IN TISSUES OF RAINBOW TROUT AND CARP. B. C. Hitzfeld1, W. J. Fischer1, V. Fleischhauer1, J. E. Eriksson2, A. Mikhailov2 and D. R. Dietrich1. 1Environmental Toxicology, University of Konstanz, Konstanz, Germany and 2Turku Centre for Biotechnology, Turku, Finland.

#1548 DETECTION OF CYANOBACTERIAL TOXINS IN WHITEFISH (COREGONUS LAVARETS L.) FROM LAKE AMMERSEE. B. Ernst, B. C. Hitzfeld and D. R. Dietrich. Environmental Toxicology, University of Konstanz, Konstanz, Germany.

#1549 AN ELISA WITH BROAD SPECIFICITY TO CYCLIC PEPTIDE CYANOBACTERIAL TOXINS. W. J. Fischer1, V. Fleischhauer1, R. Chamberlin2, J. B. Aggen2, I. Garthwaite3, C. Miles3, K. Ross3, N. Towers3 and D. R. Dietrich1. 1Department of Environmental Toxicology, University of Konstanz, Konstanz, Germany; 2Department of Chemistry, University of California, Irvine, CA; and 3Toxicology & Food Safety, AgResearch, Ruakura, New Zealand.

#1550 LETHAL AND SUBLETHAL EFFECTS OF IVERMECTIN IN A FRESHWATER OLIGOCHAETE, LUMBRICULUS VARIEGATUS. J. Ding, C. D. Drewes and W. H. Hsu. Iowa State University, Ames, IA. Sponsor: S. Hendrich.

#1551 EFFECTS OF CLAVICEPS PURPUREA VAR SPARTINAEE (SPARTINA ERGOT) FED TO ADULT JAPANESE MEDAKA (ORYZIAS LATIPES). C. Beck1, R. A. Duncan2, R. Sullivan2, J. White2 and K. R. Cooper1. 1Joint Graduate Program in Toxicology, Rutgers University, New Brunswick, NJ and 2Dept. of Plant Pathology, Cook College, Rutgers University, New Brunswick, NJ.

#1552 BIOLOGICAL STUDIES CONDUCTED ON SOUTH MONMOUTH AND CAPE MAY SEWERAGE AUTHORITIES EFFLUENTS AND RECEIVING WATERS TO A MARINE FISH (FUNDULUS HETEROCLOITS), A FRESHWATER FISH (ORYZIAS LATIPES), AMERICAN OYSTER (CRASSOSTREA VIRGINICA), AND A CRUSTACEAN (MYSIDOPSIS BAHIA). A. S. Blankinship1, K. R. Cooper1, R. I. Hires2 and C. C. Obrupt3. 1Rutgers, The State University of New Jersey, New Brunswick, NJ and 2Stevens Institute of Technology, Hoboken, NJ.

#1553 RANUNCULUS SP. INVESTIGATION OF THE POTENTIAL FOR USE OF A TOXIC PLANT IN AMPHIBIAN HABITAT RESTORATION. J. E. Murphy1, J. K. Johnson2, R. B. Cope1 and V. R. Beasley1. 1Department of Veterinary Biosciences, University of IL, Urbana, IL and 2Department of Veterinary Pathobiology, University of IL, Urbana, IL.


#1555 SYSTEMIC BIOCHEMICAL EFFECTS IN CATTLE EXPOSED TO REPEAT LOW DOSES OF A PETROLEUM CRUDE OIL AND DIESEL. A. A. Khan1, R. W. Coppock1, M. M. Schuler1, M. N. Hiltz1 and M. S. Mostrom2. 1Alberta Research Council, Vegreville, Alberta, Canada and 2Mostrom Veterinary Clinic, Manly, IA.

WEDNESDAY AFTERNOON, MARCH 22
1: 30 PM – 4: 30 PM
PENNSYLVANIA CONVENTION CENTER
EXHIBIT HALL A
POSTER SESSION: PESTICIDES

Chairpersons: Marion F. Ehrich, VA-MD Regional College of Veterinary Medicine, Blacksburg, VA and Ramesh Gupta, Murray State University, Hopkinsville, KY.

Displayed: 1: 30 PM – 4: 30 PM
Attended: 1: 30 PM – 3: 00 PM

#1556 ESTROGEN-INDEPENDENT EFFECTS OF ATRAZINE(ATH) ON MAMMARY GLAND(MG) DEVELOPMENT IN RATS. S. N. Greiner, G. L. Youngblood and S. R. Fenton. EB, RTD, USEPA. Research Triangle Park, NC. Sponsor: R. J. Kavlock.

#1557 ANTIOXIDANT PRETREATMENT PREVENTS SEIZURE-INDUCED LOSS OF CYTOCHROME C OXIDASE AND HIGH-ENERGY PHOSPHATES DEPLETION IN BRAIN REGIONS OF RAT. W. D. Deetbarn1, D. Milatovic1 and R. C. Gupta2. 1Vanderbilt University, Nashville, TN and 2Murray State University, Hopkinsville, KY.

#1558 PROTECTION BY ANTIOXIDANTS AGAINST DEPLETION OF HIGH-ENERGY PHOSPHATES IN RAT BRAIN REGIONS FOLLOWING CARBOFURAN-INDUCED SEIZURES. R. C. Gupta1, D. Milatovic2 and W. D. Deetbarn2. 1Murray State University, Hopkinsville, KY and 2Vanderbilt University, Nashville, TN.

#1559 ANTIOXIDANTS PREVENT DEPLETION OF HIGH-ENERGY PHOSPHATES ASSOCIATED WITH STATUS EPILEPTICUS IN BRAIN REGIONS OF RAT. D. Milatovic1, R. C. Gupta2 and W. D. Deetbarn1. 1Vanderbilt University, Nashville, TN and 2Murray State University, Hopkinsville, KY.

#1560 THE CORNEAL EFFECTS OF 2-(2-NITRO-4-TRIFLUOROMETHYL)BENZYL)-CYCLOHEXANE 1,3-DIONE (NTBC) IN THE RAT. M. Robinson and M. Provans. AstraZeneca, Macclesfield, United Kingdom. Sponsor: L. L. Smith.
THE EFFECT OF 2-(2-NITRO-4-TRIFLUOROMETHYLBENZOYL)-CYCLOHEXANE-1,3-DIONE (NTBC) ON TYROSINE CATABOLISM IN THE MOUSE. E. A. Lock1, P. Gaskin1, M. K. Ellis1, W. M. Provan1, M. Robinson1 and L. L. Smith1. AstraZeneca Central Toxicology Laboratory, Alderley Park, Macclesfield, United Kingdom and 2Zeneca Agrochemicals, Fernhurst, Haslemere, United Kingdom.


SPECIES DIFFERENCE IN DEVELOPMENTAL CHANGES AFTER TREATMENT WITH MESOTRIONE, R. W. Lewis, M. Provan, M. Robinson, M. E. Moxon and L. L. Smith. AstraZeneca, Macclesfield, United Kingdom.

GROSS ANATOMY AND HISTOPATHOLOGICAL CHANGES FROM CHRONIC EXPOSURE TO 2,4-DICHLOROPHENOXYACETIC ACID IN RATS. M. H. Kadi1 and M. Tawfik2. 1Department of Pathology, Faculty of Veterinary Medicine, Zagazig University, Zagazig, Egypt and 2The Research Institute of Animal Health, Zagazig, Egypt. Sponsor: D. Acosta, Jr.

EFFECT OF 2-METHYL-4-CHLOROPHENOXYACETIC ACID (MCPA) ON THE PLASMA AUC AND URINARY ELIMINATION OF 2,4-DICHLOROPHENOXYACETIC ACID (2,4-D) IN THE DOG. L. M. Dickow, D. F. Gerken, R. A. Sams and S. Ashcraft. Ohio State University College of Veterinary Medicine, Columbus, OH.


DIETHYLDITHIOCARBAMATE CATECHOLATES CATALYZE THE FORMATION OF CATECHOL THIOETHERS. V. A. Fitsanakis, V. Amarnath, T. J. Montine and D. G. Graham. Vanderbilt University, Nashville, TN.

DEVELOPMENTAL EXPOSURE TO TRIADIMEFOM: BEHAVIORAL AND DOPAMINERGIC EFFECTS. C. R. Filbrandt1, M. Thruchelvam1, D. A. Cory-Slechta1 and B. J. Brockle2. 1University of Rochester, Rochester, NY and 2Kansas State University, Manhattan, KS.


IN VIVO PROMOTING POTENCY OF TECHNICAL TOXAPHENE, UV-IRRADIATED TOXAPHENE, AND WEATHERED TOXAPHENE. H. T. Besselink1, E. Nixon2, B. McHugh2, J. Klungsoy3 and A. Brouwer4. 1Institute for Environmental Studies - Free University, Amsterdam, Netherlands, 2Fisheries Research Centre, Dublin, Ireland and 3Institute for Marine Research, Bergen, Norway.

IN VITRO GENOTOXICITY AND TUMOR PROMOTING POTENCY OF TECHNICAL TOXAPHENE, UV-IRRADIATED TOXAPHENE, AND WEATHERED TOXAPHENE. A. Brouwer1, E. Nixon2, B. McHugh2, J. Klungsoy3 and H. T. Besselink1. 1Institute for Environmental Studies - Free University, Amsterdam, Netherlands, 2Fisheries Research Centre, Dublin, Ireland and 3Institute for Marine Research, Bergen, Norway.

THE INSECTICIDE DPX-MP062 AND ITS METABOLITE DCJW BLOCK SODIUM CHANNELS IN MAMMALIAN NEURONS. X. Zhao, K. Nagata, J. Z. Yeh and J. Narahashi. Northwestern University Medical School, Chicago, IL.
ACUTE FISH TOXICITY OF PHOSPHOROTHIONATE-ESTERS DUE TO TWO INDEPENDENT TOXIC EFFECTS ON THE NERVOUS SYSTEM. A. P. Freidig and J. L. M. Hermens. Research Institute of Toxicology, Utrecht University, Utrecht, Netherlands. Sponsor: M. vandenBerg.

MALE REPRODUCTIVE FUNCTION AND ENDOCRINE PROFILE IN MEXICAN PEASANTS EXPOSED TO P,P'-DICHLOROPHENYL DICHLOROETHYLENE (PP'-DDE). P. Ayotte1, S. Giroux1, M. Hernandez-Avila2, I. Romieu3, J. P. Weber4 and E. Dewailly1. 1Public Health Research Unit, Laval University Medical Research Center, CHUQ, Beauport, Quebec, Canada, 2Instituto Nacional de Salud Publica, Cuernavaca, Mexico, 3Pan American Health Organization, Washington, DC and 4Quebec Toxicology Center, CHUQ, Ste-Foy, Quebec, Canada.


GENE EXPRESSION IN HUMAN NEUROBLASTOMA CELLS AND IN NERVES FROM HENS EXPOSED TO NEUROPATHIC ORGANOPHOSPHORUS ESTER (OPS). G. Schroder, M. Ehrlich, D. Barber and B. S. Jortner. Virginia-Maryland Regional College of Veterinary Medicine, Blacksburg, VA.


ORGANOPHOSPHORUS COMPOUNDS INDUCE CASPASE-3 ACTIVATION. R. Carlson, B. S. Jortner and M. Ehrlich. Virginia-Maryland Regional College of Veterinary Medicine, Blacksburg, VA.

HUMAN PARAOXONASE (PON1) ISOZYMES: QUANTITATIVE ANALYSIS OF ISOZYMES AFFECTING INDIVIDUAL SENSITIVITY TO ORGANOPHOSPHATES. S. Bielecke1, C. Hsu1, R. Haley2, C. Broomfield3, C. Furlong4, H. Davies4, R. Richter4 and B. L. Du4. 1University of Michigan, Ann Arbor, MI, 2University of Texas Southwestern Medical Center, Dallas, TX, 3U.S. Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, MD and 4University of Washington, Seattle, WA. Sponsor: Y. Osawa.

TISSUE PARTITIONING OF PARATHION AND PARAOXON AS ASSESSED BY EQUILIBRATION DIALYSIS. A. Kousha and L. G. Sultatos. UMIDNJ Graduate School of Biomedical Sciences, Newark, NJ.

KINETIC INTERACTIONS OF PARAOXON WITH RAT BRAIN ACETYLCHOLINESTERASE. L. G. Sultatos. New Jersey Medical School/UMIDNJ, Newark, NJ.


IDENTIFICATION OF THE ACETYLCHOLINESTERASE (ACHE) ADDUCT, AFTER INHIBITION WITH 15,35-ISOMALATHION, USING MATRIX-ASSISTED LASER DESORPTION/IonIZATION-MASS SPECTROMETRY (MALDI-MS). J. A. Doorn1, D. A. Gage3, T. T. Talley2, C. M. Thompson4 and R. J. Richardson1. 1Toxicology Program, Department of Environmental Health Sciences, The University of Michigan, Ann Arbor, MI, 2Department of Biochemistry, Michigan State University, East Lansing, MI, 3Department of Chemistry, University of Montana, Missoula, MT and 4Department of Pharmaceutical Sciences, University of Montana, Missoula, MT.
INHIBITORY AND POSTINHIBITORY KINETICS OF ELECTRIC EEL ACETYLCHOLINESTERASE (ACHE) WITH THE CHIRAL PROBE ISOMALATHION, R. J. Richardson, J. A. Doorn, T. T. Talley and C. M. Thompson. Toxicology Program, Department of Environmental Health Sciences, The University of Michigan, Ann Arbor, MI; 2Department of Chemistry, University of Montana, Missoula, MT and 3Department of Pharmaceutical Sciences, University of Montana, Missoula, MT.

INTRACYTOPLASMIC CISTERNAL HYPERPLASIA IN CHICKEN EMBRYO BRAIN REAGGREGATE CULTURES FOLLOWING EXPOSURE TO THE NEUROTOXIC ORGANOPHOSPHATE PHENYL SALIGENIN PHOSPHATE (PSP), B. S. Jortner, J. Hamley, S. K. Perkins, D. S. Barber and M. Ehrich. Virginia Tech, Blacksburg, VA.

ADENOSINE TRIPHOSPHATE (ATP) CONCENTRATION IN HEN SCATIC NERVES AFFECTED WITH ORGANOPHOSPHORUS ESTER-INDUCED DELAYED NEUROPATHY (OPIDN), C. Massicotte, D. S. Barber, B. S. Jortner and M. Ehrich. Virginia Tech, Blacksburg, VA.

PROMOTION AND PROTECTION FROM AN ORGANOPHOSPHATE-INDUCED DELAYED POLYNEUROPATHY (OPIDP) BY MOLINATE: BIOCHEMICAL, CLINICAL AND MORPHOLOGICAL STUDIES, A. Moretto, G. Gardiman, M. A. Celle, E. A. Lock and M. Lotti. Università di Padova, Padova, Italy; 2AstraZeneca Central Toxicology Laboratory, Alderley Park, United Kingdom and 3AstraZeneca Central Toxicology Laboratory, Alderley Park, United Kingdom.

AGE-RELATED INHIBITION OF FORSKOLINE-STIMULATED CAMP FORMATION BY CHLORPYRIFOS OXON IN RAT CORTICAL SLICES, K. J. Olivier and C. N. Pope. University of Louisiana, Monroe, LA.

AGE PROFILE OF CARBOXYLESTERASE AND A-ESTERASE ACTIVITIES AND THEIR RELATIONSHIP TO THE TOXICITY OF CHLORPYRIFOS AND PARATHION IN RATS, S. Karanth and C. Pope. The University of Louisiana at Monroe, Monroe, LA.

AGE-RELATED EXPRESSION OF CORTICAL NICOTINIC AUTORECEPTOR FUNCTION: PARTIAL CHARACTERIZATION AND EVALUATION OF SENSITIVITY TO ORGANOPHOSPHORUS PESTICIDES, Y. J. Wu and C. N. Pope. The University of Louisiana at Monroe, Monroe, LA.

EFFECTS OF CHRONIC DIETARY AND REPEATED HIGH-LEVEL SPIKE EXPOSURE TO CHLORPYRIFOS ON LEARNING IN RATS. T. E. Samsam, P. J. Bushnell, R. S. Marshall and D. L. Hunter. USEPA, Research Triangle Park, NC.

IN VITRO AND IN VIVO EFFECTS OF CHLORPYRIFOS ON CARDIAC MUSCARINIC RECEPTORS, M. D. H. Stiles and C. N. Pope. The University of Louisiana at Monroe, Monroe, LA.

CIRCADIAN VARIATIONS IN CHLORPYRIFOS (CHP)-INDUCED ALTERATIONS IN CORE TEMPERATURE (°C) AND MOTOR ACTIVITY (MA) IN THE RAT, C. M. Mack, P. J. Rowsey and C. J. Gordon. USEPA, NEELR, Research Triangle Park, NC and 2University of North Carolina, Chapel Hill, NC. Sponsor: R. C. MacPhail.

PROLONGED ELEVATION IN BLOOD PRESSURE (BP) IN THE RAT EXPOSED TO CHLORPYRIFOS (CHP), C. J. Gordon, B. K. Padnos and P. Becker. USEPA, Research Triangle Park, NC. Sponsor: R. C. MacPhail.

FIPRONIL MODULATION OF GABA(A) RECEPTORS IN RAT DORSAL ROOT GANGLION NEURONS, T. Ikeda, K. Nagata, Y. Kono, J. Z. Yeh and T. Naranbashi. University of Tsukuba, Tsukuba, Japan; 2Brain Sciences Inst., Inst. of Physical & Chemical Research, Waco, Japan and 3Northwestern University Medical School, Chicago, IL.


TOLERANCE AND SENSITIZATION TO WEEKLY NICOTINE EXPOSURES ON THE MOTOR ACTIVITY OF RATS, R. C. MacPhail, J. D. Farmer and H. A. Tilson. Neurotoxicology Division, USEPA, Research Triangle Park, NC.

AN APPROACH TO NEUROLOGICAL/BEHAVIORAL TESTING WITHIN THE LONG-TERM RODENT STUDY, B. S. Wahle, L. P. Sheets and W. R. Christenson. Bayer Corporation, Stiltwell, KS.
SOCIETY OF TOXICOLOGY
39th Annual Meeting

#1605
DETERMINATION OF HEXACHLOROBENZENE IN RODENT BLOOD AND TISSUE. R. M. Moore1, A. Y. Shan1, W. F. Sherman1, A. P. Clark†1, K. R. Harris1 and D. Overstreet2. 1Midwest Research Institute, Kansas City, MO and 2US NIH, NIEHS, Research Triangle Park, NC. Sponsor: M. L. Cunningham.

WEDNESDAY AFTERNOON, MARCH 22
1:30 PM - 4:30 PM
PENNSYLVANIA CONVENTION CENTER
EXHIBIT HALL A

POSTER SESSION: CARDIOVASCULAR

Chairpersons: Jean-Jacques Legrand, Institute Henri Beaumor, Les Ulis, Cedex, France and Alan Combs, University of Texas, Austin, TX.
Displayed: 1:30 PM - 4:30 PM
Attended: 3:00 PM - 4:30 PM

#1608

#1609
CARDiac TOXICITY OF NITROGEN TetroXIDE: QTc PROLONgATION IN EXPOSED PATIENTS. N. Braubach1, T. Callahan2, W. S. Shell1 and L. Joyner3. 1USC, School of Medicine, Department of Medicine, Los Angeles, CA, 2Beverly Glen Medical Systems, Los Angeles, CA and 3Joyner Pulmonary Clinic, Bogalusa, LA.

#1610

#1611

#1612
QUINOLONE QTc PROLONGATION AND HEMODYNAMICS IN AN ANESTHETIZED DOG MODEL. V. Murphy1, S. Mittlestadt1, B. Kuzmak1, G. Gromelski2 and P. Gayheart-Walsten2. 1P&G Pharmaceuticals, Mason, OH and 2Chrysalis Int., Olyphant, PA.

#1613
INFLUENCE OF THE RESPIRATORY SINUS ARRHYTHMIA ON THE QT INTERVAL LENGTH AND ON THE QT/RR RELATIONSHIP IN CONSCIOUS BEAGLE DOGS. J. Legrand1, C. Delubac2, C. Fischer and R. Forsli3. 1Institut Henri Beaufour, Les Ulis, France and 2Centre International de Toxicologie, Miserey, France.

#1614
EFFECTS OF COCAINE ALONE OR COCAINE PLUS GBR-12909 ON CARDIOVASCULAR HEMODYNAMIC AND ELECTROGRAPHIC PARAMETERS IN CONSCIOUS UNRESTRAINED BEAGLES. M. P. Smith1, J. H. Ludens1, L. H. Hulsebos1, G. J. Schaefer1, P. E. Newton1, N. B. Olivier1 and J. B. Terril1. 1MPI Research, Mattawan, MI, 2Michigan State University, East Lansing, MI and 3National Institute on Drug Abuse, Bethesda, MD.

#1615
A NEW PERSPECTIVE FOR IDENTIFYING POTENTIAL CARDIAC SENSITIZERS. E. A. Smith1, T. Nakayama2, E. Herderick3, J. Powers4, G. Briggs1, K. Stull1 and R. Hamlin2. 1Geo-Centers, Inc./NHRCT/D, Wright-Patterson AFB, OH, 2The Ohio State University, Columbus, OH and 3Naval Health Research Center/Toxicology Detachment, Wright-Patterson AFB, OH.

#1616

#1617
HEART RATE VARIABILITY IN HEALTHY- AND MONOCROTALINE-TREATED RATS DURING EXPOSURE TO LOWERED AMBIENT OXYGEN. M. J. Campen1, J. P. Nolan2, T. P. Jenkins3, S. M. Dowd2, R. Mebane2, Q. T. Krantz2, D. L. Costa2 and W. P. Watkinson2. 1UNC School of Public Health, Chapel Hill, NC, 2Pulmonary Toxicology Branch, NHEERL, USEPA, Research Triangle Park, NC and 3ECU Department of Physics, Greenville, NC.

#1618
A CARDIOVASCULAR RADIOAUTOGRAPHY STUDY OF A SUBCUTANEOUS DOSE OF APOMORPHINE HCL IN BEAGLE DOGS. A. F. Youssef1, C. Hassler1, R. Hamlin2 and E. L. Fort1. 1TAP Holdings Inc., Deerfield, IL, 2Batelle, Columbus, OH and 3The Ohio State University, Columbus, OH.
#1619
AN ACUTE INTRAVENOUS STUDY OF A LONG HALF LIFE FORM OF LEPTIN IN THE CONSCIOUS BEAGLE DOG. K. Moore, G. Washer, D. Miller and H. Davis. 1Department of Toxicology, Amanco Inc., Thousand Oaks, CA and 2CinTrials BioResearch, Quebec, Canada.

#1620

#1621

#1622
CARDIOVASCULAR EFFECTS OF TUMONISIN B1 IN MILK-FED CALVES. S. Mathur, P. D. Constable, R. M. Eppley, M. E. Tumbleson, G. W. Smith, W. J. Tranquill, D. E. Morin and W. M. Hascbeck. 1Department of Veterinary Clinical Medicine, University of Illinois, Urbana, IL; 2USFDA, Washington, DC; 3Department of Veterinary Biosciences, University of Illinois, Urbana, IL and 4Department of Veterinary Pathobiology, University of Illinois, Urbana, IL.

#1623

#1624
THE SYSTEMIC EFFECTS OF RHHGF WHEN ADMINISTERED TO MALE CYMOMOLGUS MONKEYS BY INTRAVENOUS INFUSION (IV) OR INTRAMUSCULAR INJECTION (IM). S. Ortega, T. Reynolds, S. Eppler, T. Zionscheck, T. Goldzeiter, D. Thomas, J. Nelson and N. A. Turner. 1Genentech, Inc., South San Francisco, CA, 2Sierra Biomedical, Inc., Sparks, NV and 3Battelle, Columbus, OH.

#1625

#1626
IMMUNOGOLD LOCALIZATION OF METALLOTHIONEIN AND SUBCELLULAR PROTECTION AGAINST DOXORUBICIN TOXICITY IN TRANSGENIC MOUSE HEARTS. Z. X. Zhou and Y. J. Kang. University of Louisville, Louisville, KY.

#1627
PREVENTION OF VERAPAMIL-INDUCED MYOCARDIAL DEPRESSION VIA AN EXPERIMENTAL VERAPAMIL-SPECIFIC IG. R. E. Hill, K. Heard, G. M. Bogdanski, C. Cairos and R. C. Durst. 1University of Colorado Health Sciences Center, Denver, CO and 2Rocky Mountain Poison and Drug Center-Denver Health, Denver, CO.

#1628
ANTI-APOPTOTIC EFFECT OF METALLOTHIONEIN CONTRIBUTES TO ITS INHIBITION OF ISCHEMIA/REPERFUSION-INDUCED INFARCTION IN MOUSE HEARTS. X. C. Sun, Z. X. Zhou and Y. J. Kang. University of Louisville, Louisville, KY.

#1629
PHOSPHODIESTERASE TYPE III (PDE III) INHIBITOR INDUCES VASCULITIS PRECEDED BY APOPTOSIS IN MESENTERIC VESSELS AND LYMPHOID TISSUES IN RATS. J. Zhang, E. H. Herman, J. L. Weaver, D. P. Chadwick, D. Broud, B. A. Rosenzweig, A. D. Knapton, V. E. Whitehurst and F. D. Sistare. Center for Drug Evaluation and Research, FDA, Laurel, MD.

#1630
EFFECT OF LEAD ACETATE AND CADMIUM CHLORIDE ON ENDOTHELIAL NITRIC OXIDE SYNTHASE EXPRESSION. S. Ramasamy and M. Delong. Emory University, Atlanta, GA.

#1631
PLASMA CARDIAC TROPONIN T LEVELS IN THE SPRAUGE DAWLEY RAT AS AN INDICATOR OF CARDIOTOXICITY. C. M. Cinege and A. B. Combs. Division of Pharmacology and Toxicology, College of Pharmac, Austin, TX.

#1632
CARDIAC HYPERTROPHY IN MICE LACKING THE ARY1 HYDROCARBON RECEPTOR. E. A. Thackaberry and S. M. Smith. University of Wisconsin, Madison, WI.

#1633
INHIBITION OF FATTY STREAK FORMATION AND LIPID OXIDATION BY LOW DOSES OF ACETAMINOHEN IN HYPERCHOLESTEROLEMIC RABBITS. L. K. Rogers, A. A. Taylor, J. L. Raya, A. L. Gest and C. V. Smith. Baylor College of Medicine, Houston, TX.
DIFFERENTIAL PROTECTION BY RAT UDP-GLUCURONOSYL TRANSFERASE UGT1A7 AGAINST BENZO(A)PYRENE-3,6-QUINONE-VERSUS BENZO(A)PYRENE-INDUCED CYTOTOXIC EFFECTS IN HUMAN LYMPHOBLASTOID CELLS. J. K. Ritter, A. D. Grove, G. C. Llewellyn, K. L. White, C. L. Crespi and F. K. Kessler. Virginia Commonwealth University, Richmond, VA and Gentest Corp., Woburn, MA.

EXPRESSION OF CYTOCHROME P450 1A1 (CYP1A1) AND DNA ADDUCT FORMATION IN RAT LIVER AND LUNG SLICES INCUBATED WITH BENZO(A)PYRENE (BAP) IN DYNAMIC ORGAN CULTURE. J. A. Hand, B. P. McGarrigle, A. E. Macaebin and J. R. Olson. Department of Pharm. Toxicol., SUNY at Buffalo, Buffalo, NY and Department of Pharm., Roswell Park Cancer Institute, Buffalo, NY.

TRANSIENT ANEMIA INDUCED IN NZB/WF1 MICE TREATED WITH BENZO(A)PYRENE. E. K. Leffel, C. D. Booker and K. L. White, Jr. Virginia Commonwealth University, Richmond, VA.

BENZO(A)PYRENE METABOLITES MODULATE SPI DEVELOPMENTAL EXPRESSION PROFILES IN RATS SUBSEQUENT TO AEROSOL EXPOSURE. D. B. Hood, A. Ramesh, T. Nayar, M. M. Greenwood, F. Inyang, A. Nyanda and A. Archibong. Meharry Medical College, Nashville, TN.

DIETARY 3-METHYLCOLANTHRENE (3MC) INDUCES CYP1A AND CONVERSION OF BENZO(A)PYRENE-7,8-DIHYDRODIOL TO METABOLITES THAT BIND DNA IN CATFISH INTESTINE. M. O. James, C. J. Li, Z. Lou, K. M. Klei and J. J. Stegenman. University of Florida, Gainesville, FL and Louisiana State University, Baton Rouge, LA and Woods Hole Oceanographic Institution, Woods Hole, MA.


EFFECTS OF PCB MIXTURES AND CONGENERS ON THE BILARY EXCRETION OF THYROXINE. L. A. Martin, M. A. Gallo, N. R. Vansell and C. D. Klaassen. Rutgers, The State University of New Jersey, Piscataway, NJ and University of Kansas Medical Center, Kansas City, KS.
Society of Toxicology
39th Annual Meeting

#1645 ANTIESTROGENICITY OF CLARIFIED SLURRY OIL AND TWO CRUDE OILS IN A HUMAN BREAST-CANCER CELL ASSAY. K. F. Arcaro1, J. F. Gierthy2 and C. R. Mackerer3. 1University at Albany, School of Public Health, Albany, NY, 2New York State Department of Health, Albany, NY and 3Mobil Business Resources Corporation, Paulsboro, NJ.

#1646 CHARACTERIZATION OF ASPHALT FUME GENERATION SYSTEM. J. Wang, D. G. Frazer, S. Tomblin, S. Stone, A. Afshari, B. Z. Zhong, D. M. Lewis and P. D. Siegel. NIOSH/HELD, Morgantown, WV.

#1647 THE AHR AND CYPIB AS TARGETS FOR PePTIDE/TUMOR-SPECIFIC CANCER IMMUNOTHERAPY. B. Meecker1, R. Vonderheide1, M. von Bergwelt-Baidonen1, M. Bedor1, C. Shen2, J. Schultz1 and D. H. Sherer2. Dana-Farber Cancer Institute, Boston, MA and 2Boston University School of Public Health, Boston, MA.

#1648 COMPARATIVE RESPONSIVENESS OF LONG EVANS RATS VERSUS C57BL/6J MICE GIVEN TCDD-LIKE AND PHENOBARBITOL-LIKE PCB (POLYCHLORINATED BIPHENYL) CONGENERS. E. S. Craft1, D. G. Ross2, M. J. DeVito3 and K. M. Crofton1. 1North Carolina State University, Raleigh, NC, 2USEPA NHEERL, Experimental Toxicology Division, Research Triangle Park, NC and 3USEPA NHEERL Neurotoxicology Division, Research Triangle Park, NC.

Wednesday Afternoon, March 22
1:30 PM - 4:30 PM
Pennsylvania Convention Center
Exhibit Hall A

Poster Session: Hematopoiesis

Chairperson: Charles Timchalk, Battelle, Pacific Northwest National Laboratory, Richland, WA.
Displayed: 1:30 PM - 4:30 PM
Attended: 3:00 PM - 4:30 PM

#1649 EFFECTS OF CO-EXPOSURE OF BENZENE AND RADIATION (YTRIUM-90) ON HEMATOPOIESIS IN CBA/CA MICE. C. Timchalk1, J. E. Morris1, R. A. Corley1 and K. Ribbedesh2. 1Battelle, Pacific Northwest National Laboratory, Richland, WA and 2State University New York at Stony Brook, Stony Brook, NY.


#1652 ROLE OF MEK KINASE PATHWAYS IN HEMATOPOIESIS. S. I. West1, B. A. Jones2, P. A. Scherer2 and B. D. Carl1. 1Dupont Pharmaceuticals Company, Newark, DE and 2Dupont Pharmaceuticals Company, Wilmington, DE.

#1653 HEMATOTOXICITY OF DITHIOCARBAMATES ON CD34+ HUMAN BONE MARROW CELLS. R. D. Irons, Y. Yang, A. Le, W. S. Stillman and D. W. Pyatt. University of Colorado, Denver, CO.

#1654 HEMATOTOXICITY OF THE CHINESE HERBAL MEDICINE, TRIPETYRGIUM WILFORDII HOOK F IN CD34+ HUMAN BONE MARROW CELLS. D. W. Pyatt, Y. Yang, B. Melhos, A. Le, W. S. Stillman and R. D. Irons. University of Colorado, Denver, CO.

#1655 CATALYTIC INHIBITION OF TOPOISOMERASE IIα BY BENZENE METABOLITES. R. K. Baker, D. W. Pyatt, R. D. Irons and D. J. Kroll. University of Colorado Health Sciences Center, Denver, CO.

#1656 FLOW CYTOMETRIC ANALYSES OF MAGNETICALLY-ENRICHED BONE MARROW LINEAGE NEGATIVE CELLS REVEAL TCDD-MODIFIED HEMOPOIETIC STEM CELL DIFFERENTIATION PROFILES. F. G. Macante and T. A. Gasteck. University of Rochester Medical Center, Rochester, NY.

Wednesday Evening, March 22
4:30 PM - 5:30 PM
Pennsylvania Convention Center
ROOMS 1-202A

SOT Council Meeting with Graduate Students/Post Doctoral Fellows

To enable the SOT Council to better understand the issues facing graduate students/post-doctoral fellows, a discussion has been scheduled. Interested students/post-doctoral fellows should bring ideas for future SOT activities and programs to this informal dialogue.
DENDRITIC CELLS: TARGETS FOR, AND MEDIATORS OF, IMMUNOTOXICITY AND ALLERGY. I. Kimber1 and N. I. Kerkvliet2.
1AstraZeneca Central Toxicology Laboratory, Cheshire, United Kingdom and 2Oregon State University, Corvallis, OR.

DENDRITIC CELLS IN IMMUNOBIOLOGY AND PATHOLOGY. S. Knight, Imperial College School of Medicine, Middlesex, United Kingdom. Sponsor: I. Kimber.

ALTERATION OF DENDRITIC CELL CYTOKINE SECRETION BY TOTAL BODY UV EXPOSURE. S. E. Ulrich, MD Anderson Cancer Center, Houston, TX. Sponsor: I. Kimber.
SYMPOSIUM SESSION: SURROGATE BIOMARKERS FOR DRUG SAFETY

Chairpersons: Raymond Tennant, NIEHS, Research Triangle Park, NC and Harry M. Olson, Pfizer, Inc., Groton, CT.

A plethora of technological and conceptual advances in molecular biology and medicine, genetics and genomics, and related research has opened significant opportunities for development of an abundance of new therapies. These opportunities provide a challenge to the assessment of the safety and efficacy of these new candidate therapies. This symposium will provide a review of the current status of toxicology biomarkers in drug development and clinical safety assessments. Particular emphasis is on the demonstration that biomarkers can serve as early predictors of adverse effects and on the development of technological approaches to find out more and better toxicology biomarkers.

#1660 9:45 DENDRITIC CELLS AS A POTENTIAL TARGET FOR THE IMMUNOTOXICITY OF TCDD. N. I. Kerkvliet. Oregon State University, Corvallis, OR.

#1661 10:15 DENDRITIC CELLS AND THE INDUCTION AND REGULATION OF ALLERGIC RESPONSES TO CHEMICALS. I. Kimber. AstraZeneca Central Toxicology Laboratory, Cheshire, United Kingdom.

#1662 10:45 DENDRITIC CELLS AND THE DEVELOPMENT OF ALTERNATIVE STRATEGIES FOR SKIN SENSITIZATION TESTING. G. F. Gerberick. Procter & Gamble Co., Cincinnati, OH.

11:15 GENERAL DISCUSSION.
#1670 9:00  RODENT CARCINOGENICITY OF DIMETHYLASRNIC ACID, AN ORGANIC ARSENIC METABOLITE. S. Fukushima, H. Watanabe, S. Yamamoto, M. Wei and E. I. Salim. Osaka City University Medical School, Osaka, Japan.

#1671 9:35  A PHYSIOLOGICALLY-BASED PHARMACOKINETIC MODEL FOR THE FOUR MAJOR ARSENIC METABOLITES IN ANIMALS AND MAN. S. Mann1 and P. O. Drozd2. 1Le Borgeau, Carrouge, Switzerland and 2Lausanne University, Lausanne, Switzerland. Sponsor: K. T. Kitchin.


11:05 GENERAL DISCUSSION.

THURSDAY MORNING, MARCH 23
8:30 AM — 11:30 AM
PENNSYLVANIA CONVENTION CENTER
ROOM(S) 17AB

POSTER DISCUSSION SESSION: APOPTOSIS SIGNALING PATHWAYS

Chairpersons: John J. Lennard, University of North Carolina, Chapel Hill, NC and Dean P. Jones, Emory University, School of Medicine, Atlanta, GA.

Displayed: 8:30 AM - 11:30 AM
Discussed: 9:30 AM - 11:30 AM


#1675 11:15  UPREGULATION OF FAS LIGAND IN VARIOUS TISSUES FOLLOWING TCDD ADMINISTRATION. M. T. Sproull1, A. Zeytun1, M. Nagarkatti2, L. M. Hudson1, R. Duncan2 and P. S. Nagarkatti1. 1Department of Biology, Virginia Polytechnic and State University, Blacksburg, VA and 2Department of Biomedical Sciences and Pathobiology, VA-MD Regional College of Veterinary Medicine, Blacksburg, VA.

#1676 11:45  OKADAIC ACID INDUCED APOPTOSIS AND RESISTANCE IN HT 1080 HUMAN FIBROSARCOMA CELLS. W. Zhao and B. A. Merrick. NIEHS, NIH, Research Triangle Park, NC.


#1679 12:45  ROLE OF PROTEOLYSIS IN BCL-XL DEPLETION DURING MK886-INDUCED APOPTOSIS IN FL1.5.12 CELLS. K. Datta, S. Biswal and J. P. Kehrer. University of Texas at Austin, Austin, TX.

#1680 1:15  DIFFERENTIAL INVOLVEMENT OF CAPSASES IN HYDROQUINONE-INDUCED APOPTOSIS IN HUMAN LEUKEMIC HL-60 AND JURKAT T CELLS. S. H. Inayat-Hussain, S. L. Winski and D. Ross. Department of Pharmaceutical Sciences, School of Pharmacy, University of Colorado Health Sciences Center, Denver, CO.


#1683 2:45  POST-TRANSLATIONAL MODIFICATION OF PS3 FOLLOWING TREATMENT WITH PSORALEN AND UV-A RADIATION (PUVA). A. B. Santamaria1, M. Kapoor2, G. Lozano2 and H. H. Ananthaswamy3. 1UT School of Public Health - M.D. Anderson Cancer Center, Houston, TX, 2M.D. Anderson Cancer Center - Department of Molecular Genetics, Houston, TX and 3M.D. Anderson Cancer Center - Department of Immunology, Houston, TX.
THE ROLE OF DNA MISMATCH REPAIR, P53 AND OTHER SIGNALING PATHWAYS IN DNA DAMAGE-INDUCED APOPTOSIS. M. J. Hickman and L. D. Sunson, Harvard School of Public Health, Boston, MA.

DELINEATION OF THE GLUCOCORTICOID-INDUCED APOPTOTIC PATHWAY IN RAT THYMOCYTES. C. L. Mann¹ and J. A. Cidlowski². ¹Curriculum in Toxicology, University of North Carolina-Chapel Hill, Chapel Hill, NC and ²National Institute of Environmental Health Sciences, National Institutes of Health, Research Triangle Park, NC. Sponsor: D. Holbrook.

N-ACETYLSPHINGOSINE (C2-CERAMIDE) DISRUPTION OF LYSOSOMES AND CATHEPSIN B DISTRIBUTION. J. J. Reiners, Jr.¹, P. A. Mathieu¹ and D. H. Kessel¹. ¹Institute Chemical Toxicology, Wayne State University, Detroit, MI and ²Department of Pharmacology, Wayne State University School of Medicine, Detroit, MI.

THURSDAY MORNING, MARCH 23
8:30 AM – 11:30 AM
PENNSYLVANIA CONVENTION CENTER
ROOMS S TO U4C

POSTER DISCUSSION SESSION: NEUROTOXICOLOGY OF SOLVENTS & HYDROCARBONS

Chairpersons: Beverly M. Kalig, TNO Nutrition & Food Research Institute, Zeist, Netherlands and Peter S. Spencer, Oregon Health Sciences University, Portland, OR.

1,2-DIACETYLBENZENE: A NEUROTOXIC & CHROMOCENIC AROMATIC HYDROCARBON. M. S. Kim¹, R. Kayton¹, D. Pham², J. Tinsley², V. Miller³, M. I. Sabir¹ and P. S. Spencer⁴. ¹Oregon Health Sciences University, Portland, OR, ²Oregon State University, Corvallis, OR and ³Center for Research Information, Silver Spring, MD.

DIACTYLBENZENE: AMINO ACID, PROTEIN AND ENZYME REACTIVITY. M. S. Kim¹, M. I. Sabir¹, D. Pham², J. Tinsley² and P. S. Spencer⁴. ¹Oregon Health Sciences University, Portland, OR and ²Oregon State University, Corvallis, OR.

ACUTE AND SUBCHRONIC NEUROTOXICOLOGICAL EVALUATION OF TETRAHYDROFURAN BY INHALATION IN RATS. L. A. Malley¹, G. R. Christoph¹, J. G. Stadler¹, J. F. Hansen¹ and J. A. Biernermeier². ¹The DuPont Co. Haskell Laboratory for Toxicology and Industrial Medicine, Newark, DE and ²Great Lakes Chemical Corporation, West Lafayette, IN.

NEUROBEHAVIORAL ASSESSMENT OF HYDROCARBONS AND ITS APPLICATION TO THE DEVELOPMENT OF OCCUPATIONAL EXPOSURE LIMITS FOR HYDROCARBON SOLVENTS. C. S. Nessel⁵, D. E. Owen⁶, J. H. C. Lammer⁷, H. Muijs² and B. M. Kalig⁸. ⁵Exxon Chemical Europe, Machesen Belgium, ⁶Shell Chemicals Europe, London, United Kingdom and ⁷TNO Nutrition and Food Research Institute, Zeist, Netherlands.

INVESTIGATION OF THE EFFECTS OF REPEATED EXPOSURE TO JP-8 VAPOR ON THE COGNITIVE CAPACITY OF RATS. J. Rossi¹, D. Wright¹, G. D. Ritchie¹, W. Malcolm², R. L. Carpenter¹, M. Y. Bekkedal² and A. F. Nordholm¹. ¹Naval Health Research Center Detachment-Toxicology (NHRC-TD), Wright Patterson AFB, OH and ²University of Arkansas Medical School, Little Rock, AK.

PBPK MODELING OF PEAK EXPOSURES TO WHITE SPIRIT. B. M. Kalig¹, A. M. Hisinne¹, J. Kruse¹, J. Lammer², F. Salmon³, R. H. McKee², D. Owen⁵ and C. S. Nessel⁵. ¹TNO Nutrition and Food Institute, Zeist, Netherlands, ²Exxon Chemical Europe, Brussels, Belgium and ³Shell Chemicals Ltd., London, United Kingdom.

METHYL TERTIARY-BUTYL ETHER (MTBE) AND RELATED COMPOUNDS INHIBIT BINDING AT A RECOGNITION SITE OF THE GABA RECEPTOR IN MEMBRANES FROM RAT BRAIN. J. V. Martin¹, N. M. Bilgin¹ and M. M. Bu². ¹Rutgers University, Camden, NJ and ²Rutgers University, Piscataway, NJ.

BEHAVIORAL EFFECTS OF TRICHLOROETHYLENE (TCE): EXPOSURE VS. MODEL PREDICTIONS. P. J. Bushnell¹, M. V. Evans², J. E. Simmons², J. H. Raymer² and W. K. Boyes¹. ¹Neurotoxicology Division, USEPA, Research Triangle Park, NC, ²Experimental Toxicology Division, USEPA, Research Triangle Park, NC and ³Research Triangle Institute, Research Triangle Park, NC.

TIME COURSE OF TOLERANCE TO REPEATED INHALATION OF TRICHLOROETHYLENE (TCE) IN RATS. W. M. Oshiro and P. J. Bushnell. US Environmental Protection Agency, Research Triangle Park, NC.

ACUTE NEUROTOXIC EFFECTS OF INHALED TOLENE ON PATTERN VISUAL EVOKE POTENTIALS AS A FUNCTION OF EXPOSURE AND ESTIMATED BLOOD AND BRAIN CONCENTRATION. W. K. Boyes¹, T. Jackson², M. Berzecci³ and M. Evans¹. ¹USEPA, Research Triangle Park, NC and ²Duke University, Durham, NC.
#1696  ACUTE BEHAVIORAL EFFECTS OF n-DECANE, 1,2,4-TRIMETHYLBENZENE AND WHITE SPIRIT IN RATS IN RELATION TO BRAIN AND BLOOD LEVELS. J. H. Lammers1, B. M. Kulig1, R. H. McKee2, D. Owen2 and C. S. Nessel3.
1TNO Nutrition and Food Research Institute, Zeist, The Netherlands. 2Exxon Chemical Europe, Brussels, Belgium and 3Shell Chemicals Ltd., London, United Kingdom.

#1697  PBPK MODELING OF n-DECANE AND 1,2,4-TRIMETHYLBENZENE ALONE OR AS CONSTITUENTS OF WHITE SPIRIT. A. M. Hissink1, B. M. Kulig1, J. H. Lammers1, J. Kruse1, F. G. Salmon1, R. H. McKee2, D. Owen2 and C. S. Nessel3. 1TNO Nutrition and Food Research Institute, Zeist, Netherlands. 2Exxon Chemical Europe, Brussels, Belgium and 3Shell Chemicals Ltd., London, United Kingdom.

#1701  A GUANYLYL CYCLASE INHIBITOR ATTENUATES THE RELAXATION RESPONSE OF UTERINE SMOOTH MUSCLE TO HYDROGEN PEROXIDE. T. Clipson and R. Loch-Caruso. University of Michigan, Ann Arbor, MI.

#1702  INHIBITION OF TESTOSTERONE BIOSYNTHESIS BY MOLINATE SULFOXIDE IN LEYDIG CELL-ENRICHED CULTURES. W. L. Phillips and M. G. Miller. University of California, Davis, Davis, CA.

#1703  LEYDING CELLS MEDIATE LEUPROLIDE STIMULATION OF SPERMATOGENESIS IN 2,5-HEXANEDIONE-INDUCED TESTICULAR ATROPHY. H. A. Schoenfeld, S. J. Hall and K. Boekesteijn. Department of Pathology and Laboratory Medicine, Brown University, Providence, RI.

#1704  EARLY RESPONSE OF THE TESTIS TO AN ORAL EXPOSURE TO THE FUNGICIDE CARBENDAZIM IN THE RAT. M. Nakai1, M. G. Miller2 and R. A. Heza1. 1University of Illinois at Urbana-Champaign, Urbana, IL and 2University of California Davis, Davis, CA.

#1705  MICRO TUBULE DISRUPTION BY CARBENDAZIM IS REGULATED BY MICRO TUBULE-ASSOCIATED PROTEINS. B. S. Winder, C. S. Stranggaard and M. G. Miller. University of California, Davis, CA.

#1706  PERINATAL/JUVENILE EXPOSURE TO METHOXYCHLOR REDUCES SERTOLI CELL NUMBERS IN ADULT RATS. L. Johnson1, R. E. Chapin2, M. W. Harris3, R. L. Silge1, A. C. Guidry4 and W. R. Lee1. 1Center for Environmental and Rural Health, Texas A&M University, College Station, TX and 2Reproductive Toxicology Group, National Institute of Environmental Health Sciences, Research Triangle Park, NC.

#1707  NINETY DAY INHALATION TOXICITY STUDY OF HCC-230FA IN RATS. J. R. Bamberger1, R. S. Scott1, J. F. Hansen1, C. S. Ladics1, W. J. Brock1, G. S. Elliott2, M. E. Hurth3 and M. S. Swanston1. 1Dupont Company, Newark, DE, 2Sierra Biomedical Inc., Sparks, NV, 3Pfizer Inc., Groton, CT and 4Vulcan Chemicals, Birmingham, AL.

#1708  EFFECT OF 4-VINYL CYCLOHEXENE DIEPOXIDE DOSING ON EXPRESSION OF bax IN RAT AND MOUSE SMALL FIEEEAL FOLLICLES. K. E. Thompson, S. M. Borman, L. G. Sipes and P. B. Hoyer. University of Arizona, Tucson, AZ.

#1709  MONO-(2-ETHYLBENZYL) PHTHALATE (MEHP)-INDUCED GERM CELL APOPTOSIS PRECEDES ITS DETACHMENT FROM SERTOLI CELLS. H. Gao and J. H. Richburg. College of Pharmacy, University of Texas, Austin, TX.


ANTANDROGENIC EFFECTS OF DI(2-ETHYLHEXYL) PHthalate (DEHP) ON MALE REPRODUCTIVE AND SEXUALLY DIMORPHIC CNS DEVELOPMENT IN RATS, R. W. Moore, T. A. Rady, T. M. Lin, K. Ko and R. E. Peterson. University of Wisconsin, Madison, WI.


FUNCTIONAL STUDIES TO INVESTIGATE DYSSTOCIA AND STILLBIRTHS OBSERVED DURING A REPRODUCTIVE BIOASSAY WITH AN EXPERIMENTAL CYANAMIDE (YRC 2894), D. A. Eigenberg, A. B. Astolfi, R. E. Garfield, O. D. Sherwood, G. K. Sangha and J. H. Thysse. 1Bayer Corporation, Stildwell, KS. 2University of Texas Medical Branch, Galveston, TX and 3University of Illinois, Urbana, IL.


METALLOTHIONEIN ISOFORM 1 AND 2 GENE EXPRESSION IN THE HUMAN PROSTATE: DOWN REGULATION OF MT-1X IN ADVANCED PROSTATE CANCER, S. Somgi, H. H. Garrett, M. A. Sens, D. Shakla, L. Flores, J. H. Todd and D. A. Sens. Department of Pathology, West Virginia University, Morgantown, WV.

METALLOTHIONEIN ISOFORM 3 EXPRESSION IN THE HUMAN PROSTATE AND CANCER-DERIVED CELL LINES, S. H. Garrett, M. A. Sens, D. Shakla, S. Nestor, S. Sowmji, J. H. Todd and D. A. Sens. Department of Pathology, West Virginia University, Morgantown, WV.


TWO-GENERATION ORAL (DRINKING WATER) REPRODUCTIVE TOXICITY STUDY OF PHENOL IN RATS, B. M. Ryan, R. Selby, R. Gingell, J. M. Warach, J. H. Butler, S. S. Downd and B. J. Duan. 1ITT Research Institute, Chicago, IL, 2Shell Chemical Co., Houston, TX, 3The Dow Chemical Co., Midland, MI, 4Consultant Aristech, Pittsburgh, PA, 5General Electric Company, Pittsfeld, MA and 6AlliedSignal, Morristown, NJ.

DEVELOPMENTAL REPRODUCTIVE EFFECTS OF A MIXTURE OF DIOXINS, FURANS AND CO-PAR ARENA PCBs ON LONG EVANS RATS, J. T. Harn and L. S. Birnbaum. USEPA, University North Carolina-Chapel Hill, Research Triangle Park, NC.


REPRODUCTIVE EFFECTS OF JP-8 JET FUEL ON MALE AND FEMALE SPRAUGE DAWLEY RATS AFTER EXPOSURE BY GAVAGE. D. Mattie, T. Sterner, B. Schimmell, T. Bauman, S. Young and J. Cooper. AFRL/HEST, Wright-Patterson AFB, OH and 2Operational Technologies Corp, Dayton, OH.

REPRODUCTIVE EFFECTS OF AZIDOTHYMIDINE IN CD-1 MICE WHEN ASSESSED BY THE CONTINUOUS BREEDING PROTOCOL. G. W. Wolfe, S. Borst, S. Pepperl, Y. Wang and R. E. Chapin. Therimmune Research Corporation, Gaithersburg, MD.

EVALUATION OF DECAMETHYLCYCLOPENTASILOXANE (D5) IN A 2-GENERATION INHALATION REPRODUCTIVE TOXICITY STUDY IN RATS. D. G. Stump, J. F. Holson, C. E. Ulrich, R. W. Man, and V. L. Reynolds. WIL Research Laboratories, Ashland, OH, TPSRC, Inc., Midland, MI and Dow Corning Corporation, Midland, MI.

EFFECT OF MANGANESE ON REPRODUCTIVE PERFORMANCE OF SD RATS. M. B. Izard, K. A. Graves, K. Bailey, T. P. Ponnapakkam and G. A. Henry-Sam. Xavier University, New Orleans, LA.

A SEGMENT 1 REPRODUCTION STUDY OF LY353381 HYDROCHLORIDE ADMINISTERED ORALLY TO MALE CD RATS. V. Reddy, D. Seyler, J. Hoyt and D. Swisher. Eli Lilly and Company, Greenfield, IN.


THURSDAY MORNING, MARCH 23
8:30 AM — 11:30 AM
PENNSYLVANIA CONVENTION CENTER
EXHIBIT HALL A

POSTER SESSION: BIOTRANSFORMATION


Displayed: 8:30 AM — 11:30 AM
Attended: 10:00 AM - 11:30 AM


METABOLITES OF HEXAMETHYLDISILOXANE AND DECAMETHYLCYCLOPENTASILOXANE IN FISCHER 344 RAT URINE. S. Varapathr, L. Cao, J. M. McMahon and K. P. Platzke. Dow Corning Corporation, Midland, MI.


#1741 Benzene metabolism by isolated perfused rabbit lung. M. Powley and G. P. Carlson. School of Health Sciences, Purdue University, West Lafayette, IN.

#1742 Biochemical evidence for involvement of tyr381 and tyr465 in the catalytic mechanism of mouse soluble epoxide hydrolase. T. Yamada1, C. H. Morisseau1, J. E. Maxwell1, M. Derbel1, M. Argiridou1, D. W. Christianson2 and B. D. Hammock1. 1University of California Davis, Davis, CA and 2University of Pennsylvania, Philadelphia, PA.

#1743 Characterization of coumarin 3,4-epoxidation in B6C3F1 mouse. T. R. Van Veach1, D. W. Bombick2 and R. A. Coulombe, Jr1. 1Utah State University, Logan, UT and 2R.J. Reynolds Tobacco Co., Winston-Salem, NC.

#1744 Inhibition of cytochrome P450 2E1 activity by nicotine, cotinine, and aqueous cigarette tar extract in vitro. T. R. Van Veach1, D. W. Bombick2 and R. A. Coulombe, Jr1. 1Utah State University, Logan, UT and 2R.J. Reynolds Tobacco Co., Winston-Salem, NC.

#1745 Triglitzotone toxicity in primary cultures of human hepatocytes. V. E. Kostrubskyi1, S. C. Strom2, V. Ramachandran3, R. Venkataramanan3, M. Wen4, K. Rose5 and M. Sinz6. 1Parke-Davis Pharmaceutical Research, Ann Arbor, MI, 2University of Pittsburgh Medical Center, Pittsburgh, PA and 3School of Pharmacy, University of Pittsburgh, Pittsburgh, PA. Sponsor: M. R. Bleavins.

#1746 The hypoxidation of L-dopa by chlorpromazine in a lipoygenase catalyzed reaction. A. S. Peraldi, T. J. Stedeford and A. P. Kulkarni. Florida Toxicology Research Center, Tampa, FL.

#1747 Regeneration of quercetin and other flavonoids by NAD(P)H: quinone oxidoreductase 1. D. Siegel and D. Ross. University of Colorado Health Sciences Center, Denver, CO.

#1748 Ethanol metabolism in human fetal brain catalyzed by a novel oxidase enzyme. M. R. Brzezinski, R. E. Person and M. R. Juchau. University of Washington School of Medicine, Seattle, WA.

#1749 Fetal N-acetyltransferases: A potential role in 4-aminobiphenyl prenatal genotoxicity. C. A. Mcqueen1, M. K. Mitchell1, L. N. Dang1, R. B. Tjalkens2 and M. A. Phibbs2. 1University of Arizona College of Pharmacy, Tucson, AZ and 2University of Michigan, Ann Arbor, MI.


#1751 Dose-dependent effect of tri-o-tolyolphosphate on hepatic and pancreatic fatty acid ethyl ester and methyl ester synthesizing activities. K. A. Mericle, B. S. Kaphalia and G. A. S. Ansari. University of Texas Medical Branch, Galveston, TX.

#1752 Purification and characterization of rat pancreatic fatty acid ethyl ester synthase and its relationship to fatty acid methyl esters and anilide synthesizing activities. B. S. Kaphalia, V. Leslie and G. A. S. Ansari. University of Texas Medical Branch, Galveston, TX.

#1753 Cloning, mutagenesis and expression of a major rat carboxylesterase resti in the baculovirus system. M. Derbel1, Y. Takashi2, R. Wudayagiri2 and B. D. Hammock1. 1University of California Davis, Davis, CA and 2Sri Venkateswara University, Tirupati, India.


#1755 Developmental expression and characterization of hepatic microsomal and serum a-esterases in the rat. T. A. Couch1, H. W. Chambers2 and J. E. Chambers1. 1Center for Environmental Health Sciences, College of Veterinary Medicine, 2Department of Entomology, Mississippi State University, Mississippi State, MS.
IN VITRO METABOLISM AND GLUCURONIDATION OF THE HOP FLAVONOID XANTHOUMOL. M. Yilmazer and D. R. Buhler. Oregon State University, Corvallis, OR.

INDOLE-3-CARBINOL, A GLUCOSINOLATE BREAKDOWN PRODUCT OF CRUCIFEROUS VEGETABLES, INDUCES QUINONE REDUCTASE GENE EXPRESSION THROUGH TWO GENE REGULATORY ELEMENTS, AREND XRE. C. W. Nho and E. H. Jeffery. University of Illinois at Urbana-Champaign, Urbana, IL.

EFFECTS OF CHRONIC DIETARY INDOLE-3-CARBINOL (13C) EXPOSURE ON BLOOD CHEMISTRY AND DRUG METABOLISM IN FISCHER 344 RATS. D. A. Leibelt, S. A. Larsen-Su and D. E. Williams. Oregon State University, Corvallis, OR.

SELECTIVE INDUCTION OF TRIIODOTHYRONINE (T3) GLUCURONIDATION BY PREGNENOLONE-16α-CARBONITRILE (PCN) IN RATS. N. R. Vauxsell and C. D. Klausen. University of Kansas Medical Center, Kansas City, KS.

EFFECT OF PERINATAL EXPOSURES OF RATS TO THE PCB MIXTURE AROCLOR® 1254 ON HEPATIC MICROSMAL METABOLISM OF ESTRADIOL AND THE PRO-ESTROGEN METHOXYCHLOR. J. E. Chambers, R. L. Carr, C. P. McCoy, J. L. Wagner, D. S. Respess, Jr. and N. M. Cox. 1Center Environmental Hlth. Sci., College of Veterinary Medicine and 2Department Animal & Dairy Sciences, Mississippi State University, Mississippi State, MS.


DIFFERENTIAL BENZO[a]PYRENE METABOLISM AND EXCRETION IN TWO RELATED FISH. K. L. Willett, P. Gardinelli, J. Rogers and R. T. Di Giulio. 1Duke University, Durham, NC and 2Florida International University, Miami, FL.

3-METHYLCHOLANTHRENE (3MC) ALTERS BIOTRANSFORMATION BUT NOT THE BIOAVAILABILITY OF BENZO[a]PYRENE, 7,8-DIHYDRODIOL (7,8-DI) IN AN IN-SITU INTESTINAL CATFISH PREPARATION. K. M. Kleinow, M. O. James, B. Johnston, Z. Lou, E. Holmes, J. Li, C. S. Venugopal and L. Rowland-Faux. 1School of Veterinary Medicine, Louisiana State University, Baton Rouge, LA and 2College of Pharmacy, University of Florida, Gainesville, FL.

GENDER SPECIFIC ALTERATION OF GLUCURONIDATION IN BROOK TROUT DURING THE ANNUAL REPRODUCTIVE CYCLE. L. E. Solem, R. C. Kolarczyk, P. K. Schnieder and J. M. McKim. 1NRC, Duluth, MN and 2USEPA, NHEERL, Mid-Continent Ecology Division, Duluth, MN.

SEX-LINKED CHANGES IN PHASE I BIOTRANSFORMATION OF PHENOL IN BROOK TROUT OVER AN ANNUAL REPRODUCTIVE CYCLE. R. C. Kolarczyk, L. E. Solem, A. D. Hoffman, P. K. Schnieder and J. M. McKim. 1USEPA, NHEERL, Mid-Continent Ecology Division, Duluth, MN and 2NRC, Duluth, MN.

THURSDAY MORNING, MARCH 23
8:30 AM - 12:30 PM
PENNSYLVANIA CONVENTION CENTER
2ND FLOOR

POSTER SESSION: IN VITRO

Chairpersons: Frank A. Barile, City University of New York, Jamaica, NY and Gregory J. Stevens, Agouron Pharmaceuticals, Inc., San Diego, CA.

Displayed: 8:30 AM - 11:30 AM

Attended: 8:30 AM - 10:00 AM


OPTIMIZATION AND CHARACTERIZATION OF PRECISION-CUT PROSTATE SLICES AS A TOOL FOR TOXICOLOGICAL STUDIES. J. Orozco, A. R. Parrish, M. Smeltz, R. B. Nagele and A. J. Gandolfi. 1University of Arizona, Tucson, AZ and 2Texas A & M University, College Station, TX.
PRECISION-CUT TISSUE SLICES FROM TRANSGENIC MICE AS AN IN VITRO TOXICOLOGY SYSTEM. J. M. Catania1, A. R. Parrish2, D. S. Kirkpatrick1, M. Chitkara1, G. T. Bowden1, M. Rincon1, C. J. Henderson1, K. Brendel1 and A. J. Gandolfi1. 1University of Arizona, Tucson, AZ; 2Texas A & M University, College Station, TX; 3University of Vermont, Burlington, VT and 4University of Dundee, Dundee, United Kingdom.

A THEORETICAL MODEL FOR SIMULATING THE OUTCOME OF MECHANISMS-BASED IN VITRO TOXICITY TESTING STRATEGIES. J. Frazier, AFRL/HEST. Wright-Patterson AFB, OH.

A NOVEL IN VITRO SYSTEM FOR EXPOSURES OF CELL CULTURES TO VOLATILE CHEMICALS. K. Geiss1 and J. Frazier2. 1Geo-Centers, Inc., Dayton, OH and 2AFRL/HEST. Wright-Patterson AFB, OH.

THE DEVELOPMENT OF SIMPLE IN VITRO CYTOTOXICITY SCREENING MODELS FOR DRUG DEVELOPMENT. M. Tsai1, A. DePeyster1 and G. Stevens2. 1San Diego State University, San Diego, CA and 2Agouron Pharmaceutical Inc., San Diego, CA.

IN VITRO CYTOTOXICITY TESTING WITH CULTURED HUMAN LUNG AND DERMAL CELLS. A. Yang, D. L. Cardona and F. A. Barile. City University of New York, York College, Jamaica, NY.

OXYGEN BIOSSENSOR SYSTEMS: A HOMOGENEOUS FLUORESCENCE TECHNOLOGY FOR TOXICITY ASSAYS. M. Timmins1, R. Guarino2, M. Wodnicki2, D. Asa1 and D. Stitt1. 1BD ViaSante, Bedford, MA; 2BD Technologies, Research Triangle Park, NC.

EVALUATION OF THE EFFECT OF 2,3-DICARBOXYPROP-1-SULFONATE (DMPS) AGAINST MERCURY CYTOTOXICITY IN PRIMARY LIVER AND KIDNEY CELL CULTURES. O. Torres-Alanis and L. Garza-Ocuana. Fac. De Medicina Universidad Autonoma, Nezahual, Mexico.


PREVALIDATION OF THE EPIDERM PHOTOTOXICITY TEST (ED-PT). M. Liebsch1, D. Traue1, C. Barrabas1, H. Spielmann1, F. Gerberick2, L. Cruse2, W. Diembeck3, U. Pfannenbecker3, J. Speicker3, H. Holtzhueter4, P. Brantoms5, P. Aspin4 and J. Southee6. 1ZEBET BgVV, Berlin, Germany; 2Procter & Gamble Co, Cincinnati, OH; 3Beiersdor AG, Hamburg, Germany; 4 Humboldt University, Berlin, Germany; 5BIBRA International, Carshalton, United Kingdom and 6MA Biosciences, Richmond, United Kingdom.

CORROSITEX®, AN IN VITRO DERMAL CORROSIVITY TEST FOR PREDICTING THE IN VIVO CORROSIVITY POTENTIAL OF CHEMICALS/COMPOUNDS: ANALYSIS OF PERFORMANCE OF CULTURES. K. E. Hanke1, T. L. Goldsworthy1, R. R. Tice2, R. A. Scala3, R. Hill3, T. L. Goldsworthy1, K. E. Hanke1 and W. S. Stokes2. 1NTP Interagency Center for the Evaluation of Alternative Toxicological Methods, NIEHS and ILS, Inc., Research Triangle Park, NC and 2NTP Interagency Center for the Evaluation of Alternative Toxicological Methods, NIEHS, Research Triangle Park, NC.


AN IN VITRO MODEL TO STUDY THE PROTECTIVE EFFECT OF BISMUTH AGAINST CISPLATIN INDUCED NEPHROTOXICITY. B. T. Leusink1, E. de Heer1, G. B. van der Voet1, A. Stikkerveer1, J. A. Bruijn1 and F. A. de Wolf1. 1Toxicology Laboratory, Leiden University Medical Center, Leiden, Netherland, and 2Department of Pathology, Leiden University Medical Center, Leiden, Netherlands. Sponsor: G. J. Mulder.

NEUROPROTECTIVE ROLE OF MELATONIN IN METHAMPHETAMINE-INDUCED DOPAMINERGIC NEUROTOXICITY. H. M. Dubhart1, S. Z. Imanlou1, G. D. Newport1, W. Stikker, Jr.1, Y. Izhak2 and S. F. Aj1. 1National Center for Toxicological Research/FDA, Jefferson, AR and 2University of Miami School of Medicine, Miami, FL.
USE OF CELL AND ORGANOTYPIC CULTURES TO DEFINE MECHANISMS UNDERLYING THE MARKED TOXICITY OF THE TERATOGENIC RETINOID, TTNPB. M. A. Pignatello1, F. C. Kauflman2 and A. A. Levin3. 1Lab. of Cell. & Biochem. Tox., Rutgers University; Piscataway, NJ; Department of Non-Clin. Drug Safety, Hoffmann-LaRoche, Inc., Nutley, NJ; 2Lab. of Cell. & Biochem. Tox., Rutgers University, Piscataway, NJ and 3Department of Tox., ISIS Pharmaceuticals, Carlsbad, CA.

REACTIVE OXYGEN SPECIES FORMATION IN EXPERIMENTAL MODELS OF HUNTINGTON'S DISEASE. L. Osorio-Rico1, H. Duhart2, S. Al1, C. Rios1 and A. Santamaria1. 1Instituto Nacional de Neurologia y Neurocirugia, Mexico D.F., Mexico and 2Division Neurotoxicology NCTR-FDA, Jefferson, AK.

EVALUATION OF THE EFFECT OF RODENT CARCINOGENS ON THE EXPRESSION OF BIOTRANSFORMATION ENZYMES IN HUMAN HEPATOCYTES. M. D. Mitchell, D. L. Morris and J. C. Cavi1. Monsanto, St. Louis, MO.


ESTABLISHMENT AND CHARACTERIZATION OF THE FOLLICULAR THYROID CARCINOMA CELL LINE ML-1 — A TOOL FOR TOXICOLOGICAL STUDIES. D. Grimm1, J. Schöenberger-2, M. Paul1 and I. Chahoud1. 1Institute of Clinical Pharmacology and Toxicology, Berlin, Germany and 2Department of Nuclear Medicine, Regensburg, Germany. Sponsor: R. Stahmann.

THE UROTS A CELL LINE AS A MODEL OF HUMAN UROTHELUM. M. R. Rossi1, J. H. Todd1, D. A. Sens1, S. H. Garrett1, J. Nath2, M. A. Sens1 and S. Sowji1. 1Department of Pathology and 2Dev. Biology and Genetics Program, West Virginia University, Morgantown, WV.

ALTERNATIVE METHODS FOR ASSESSING CELL PROLIFERATION AND PROTEOGELCAN PRODUCTION IN MICROMASS CULTURE. G. L. Anderson, E. S. Hanson, J. L. Hill and M. A. Smith. University of Georgia, Athens, GA.

DONOR VARIATION IN CHEMICAL ALLERGEN INDUCED IL-1β mRNA EXPRESSION BY CULTURED HUMAN BLOOD-DERIVED DENDRITIC CELLS. J. S. Pichowski1, M. Cumberbatch1, R. J. Dearman1, D. A. Basketter2 and I. Kimber1. 1AstraZeneca Central Toxicology Laboratory, Macclesfield, United Kingdom and 2Unilever Safety and Environmental Assurance Centre, Sharnbrook, United Kingdom.


EFFECTS OF AIRBORNE PARTICulates ON THE RELEASE OF IL-1β AND TNFα AND ON THE EXPRESSION OF HLA-DR BY A HUMAN MONOCYTIC CELL LINE (THP-1). A. Don Porto Carreiro1, P. H. M. Hoet2, B. Nemery3 and G. Schoeters1. 1Environmental Toxicology, Vito, Mol, Belgium and 2Laboratorium voor Pneumologie, Longtoxicologie, K.U., Belgium.

IN VITRO ASSESSMENT OF THE PULMONARY RESPONSE TO LOW SOLUBILITY PARTICLES: A SPECIES COMPARISON. J. M. Carter and K. E. Driscoll. Procter & Gamble Co., Cincinnati, OH.

TOXICITY OF ORGANIC CHEMICALS ASSOCIATED WITH URBAN AIRBORNE PARTICULATE MATTER IN PUERTO RICO USING BRONCHIAL EPITHELIAL CELLS. D. R. Reyes, L. Maldonado-Baez and B. D. Jimenez. University of Puerto Rico-Medical Sciences Campus, San Juan, PR.

COMPARISON OF THE INTERACTIONS OF BIPHENOL A AND ITS METABOLITE BIPHENOL A GLUCORONIDE WITH ESTROGEN RECEPTORS α AND β. T. R. Zacharewski and J. B. Matthews. Department of Biochemistry and National Food Safety and Toxicology Center, Michigan State University, E. Lansing, MI.

DIFFERENTIAL ESTROGEN RECEPTOR BINDING OF ESTROGENIC SUBSTANCES: A COMPARISON ACROSS SPECIES. J. B. Matthews, T. Cellius, R. Halgren and T. R. Zacharewski. Department of Biochemistry and National Food Safety and Toxicology Center, Michigan State University, E. Lansing, MI.
POSTER SESSION: GENE EXPRESSION/GENOMICS

Chairpersons: Mark A. Carfgana, Eli Lilly & Company, Greerfield, IN and Michael P. Carver, Wyeth-Ayerst Research, Princeton, NJ.

Displayed: 8:30 AM - 11:30 AM

Attended: 10:00 AM - 11:30 AM

#1797 TRANSCRIPTIONAL PROFILING OF PHENOBARBITAL (PB) HEPATOTOXICITY IN THE MOUSE. M. P. Carver1 and B. Clancy2.
1Wyeth-Ayerst Research, Princeton, NJ and 2Wyeth-Ayerst Research, Andover, MA.


#1802 COMPARISON OF TOXICANT-INDUCED GENE expression PATTERNS IN HEPG2 HUMAN HEPATOMA CELLS. M. K. McMillian1, J. Cieres1, L. Li1, R. Dunn2, E. Fairfield2, S. B. Farnes and M. D. Johnson1. 1R. E. Johnson Pharmaceutical Research Institute, Raritan, NJ and 2Phase-1 Molecular Toxicology, Inc., Santa Fe, NM.

#1803 IDENTIFICATION OF ESTROGEN-INDUCED GENES DOWNREGULATED BY 2,3,7,8-TCHELOROBENZ-P-DIOXIN BY COUPLING SUPPRESSION SUBTRACTION HYBRIDIZATION AND cDNA MICROARRAYS. I. Chen, T. Hsieh, T. Thomas and S. Safe. 1Texas A&M University, Department of Veterinary Physiology & Pharmacology, College Station, TX and 2Texas A&M University, Department of Biology, College Station, TX.

#1804 THE EFFECT OF SHORT TERM TREATMENT OF VARIOUS HEPATOCARCINOGENS AS ASSESSED BY GENOMIC MICROARRAY TECHNOLOGY. K. L. Kolajo1, R. T. Bunch1, S. Curtiss2, L. Tan1, J. Davila3, L. Hankin1, C. Jackson2, E. Blomquist2, C. Alden3 and D. L. Morris2. 1Monsanto/Searle, Skokie, IL and 2Monsanto/Searle, St. Louis, MO.

#1805 GENE EXPRESSION IN LIVER TISSUES OF FEMALE RATS DURING THE EARLY STAGES OF DMBA-INDUCED MAMMARY TUMORIGENESIS. L. Wang1, C. E. Frantz2, A. Cheng1, W. Leach1, D. A. Eastmond1 and J. L. Bussiere3. 1University of California, Riverside, CA and 2Genentech, Inc., South San Francisco, CA.

#1806 EXAMINATION OF GENE EXPRESSION CHANGES OVER TIME IN MAMMARY AND LIVER TISSUES OF RATS EXPOSED TO A CARCINOGENIC DOSE OF DMBA. C. E. Frantz1, R. T. Dunn, H. F. K. Achilles1, A. Cheng1, N. Dybdal1, W. Leach1, E. Peggel1, M. Van Hoy1, L. Wang1, S. B. Forrester and J. L. Bussiere3. 1Genentech, Inc., South San Francisco, CA and 2Phase-1 Molecular Toxicology, Santa Fe, NM.


#1809 DIFFERENTIAL GENE EXPRESSION IN BUTYRATE-TREATED HT 29 COLON CARCINOMA CELLS. J. Cai1, R. Y. Odum2, W. Kirlin2, P. Sterenberg, Jr. and D. P. Jones1. 1Emory University, Atlanta, GA and 2Morehouse School of Medicine, Atlanta, GA.
#1810  AN EVALUATION OF THE DNA ARRAY: PREDICTING TOXICOLOGICAL ENDPOINTS USING THE LOCAL LYMPH NODE ASSAY AS A MODEL. C. M. Glatt1, L. G. Davis1, P. J. Ciaccio2. G. S. Ladies3, C. Smith1 and B. Car2. 1The DuPont Company, Haskell Laboratory for Toxicology and Industrial Medicine, Newark, DE and 2The DuPont Pharmaceuticals Company, Newark, DE.

#1811  ANALYSIS OF GENE EXPRESSION IN TRANSGENIC AND KNOCKOUT MICE USING GLASS MICRO-ARRAYS. J. A. Styles, T. W. Gant, D. Judah, J. Riley, R. Davies and A. G. Smith. MRC Toxicology Unit, Leicester, United Kingdom.

#1812  MICROARRAY ANALYSIS OF 4500 HUMAN GENE EXPRESSIONS, AMPLIFICATIONS AND DELETIONS IN CELLS WITH LOW CYTOTOXIC DRUG SENSITIVITY. T. W. Gant, D. Judah, J. Riley, R. Davies, J. A. Styles, N. J. Turton and A. G. Smith. MRC Toxicology Unit, Leicester, United Kingdom.


#1815  TIME RELATED TUMOR NECROSIS FACTOR-α (TNFα) EXPRESSION AND SIGNALING DUE TO FUMONISIN B1 IN VIVO. N. Bhandari1, E. N. Enogogene2, R. T. Riley2, F. I. Meredith2 and R. P. Sharma1. 1University of Georgia, Athens, GA and 2US Department of Agriculture, Athens, GA.

#1816  FUMONISIN TOXICITY IN TUMOR NECROSIS FACTOR RECEPTOR 2 (TNFR2)-KNOCKOUT MICE. R. P. Sharma1, N. Bhandari1, R. T. Riley2, K. A. Vaz2 and F. I. Meredith2. 1University of Georgia, Athens, GA and 2USDA-ARS, Athens, GA.

#1817  EXPRESSION ANALYSIS OF RAT MULTIPLE DRUG RESISTANCE (MDR1A, 1B AND 2) BY BRANCHED DNA SIGNAL AMPLIFICATION. N. J. Cherrington, D. P. Harley, N. Li and C. D. Klaassen. University of Kansas Medical Center, Kansas City, KS.


#1819  INDUCTION OF ALANINE AMINOTRANSFERASE GENE EXPRESSION BY TACRINE IN HEPG2 CELLS. P. L. Heard, M. R. Bleavins, K. J. Johnson, M. M. Shi and F. A. de la Iglesia. Parke-Davis Pharmaceutical Research/University of Michigan, Ann Arbor, MI.

#1820  TRANSCRIPTION OF MOUSE CYP1B1 DEPENDS ON AHR ACTIVITY AT A SINGLE RESPONSE ELEMENT THAT IS CRITICALLY MODULATED BY NOVEL PROXIMAL UPSTREAM COMPLEXES. L. Zhang, W. Zheng and C. R. Jefcoate. University of Wisconsin, Madison, WI.

#1821  TCDD AND SUSPENSION ACTIVATE CYP1B1 EXPRESSION IN HUMAN KERATINOCYTES AND DERMAL FIBROBLASTS. M. A. Wenzel, L. A. White, C. R. Jefcoate and B. L. Allen-Hoffmann. University of Wisconsin, Madison, WI.

#1822  IDENTIFICATION OF AN ENHANCER ELEMENT REQUIRED FOR EXPRESSION OF CLASS PI GLUTATHIONE S TRANSFERASE GENE BY A CO-PLANAR POLYCHLORINATED BIPHENYL. M. Matsumoto1, M. Imagawa2 and F. Aoki1. 1National Institute for Environmental Studies, Tsukuba, Japan and 2Graduate School of Pharmaceutical Sciences, Osaka University, Suita, Japan.

#1823  ESTROGEN AND ARYL HYDROCARBON RECEPTOR EXPRESSION AND CROSSSTALK IN HUMAN ISHIKAWA ENDOMETRIAL CANCER CELLS. M. Warnke, E. Castro-Rivera, I. Chen and S. Safe. Texas A&M University, Department of Veterinary Physiology & Pharmacology, College Station, TX.


#1825  IDENTIFICATION AND CHARACTERIZATION OF POLYMORPHISMS IN THE 5'-REGULATORY REGIONS OF HUMAN CYTOCHROME P450 1A1 AND 1B1. C. M. Vezina1, J. R. Olson1, S. T. Kouri2 and A. T. Drahushuk1. 1Department Pharm. and Tox. SUNY at Buffalo, Buffalo, NY and 2Department Clin. Lab. Sciences SUNY at Buffalo, Buffalo, NY.
#1826 BRANCHED DNA (BDNA) SIGNAL AMPLIFICATION FOR ANALYSIS OF CYTOCHROME-P450 GENE EXPRESSION. D. P. Hartley and C. D. Klaassen. University of Kansas Medical Center, Kansas City, KS.


#1828 BASAL AND XENOBIOTIC-INDUCIBLE EXPRESSION OF UGT1A6 IS MEDIATED BY THE XENOBIOTIC RESPONSIVE ELEMENT. D. J. Auveugle, F. K. Kessler and J. K. Ritter. Virginia Commonwealth University, Medical College of Virginia Campus, Richmond, VA.

#1829 CELL-TYPE SPECIFIC DIFFERENCES IN THE REGULATION OF HUMAN γ-GLUTAMYL-CYSTEINE SYNTHETASE HEAVY (GCSH) AND LIGHT (GCS1) SUBUNIT GENES. E. L. Dahl and R. T. Mulcahy. University of Wisconsin, Madison, WI.


#1831 SPECIES DIFFERENCES IN THE EXPRESSION OF OCULAR AND STOMACH ALDH1A1. A. Pappa, J. Kupferer and V. Vasiliev. University of Colorado Health Science Center, Denver, CO.

#1832 DIFFERENTIAL GENE EXPRESSION IN RABBIT RENAL CORTICAL SLICES EXPOSED TO ARSENIC COMPOUNDS. X. Zheng1, C. L. Wilson2, A. R. Parrish3 and A. J. Gandolfi4. 1University of Arizona, Tucson, AZ, 2Naval Health Research Center Detachment, Wright-Patterson AFB, OH and 3Texas A & M University, College Station, TX.

#1833 GENE EXPRESSION AND CELL FUNCTION IN CISPLATIN TREATED RAT AND HUMAN KIDNEY AND LIVER SLICES. S. J. Hasal, K. Rose and A. Vickers. Novartis Institute for Biomedical Research, East Hanover, NJ.

#1834 QUINOL-THIOETHERS REGULATE A VARIETY OF GENES INCLUDING A NOVEL G PROTEIN β SUBUNIT IN HL-60 CELLS PRIOR TO APOPTOSIS. S. Ramachandiran, S. S. Len and T. J. Monks. Division of Pharmacology and Toxicology, College of Pharmacy, University of Texas at Austin, Austin, TX.


#1836 EFFECT OF ACROLEIN ON AP-1 AND GENE EXPRESSION IN A549 CELLS. S. Biswal, G. Acquaah-Mensah, J. Pabalan, K. Dotta and J. P. Kelner. The University of Texas at Austin, Austin, TX.


#1838 MODULATION OF THE EXPRESSION OF p53 DURING DIFFERENTIATION AND APOPTOSIS IN MURINE EMBRYONIC STEM CELLS WITH ALL-TRANS-RETINOIC ACID. S. A. Sarkar and R. P. Sharma. Department of Physiology and Pharmacology, The University of Georgia, Athens, GA.

#1839 IDENTIFICATION & CHARACTERIZATION OF A NOVEL TUMOR SUPPRESSOR GENE IN WILMS TUMOR. K. P. Singh and D. Ros. Department of Environmental Health Sciences, University of Alabama, Birmingham, AL.

#1840 GENOMIC IMPRINTING ANALYSIS OF THE MANNOSE-6-PHOSPHATE/INSULIN-LIKE GROWTH FACTOR 2 RECEPTOR IN CANCER SUSCEPTIBLE MICE. J. G. Falls, A. A. Wylie and R. L. Jirtle. Department of Radiation Oncology, Duke University Medical Center, Durham, NC.


#1842 LEAD INDUCTION OF TRANSCRIPTION FACTORS AND VEGF EXPRESSION IN HUMAN FETAL ASTROCYTES. M. A. Hossain and J. Lecompr. The Kennedy Krieger Institute and Johns Hopkins School of Medicine, Baltimore, MD. Sponsor: J. Bressler.
DIFFERENTIAL EXPRESSION OF NEUROFILAMENT SUBUNITS IN DIISOPROPYL PHOSPHOROFLUORIDATE (DFP)-TREATED HEN SPINAL CORD AND THEIR PRESENCE IN AXONAL AGGREGATES.

R. P. Gupta1, A. Abdel-Rahman1, K. F. Jenson2 and M. B. Abou-Donia1. 1Duke University, Durham, NC and 2Neurotoxicology Division, US. EPA, Research Triangle Park, NC.

THURSDAY MORNING, MARCH 23
8:30 AM — N. 30 AM
PENNSYLVANIA CONVENTION CENTER
2ND FLOOR

POSTER SESSION: SAFETY EVALUATION

Chairpersons: Frederick W. Oehme, Kansas State University, Manhattan, KS and Grushenka H. I. Wolfgang, Chiron Corporation, Emeryville, CA.

Displayed: 8:30 AM - 11:30 AM
Attend: 8:30 AM - 10:00 AM

1Parke-Davis Pharmaceutical Research Division, Warner-Lambert Co., Mississauga, ON, Canada and 2Parke-Davis Pharmaceutical Research Division, Warner-Lambert Co., Ann Arbor, MI.


#1846 ACUTE TOXICOLOGY AND PHARMACOKINETIC ASSESSMENT OF A RIBOZYME (ANGIOZYMETM) TARGETING VEGF RECEPTOR mRNA IN THE CYNOMOLGUS MONKEY. J. Sandberg1, C. Sproul1, K. Blanchard1, L. Bellon1, J. Powell1, F. Caputo2 and D. Krombuss3. 1Ribozyme Pharmaceuticals, Inc. (RPI), Boulder, CO and 2Sierra Biomedical, Inc., Sparks, NV.

#1847 SAFETY STUDIES IN DOGS AND CATS OF A FABRIC REFRESHER. F. W. Oehme1, T. Covey1, E. M. Micek1 and C. E. Manderfield2. 1Comparative Toxicology Laboratories, Manhattan, KS and 2SC Johnson and Son Inc., Racine, WI.

#1848 TWENTY-SIX-WEEK DAILY REPEATED DOSE INTRAMUSCULAR TOXICITY STUDY OF THE KAPPA OPIOID AGONIST CI-977 IN BEAGLE DOGS. N. J. Graftmann1, L. M. King1, G. E. Macallum1 and M. A. Albassam2. 1Parke-Davis Pharmaceutical Research, Mississauga, Ontario, Canada and 2Parke-Davis Pharmaceutical Research, Ann Arbor, MI. Sponsor: R. M. Walker.

#1849 ARTERIAL AND HEPATIC EFFECTS OF CONTINUOUS INFUSION OF SIX ENDOTHELIN ANTAGONISTS IN DOGS. L. M. King1, M. A. Albassam2, H. Hallak3, S. Halcen2, R. W. Walker4 and G. S. Smith1. 1Parke-Davis Pharmaceutical Research, Mississauga, Ontario, Canada and 2Parke-Davis Pharmaceutical Research, Ann Arbor, MI.

#1850 REPRODUCTIVE TOXICITY OF 1-BROMOPROPAINE, A NEWLY INTRODUCED ALTERNATIVE TO OZONE-LAYER DEPLETING SOLVENTS, IN MALE RATS. G. Ichihara1, X. Yu2, J. Kitoh1, N. Asaeda3, T. Kumazawa3, N. Iwai3, E. Shibata1, T. Yamada1, H. Kikugawa2, Z. Xie2, K. Mameda2, H. Tsukamura2 and Y. Takeuchi1. 1Nagoya University Graduate School of Medicine, Nagoya, Japan, 2National Institute of Industrial Health, Kawasaki, Japan, 3Sanwa Kagaku Kenkyusho Co. Ltd., Hokkaido, Japan, 4Nagoya University School of Health Sciences, Nagoya, Japan and 5Nagoya University Graduate School of Biocultural Sciences, Nagoya, Japan.

#1851 1-BROMOPROPAINE IS DOSE-DEPENDENTLY NEUROTOXIC TO RATS IN LONG-TERM INHALATION EXPOSURE. Y. Takeuchi1, G. Ichihara1, J. Kitoh1, X. Yu2, N. Asaeda3, T. Iwai3, T. Kumaiza3, E. Shibata1, T. Yamada1, H. Kikugawa2, Z. Xie2, K. Mameda2, H. Tsukamura2 and Y. Takeuchi1. 1Nagoya University Graduate School of Medicine, Nagoya, Japan, 2National Institute of Industrial Health, Kawasaki, Japan, 3Sanwa Kagaku Kenkyusho Co. Ltd., Hokkaido, Japan and 4Nagoya University School of Health Sciences, Nagoya, Japan.

#1852 OVARIAN TOXICITY OF 1-BROMOPROPAINE, AN ALTERNATIVE TO OZONE LAYER-DEPLETING SOLVENTS, IN RATS. T. Yamada1, G. Ichihara1, H. Kikugawa2, X. Yu2, M. Kajiwak1 and Y. Takeuchi1. 1Nagoya University Graduate School of Medicine, Nagoya, Japan and 2National Institute of Industrial Health, Kawasaki, Japan.

#1853 LACK OF PHOTOTOXICITY OF COSMETIC FORMULATIONS CONTAINING GLYCOLIC ACID IN AN IN VITRO HUMAN SKIN MODEL. B. C. Jones1, H. A. Rabbe2, A. Szemere2, G. C. Mun2, E. H. Theophilus3 and M. S. Dickens3. 1Avon Products, Inc., Suffern, NY and 2Institute for In Vitro Sciences, Inc., Gaithersburg, MD.
| #1854 | MULTI-GENERATION REPRODUCTION STUDIES WITH GLYPHOSATE IN RATS. D. R. Farmer, T. A. Kaempfe, W. F. Heydens and W. R. Kelce. Monsanto Company, St. Louis, MO. |
| #1857 | TOXICITY DATA USE IN TEMPORARY EMERGENCY EXPOSURE LIMIT (TEEL) DERIVATION. D. K. Craig. Westinghouse Safety Management Solutions LLC, Aiken, SC. |
| #1859 | NINETY-DAY ORAL GAVAGE TOXICITY STUDY OF C6-C16 AROMATIC FRACTION OF JET-A IN FEMALE SPRAGUE DAWLEY CD RATS AND MALE C57BL/6 MICE. P. B. Smith, K. E. Veyler, W. H. Baker, A. W. Singer, M. J. Ryan, W. H. Weisman, D. R. Mattie, L. D. Harvey and R. W. Slauter. 1Battelle Memorial Institute, Columbus, OH and 2Air Force Research Laboratory, Wright-Patterson AFB, OH. |
| #1860 | SAFETY ASSESSMENT OF THE HUMAN FACTOR VIII RETROVIRAL VECTOR. C. F. Rumph, S. M. Henwood, G. H. I. Wolfgang and M. E. I. Leibbrandt. 1Chiron Corporation, Emeryville, CA and 2Covance Laboratories Inc., Madison, WI. |
| #1861 | EVALUATION OF ANGIOZYME<sup>™</sup>, A RIBOZYME, IN 28 DAY TOXICITY STUDIES IN MONKEYS AND MICE. I. A. Ivens, E. I. Leibbrandt, J. A. Sandberg, F. A. Caputo, C. P. Chenealis and E. L. Padgett. 1Chiron Corporation, Emeryville, CA, 2RPI, Boulder, CO, 3SBI, Reno, NV and 4WIL Research Laboratories, Ashland, OH. |
| #1862 | CYTOTOXICITY TESTS FOR BIOCOMPATIBILITY ASSESSMENT OF MEDICAL DEVICES: A COMPARISON OF ISO 10993 AND MHW JAPAN METHODOLOGIES. V. P. Anand and F. W. Deckert. Toxikon Corporation, Bedford, MA. |
| #1863 | A DERMAL SAFETY EVALUATION OF EXTRACTS FROM TAGETES PLANTS USED IN FRAGRANCES. C. S. Leitizia and A. M. A. Research Institute for Fragrance Materials, Inc., Hackensack, NJ. |
| #1864 | 90-DAY ORAL TOXICITY STUDY ON α-NONANE IN FEMALE FISCHER 344 RATS AND MALE C57BL/6 MICE. D. Dodd, E. Merrill, R. Wolk, D. Pollard, J. English and W. Weisman. 1ManTech Environmental Inc., Dayton, OH and 2Operational Technologies Corp, Dayton, OH and 3AFRL/HEST, Wright-Patterson AFB, OH. |
| #1867 | ANIMAL MODEL FOR IDIOSYNCRATIC REACTIONS TO CHLORPROMAZINE. J. P. Buchweitz, S. Busari, P. E. Ganey and R. A. Roth. 1Department of Animal Science, Michigan State University, East Lansing, MI and 2Department of Pharmacology and Toxicology, Michigan State University, East Lansing, MI. |
| #1868 | TWO-YEAR TOXICITY/ONCOCENE STUDY OF α-DIFLUOROMETHYLORNITHINE IN B<sub>6</sub>C<sub>7</sub>F<sub>1</sub> MICE. W. D. Johnson, M. J. Cwik, M. E. Kearns, M. A. Cahill, R. L. Morrissey, J. A. Crowell and D. L. McCormick. 1IT Research Institute, Chicago, IL and 2Pathology Associates, International, Chicago, IL and 3National Cancer Institute, Bethesda, MD. |


TOXICOLOGICAL CHARACTERIZATION OF A NOVEL CIGARETTE PAPER. G. Patu1, F. Hau1, T. Mei2, S. Stan2, P. Van4 and D. Velt1. 1Philip Morris USA, Richmond, VA, 2INBITO Institut fuer biologische Forschung, Cologne, Germany and 3CRC Contract Research Center, Zaventem, Belgium. Sponsor: R. P. Solana.

TOXICOLOGY OF BENZOFLEX®9-88 PLASTICIZER. J. P. McBriarty1, R. E. Masters3, T. G. Smith2 and J. R. Reed3. 1Velsicol Chemical Corporation, Rosemont, IL, 2Huntingdon Life Sciences Limited, Huntingdon, United Kingdom and 3Bioqual, Inc., Rockville, MD.

TOXICOLOGY OF BENZOFLEX®2-45 PLASTICIZER. R. E. Masters1, T. G. Smith1, J. P. McBriarty2 and J. R. Reed3. 1Huntingdon Life Sciences Limited, Huntingdon, United Kingdom, 2Velsicol Chemical Corporation, Rosemont, IL and 3Bioqual, Inc., Rockville, MD.

TOXICOLOGY OF BENZOFLEX®S-358 PLASTICIZER. S. J. Crome1, R. A. Paffett1, J. P. McBriarty2 and J. R. Reed3. 1Huntington Life Sciences Limited, Huntingdon, United Kingdom, 2Velsicol Chemical Corporation, Rosemont, IL and 3Bioqual, Inc., Rockville, MD.

LY3353381, A SELECTIVE ESTROGEN RECEPTOR MODULATOR (SERM): 3P-POSTLABELING ANALYSIS OF IN VIVO DNA ADDUCTS IN F-344 RAT LIVERS. V. R. Reddy1, R. K. Newton1, L. E. Rinkema1 and V. Reddy2. 1Eli Lilly and Company, Greenfield, IN and 2Covance Laboratories, Vienna, VA.

SAFETY AND PHARMACOLOGICAL EFFECTS OF LOCALLY ADMINISTERED CCl4-1004 AFTER BALLOON ANGIOPLASTY IN RABBITS. C. Finkle1, A. Ezrin2, P. Williams2, A. Fleise1, R. Stewart3, C. Nguyen4 and S. Lo5. 1ConjuChem Inc., Montreal, Quebec, Canada, 2SRA Life Sciences Inc., Falls Church, VA and 3ITR Laboratories Canada Inc., Montreal, Quebec, Canada.

URINARY ANTIGENS AS MARKERS OF PAPILLARY TOXICITY. F. W. Falkenberg1,2, H. Hildebrandt2, M. Rinke2, G. Schlueter2 and E. Bomhard2. 1Ruhr-Universitat Bochum, Bochum, Germany and 2Bayer AG, Institut für Toxikologie, Wuppertal, Germany.


CHARACTERIZATION OF tert-BUTYL ALCOHOL BINDING TO A2U-GLOBULIN. T. M. Williams, E. R. Howell, E. C. Mooney and S. J. Berghoff. Chemical Industry Institute of Toxicology, Research Triangle Park, NC.

BISMUTH BIOKINETICS AND NEPHROTOXICITY AFTER ACUTE COLLOIDAL BISMUTH SUBCITRATE OVERDOSE IN RATS. B. T. Leussink1, A. Sikkerver1, W. J. J. Krauwinkel2, G. B. van der Voet1, E. de Heer1, J. A. Brujin3 and F. A. de Wolff3. 1Toxicology Laboratory, Leiden University Medical Center, Leiden, Netherlands, 2Yamanouchi Europe BV, Research Laboratories, Leiden, Netherlands and 3Department of Pathology, Leiden University Medical Center, Leiden, Netherlands. Sponsor: G. J. Molder.

EFFECT OF ORAL ADMINISTRATION OF MANGANESE ON URINARY SYSTEM IN RATS. G. A. Henry-Sam, T. P. Ponnappakam and M. B. Izzard. Xavier University, New Orleans, LA.

ASSYMMETRIC TRANSEPITHELIAL TRANSPORT AND ACCUMULATION OF CISPLATIN-N-ACETYL-CYSTEINE IN S1, S2, AND S3 SEGMENTS OF THE RABBIT RENAL PROXIMAL TUBULE. R. J. Kolb, D. W. Barfias and A. M. Ghazi. Georgia State University, Atlanta, GA.


COMPARATIVE EVALUATION OF NEPHROTOXIC RESPONSE OF YOUNG AND OLD RATS TO MERCURIC CHLORIDE. C. Bai and S. K. Chakrabartii. Université de Montréal, Montréal, Quebec, Canada.

EXPRESSION OF HEAT SHOCK PROTEIN 60 IN HUMAN PROXIMAL TUBULE CELLS EXPOSED TO ACUTE AND CHRONIC DOSES OF CADMIUM CHLORIDE. J. H. Todd, S. Somji, M. A. Sens, S. H. Garrett and D. A. Sens. Department of Pathology, WVU, Morgantown, WV.

ACETAMINOPHEN-CYSTEINE (APAP-CYS) INDUCED RENAL GLUTATHIONE (GSH) DEPLETION. S. T. Stern1, M. K. Bruno1, D. W. Hill1, J. C. Roberts1 and S. D. Cohen1. 1Department of Pharmaceutical Sciences, University of Connecticut, Storrs, CT, 2Department of Pathobiology, University of Connecticut, Storrs, CT and 3Department of Medicinal Chemistry, University of Utah, Salt Lake City, UT.

THE EFFECT OF LOW CONCENTRATIONS OF ACETAMINOPHEN AND P-AMINOPHENOL ON PGE2 PRODUCTION IN THE HUMAN AND RAT KIDNEY. M. G. Goodin1, R. Walker2 and R. J. Rosenhr1. 1University of Otago, Dunedin, New Zealand and 2Dunedin School of Medicine, Dunedin, New Zealand.


EVIDENCE FOR NEPHROTOXIC SULFATE CONJUGATES OF N-(3,5-DICHLOROPHENYL)SUCCINIMIDE METABOLITES. S. L. Miles, S. K. Hong, O. Hoo, D. K. Anestis, M. A. Valentovic, J. G. Ball and G. O. Rankin. Marshall University School of Medicine, Huntington, WV.

ATTENUATION OF 4-AMINO-2,6-DICHLOROPHENOL (ADCP) NEPHROTOXICITY IN RENAL CORTICAL SLICES BY ASCORBATE, AMINOOXACETIC ACID (AOAA), INDOMETHACIN AND GLUTATHIONE. G. O. Rankin, S. K. Hong, D. K. Anestis, J. G. Ball and M. A. Valentovic. Marshall University School of Medicine, Huntington, WV.

GENERATION OF PUTATIVE CYTOTOXIC METABOLITES OF N-(3,5-DICHLOROPHENYL)SUCCINIMIDE (NDS) IN A HEPATIC/RENAL COINOCUBATION SYSTEM. X. Hu1, D. Cui2, R. Tehao3 and P. J. Harrison1. 1University of the Sciences in Philadelphia, Philadelphia, PA and 2Merck and Co., Inc., West Point, PA.

2-AMINO-4,5-DICHLOROPHENOL (2A4SCP) TOXICITY IN RENAL CORTICAL SLICES FROM FISCHER 344 RATS. M. A. Valentovic, J. G. Ball and G. O. Rankin. Department of Pharmacology Marshall University School of Medicine, Huntington, WV.
| #1899 | INHIBITION OF A MICROSONAL CA\(2^{+}\)-INDEPENDENT PHOSPHOLIPASE A\(_2\) INCREASES OXIDANT-INDUCED APOPTOSIS IN RENAL PROXIMAL TUBULAR CELLS. B. S. Cummings\(^1\), I. McHowat\(^2\) and R. G. Schnellmann\(^1\). University of Arkansas for Medical Sciences, Little Rock, AR and \(^2\)Saint Louis University, St. Louis, MO. |
| #1900 | TRANSLLOCATION OF \(\mu\)-CALPAIN MEDIATES MITOCHONDRIAL INHIBITOR-INDUCED CELL INJURY IN RENAL PROXIMAL TUBULES (RPT). X. Liu, J. F. Harriman and R. G. Schnellmann. University of Arkansas for Medical Sciences, Little Rock, AR. |
| #1901 | CALRETICULIN REGULATES BRANCHING MORPHOGENESIS AND CELL PROLIFERATION OF RENAL PROXIMAL TUBULAR EPITHELIAL CELLS. S. Ashmellash and R. C. Bowes, III. Campbell University School of Pharmacy, Department of Pharmaceutical Sciences, Buies Creek, NC. |
| #1902 | CYTOPROTECTION AGAINST QUINONE-THIOETHER-MEDIATED CYTOTOXICITY BY AN "ENDOTHELIAL-LIKE" THROMBOXANE A\(_2\) RECEPTOR (TP) ALTERNATIVE SPICE VARIATION COUPLED TO NUCLEAR FACTOR xB (NF-\(\kappa\)B). T. J. Weber\(^1\), T. J. Monks\(^2\) and S. S. Lau\(^2\). \(^1\)Battelle, Pacific Northwest Division, Richland, WA and \(^2\)The University of Texas-Austin, Austin, TX. |
| #1904 | PENTAMIDINE-INDUCED ALTERATION IN MITOCHONDRIAL MEMBRANE POTENTIAL IN LLC-PK1 CELLS. R. L. Baty\(^1\) and M. A. Smith\(^2\). \(^1\)University of Texas-Houston Graduate School of Biomedical Sciences, Houston, TX and \(^2\)University of Texas-Houston School of Public Health, Houston, TX. |
| #1905 | MODULATION OF THE BENZODIAZEPINE (BZD) RECEPTOR/GAB COMPLEX AFFECTS CELL DEATH INDUCED BY OXIDANT STRESS IN MADIN DARBY CANINE KIDNEY (MDCK) CELLS. J. P. Berca and M. A. Smith. University of Texas-Houston School of Public Health, Houston, TX. |
| #1906 | INDUCIBLE NITRIC OXIDE SYNTHASE INHIBITION DOES NOT PREVENT PROTEINURIA IN PUROMYCIN AMINONUCLEOSIDE INDUCED NEPHROTIC INJURY. L. M. Walker, S. V. Shah and P. R. Mayeux. University of Arkansas for Medical Sciences. Little Rock, AR. |
| #1907 | ANTAGONIST NEPHROTOXIC INTERACTIONS IN BINARY AND TERNARY MIXTURES OF POLYCYCLIC AROMATIC HYDROCARBONS. M. H. Falahatpisheh, R. Metz, K. C. Donnelly and K. S. Ramos. Faculty of Toxicology and Center for Environmental and Rural Health, Texas A&M University, College Station, TX. |
| #1908 | MODULATION OF GLOMERULAR CELL FUNCTIONS BENZO[A]PYRENE: IMPLICATIONS FOR MESENCHYMAL/EPITHELIAL INTERACTIONS IN VITRO. N. F. Alejandro and K. S. Ramos. Texas A&M University, College Station, TX. |
| #1909 | MITOCHONDRIAL FUNCTION IN RAT KIDNEY AFTER COMPENSATORY HYPERPROLIFERATION. R. K. Zulup\(^1\), D. A. Putt\(^2\), S. J. Horky, III\(^2\) and L. H. Lash\(^2\). \(^1\)Mercer University School of Medicine, Macon, GA and \(^2\)Wayne State University School of Medicine, Detroit, MI. |
| #1910 | COMPARATIVE ANALYSIS OF SIGNAL TRANSDUCTION PROTEINS IN TUMOR VERSUS NON-TUMORIGENIC RENAL EPITHELIAL CELLS. T. M. Kolb, D. E. Carbott and M. A. Davis. University of Maryland, School of Medicine, Baltimore, MD. |
| #1911 | ROLE OF MITOCHONDRIA IN S-(1,2-DICHLOROVINYL)-L-CYSTEINE (DCVC) INDUCED APOPTOSIS. Y. Chen\(^1\), J. Cai\(^2\), M. W. Anders\(^1\) and D. P. Jones\(^2\). \(^1\)Program of Biochemistry, Cell Biology & Developmental Biology, Emory University, Atlanta, GA and \(^2\)Department of Biochemistry Emory University, Atlanta, GA and \(^3\)University of Rochester Medical Center, Rochester, NY. |

THURSDAY MORNING, MARCH 23
8: 30 AM — 11: 30 AM
PENNSYLVANIA CONVENTION CENTER
2ND FLOOR

POSTER SESSION: PHARMACEUTICALS
Chairpersons: Joan M. Blonder, RxKinetics, Louisville, CO and Deborah L. Novicki, Chiron Corporation, Walpole, MA.
Displayed: 8: 30 AM — 11: 30 AM
Attended: 8: 30 AM — 10: 00 AM

| #1913 | BIOLOGICAL ACTIVITY, PHARMACOKINETICS, AND SAFETY ASSESSMENT OF HUMAN GROWTH HORMONE (HGH) DELIVERED VIA A SUBCUTANEOUS DEPOT. A. Runis, K. Blauhut, E. Maze, N. Moda and K. Brodbeck. ALZA Corporation, Mountain View, CA. |
| #1915 | SAFETY ASSESSMENT OF RECOMBINANT BASIC FIBROBLAST GROWTH FACTOR (BFGF-2) FOR THE TREATMENT OF CORONARY ARTERY DISEASE. D. L. Novicki1, M. A. Bush3 and M. Nodelman2. 1Chiron Corp., Emeryville, CA and 2Primedicina, Worcester, MA. |
| #1916 | DETERMINATION OF TISSUE SPECIFIC DRUG TOXICITY USING EPITHELIAL CELLS FROM EIGHT DIFFERENT NORMAL HUMAN TISSUES. E. E. Ilmione1, T. T. Luc1, V. E. Steele2, G. J. Kelloff2 and J. L. Redpath1. 1University of California, Irvine, Irvine, CA and 2National Cancer Institute, Bethesda, MD. Sponsor: A. de Peyster. |
| #1917 | HYDROXYAPATITE-CEMENT AS A CARRIER FOR ANTIBIOTICS IN A 6-WEEK TOXICITY STUDY IN THE RABBIT. U. Joosten1, C. von Eiff1, S. Mohr2, W. Mueller2, B. Brandt1, A. Joist2 and E. Brug1. 1Westf. Wilhelsm University, Muenster, Germany and 2Covance Laboratories GmbH, Muenster, Germany. Sponsor: J. C. Norris. |
| #1918 | THE TWENTY-EIGHT DAY ORAL TOXICITY OF NITAZOXANIDE IN THE CANINE. T. P. O'Neill1, M. S. Ayers2, J. E. Rossett3, E. P. Zimmer1, V. B. Ciuffo1 and C. B. Spinahearn1. 1Chrysalis Preclinical Services, Olyphant, PA and 2Romark Laboratories, L.C., Tampa, FL. |
| #1919 | SPECIES DIFFERENCES IN TARGET ORGAN EFFECTS OF BENZYLPHENYLAUREA (BPU) IN RATS AND DOGS. J. C. Mircals1, J. E. Schindler-Hoeppl, D. G. Fairchild, K. M. Schneikart2, J. S. Donohoe2, J. E. Tomaszewski2 and L. E. Teson2. 1SRI International, Menlo Park, CA and 2National Cancer Institute, Bethesda, MD. |
| #1920 | DOSE-DEPENDENT HYPERLIPIDEMIA IN RABBITS FOLLOWING ADMINISTRATION OF POLOXAMER 407 GEL. J. M. Blumler1, L. Baird1, J. A. Foul1 and G. J. Rosenthal1. 1RxKinetics, Inc., Louisville, CO and 2Thames Research Institute, Inc., Rent Collins, CO. |
| #1923 | DOSE RESPONSE OF A NASAL DOSING SYSTEM FOR MICE. J. C. Norris, N. M. Shepherd and B. Whitney. Covance Laboratories, Harrogate, United Kingdom. |
| #1924 | MASS BALANCE AND TISSUE DISTRIBUTION OF LEPFLUNOMIDE (SU1011) IN THE RAT. T. Kim1, J. Chemili1, Z. M. Gu2, L. Antonl1, D. Wu2, Q. Zhang1, J. S. Bathnert1, S. Chanda1, L. Shawver1 and W. Wagner1. 1SUEN, Inc., South San Francisco, CA and 2XenoBiotic Laboratories, Inc., Plainsboro, NJ. |
| #1927 | EFFECT OF CRF RECEPTOR-1 INHIBITION ON IMMUNE SYSTEM FUNCTION. D. L. Burcham, B. Gemzik and R. D. Car. Dupont Pharmaceuticals Company, Newark, DE. |
| #1928 | SHORT PHOSPHORIGHTHOATE Oligomers FOR CHELATION AND ENHANCED IRON EXCRETION. J. E. Mata and P. L. Iversen. AVI BioPharma, Corvallis, OR. |
| #1929 | HPLC METHOD FOR THE DETERMINATION OF SELAMECTIN (REVOLUTION®), A NOVEL PET ENDECTOCIDE. L. P. Harran1, D. Perry1, S. Canters2, D. Walker2 and U. A. Pillai1. 1Pfizer Inc., Groton, CT and 2Pfizer Ltd, Sandwich, United Kingdom. |
THURSDAY AFTERNOON, MARCH 23

12: 30 PM - 1: 30 PM
PENNSYLVANIA CONVENTION CENTER
ROOM(S) 20AB

ISSUES SESSION: THE VALUE AND ETHICS OF USING HUMAN DATA FOR THE REGISTRATION OF PESTICIDES

Moderator: Ernest E. McConnell, ToxPark Inc., Raleigh, NC.
A joint meeting of the EPA Science Advisory Board and a Science Advisory Panel was convened on December 10-11, 1996, to provide advice and comment to the EPA on issues related to data derived from testing on human subjects, particularly the use of human data for making pesticide registration decisions. Both scientific and ethical questions were raised about such data, the manner in which they are obtained and how these data should be used in risk assessments.

Proponents of using human data felt such data were of prime value for developing a risk assessment of a given pesticide, if the data were obtained in a scientifically credible and ethical manner, similar to what is expected in the field of pharmaceutical testing. In fact, it was felt that testing in human volunteers was particularly important in the case of pesticides because of their potential for contamination of food and water. Opponents felt it was unethical to test pesticides in human volunteers under most circumstances. They posed two basic arguments for supporting their case: 1) Pesticides are unique chemicals because they are designed to be "poisons," and 2) Many pesticides are neurotoxic and it is unethical to test neurotoxins in people.

This is a particularly important issue because it impacts on some fundamental concepts in toxicology and is a basic policy decision for the EPA.

Speakers: Bernie Weiss, University of Rochester, Rochester, NY; Judy MacGregor, Independent Consultant, Rockville, MD; Lynn Goldman, Johns Hopkins University, Baltimore, MD; Ron Kendall, Chair of FIFRA Science Advisory Panel and at Texas Tech University, Lubbock, TX; Dan Goldstein, Medical Toxicologist at Monsanto, St. Louis, MO; and Gary Ellis, NIH Office for Protection from Research Risk, Rockville, MD.

THURSDAY AFTERNOON, MARCH 23

1:30 PM - 4:15 PM
PENNSYLVANIA CONVENTION CENTER
ROOM(S) 20AB

SYMPOSIUM SESSION: METALLOTHIONEIN SUBCELLULAR LOCALIZATION AND REGULATION OF CELL CYCLE AND APOPTOSIS

Sponsored By: The Metals Specialty Section
Chairpersons: Y. James Kang, University of Louisville, Louisville, KY and Michael Waalkes, NCI at NIEHS, Research Triangle Park, NC.

Metallothionein (MT), a transition metal binding protein, has been implicated in a diversity of biologic functions. Recent work has provided new insights into the subcellular localization of MT and its role in regulation of cell cycle and apoptosis. A better understanding of cellular and molecular mechanisms for MT protection from oxidative tissue injury has also been achieved. These areas of high impact progress in MT research are the focus of this symposium. MT is well below the size exclusion limit for diffusion through the nuclear envelope. However, its nuclear localization involves the action of glycoproteins and is energy dependent. Translocation of MT into and out of the nucleus is regulated by cell cycle progression and linked to cell differentiation. Cellular redox status also regulates the subcellular localization of MT. Cytoplasmic MT interferes with signaling pathways evoked by oxidative stress. For example, p38 mitogen-activated protein kinases (MAPKs) are activated in cardiac myocytes treated with doxorubicin (DOX), an antioxidant agent causing cardiac apoptosis by producing reactive oxygen species. MT inhibits DOX-induced p38 MAPK activation and apoptosis. DOX also induces mitochondrial cytochrome c release, thereby causing activation of proteases, such as caspases 9 and 3, that are involved in apoptosis. MT inhibits this process as well. Nuclear MT protects against oxidative DNA damage and regulates activities of transcription factors. For example, MT prevents DNA damage induced by antioxidant agents and regulates nuclear factor kB activity. Continued efforts on these fundamental investigations will help to further define these important roles of MT in regulation of cell cycle and apoptosis.

#1931 1:30 METALLOTHIONEIN SUBCELLULAR LOCALIZATION AND REGULATION OF CELL CYCLE AND APOPTOSIS. Y. J. Kang1 and M. P. Waalkes2. 1University of Louisville, Louisville, KY and 2NIH at NIEHS, Research Triangle Park, NC.

#1932 1:40 REGULATION OF NUCLEAR AND CYtoplasmIC LOCALIZATION OF METALLOTHIONEIN. J. S. Lazo, University of Pittsburgh, School of Medicine, Pittsburgh, PA. Sponsor: Y. J. Kang.

#1933 2:15 INHIBITION OF METALLOTHIONEIN OF OXIDATIVE STRESS-INDUCED APOPTOSIS. Y. J. Kang, G. W. Wang, Z. X. Zhou and J. B. Klein, University of Louisville, Louisville, KY.
Society of Toxicology  
39th Annual Meeting

**#1934 2:50**  
NUCLEAR TRANSLOCATION of 
METALLOTHIONEIN DURING CELL CYCLE 
PROGRESSION AND DIFFERENTIATION. M.G. 
Cherian and M. D. Apostolova. University of Western 
Ontario, London, ON, Canada.

**#1935 3:25**  
REGULATION OF NUCLEAR FACTOR-κB 
ACTIVITY BY METALLOTHIONEIN. S. Hara, A. 
Sakurai and N. Imura. Kitasato University School of 
Pharmaceutical Sciences, Tokyo, Japan.

**#1936 4:00**  
NEW HORIZONS IN METALLOTHIONEIN 
RESEARCH. M. F. Waikey and J. Liu. NIEHS, 
Research Triangle Park, NC.

**THURSDAY AFTERNOON, MARCH 23**  
1:30 PM – 4:15 PM  
PENNSYLVANIA CONVENTION CENTER  
ROOM(S) 204AB

**SYMPOSIUM SESSION: TOXICOLOGICAL DATABASE MINING IN THE 21ST CENTURY**

**Sponsored By: The Molecular Biology and Regulatory & Safety Evaluation Specialty Sections**

**Chairpersons:** Mary Jane Cunningham, Incyte Pharmaceuticals, Palo Alto, CA and Jonathan R. Greene, Schering-Plough Research Institute, Kenilworth, NJ.

Genomic technologies are currently being used as an investigative tool in risk and safety assessment. Data obtained from gene expression analyses using microarrays (105 to 106 data points/assay) can be overwhelming. Recent research into data mining and visualization may provide answers to this key issue. Initially, the raw data may need to be filtered for noise and thresholding parameters set for the differential expression values. Then, several methods such as subseting and agglomerative clustering, multidimensional scaling, motif discovery and principal components analysis may be applied to numerically analyze the trends due to various compound treatments. Finally, the trends can be visualized using pattern recognition methods. Data analysis by these methods may help predict unknown or alternative modes of action, classification of unknown NCEs by their expression profiles and comparison to known compound profiles and allowing further analysis of dose-response relationships and chemical interactions. This symposium will start with an overview of the current database mining practices and then delve into each method available and its application to a gene expression data set (containing several time points) resulting from the treatment of rat livers with three different hepatotoxins.

**#1937 1:30**  
TOXICOLOGICAL DATABASE MINING IN THE TWENTY-FIRST CENTURY. M.J. Cunningham.  
Incyte Pharmaceuticals, Palo Alto, CA.

**#1938 1:35**  
IDENTIFYING THERAPEUTIC PROTEINS AND TARGETS IN DNA DATABASES. J.R. Greene.  
Schering-Plough Research Institute, Kenilworth, NJ.  
Sponsor: M.J. Cunningham.

**#1939 2:15**  
FUNDAMENTAL GENE EXPRESSION ANALYSIS TO TOXICOLOGICAL PROFILING.  
R. Somogyi. Incyte Pharmaceuticals, Palo Alto, CA.  
Sponsor: M.J. Cunningham.

**#1940 2:55**  
APPLYING VISUAL AND NUMERICAL PATTERN RECOGNITION TOOLS TO GENE EXPRESSION DATA. T.J. Downey, D.J. Meyer and M.K. Greene. Partek Incorporated, St. Peters, MO.  
Sponsor: M.J. Cunningham.

**#1941 3:35**  
COMBINING CHEMICAL STRUCTURE AND GENE EXPRESSION ANALYSES FOR TOXICOLOGICAL PROFILING AND PREDICTION. E.W. Steeg. Molecular Mining Corporation, Kingston, ON, Canada. Sponsor: M.J. Cunningham.

**4:15**  
GENERAL DISCUSSION.
Society of Toxicology
39th Annual Meeting

#1942 1:30 TRICHLOROETHYLENE HEALTH ASSESSMENT: INTRODUCTION. W. Farland. USEPA, Washington, DC.


#1944 2:15 IS THE INDUCTION OF MUTATION A KEY EVENT IN THE ETIOLOGY OF TRICHLOROETHYLENE-INDUCED TUMORS? M. Moore. USEPA NHEERL, Research Triangle Park, NC.


#1946 3:15 FUTURE DIRECTIONS IN THE USE OF MODE OF ACTION INFORMATION IN ASSESSING CANCER RISKS FROM TRICHLOROETHYLENE (TCE). R. J. Bull. Battelle Pacific Northwest National Laboratory, Richland, WA.

3:45 PANEL DISCUSSION.

THURSDAY AFTERNOON, MARCH 23
1:30 PM - 4:15 PM
PENNSYLVANIA CONVENTION CENTER
ROOMS (5) 108B

WORKSHOP SESSION: TOXICOLOGICAL CONSIDERATIONS OF PHARMACEUTICALS FOR PEDIATRIC PATIENTS

Sponsored By: The Regulatory & Safety Evaluation and Reproductive & Developmental Specialty Sections

Chairpersons: Hilary V. Sheever, Milestone Biomedical Assoc., PAI, Frederick, MD and Melissa Sherman Tassinari, Pfizer Central Research, Groton, CT.

The number of pharmaceuticals designed and tested clinically for use by pediatric patients is rapidly increasing. Additionally, it has been long recognized that important stages of development continue postnataally in both humans and animals. These factors—more drugs developed for pediatric populations and the importance of needed evaluations of postnatal development—have led toxicologists to recognize and manage a rapidly increasing demand for juvenile animal studies. Thus, however, it is increasingly recognized that the necessary scientific basis to design reasonable studies may not exist. This workshop will introduce some of the issues associated with testing in juvenile animals. The workshop will first focus on the development of several important organ systems that undergo postnatal development, including skeletal growth, the immune system and the central nervous system. It is clear that some drugs, such as the corticosteroids, may affect development. It is not clear, however, whether all drugs will affect pediatric populations differently from adults during this postnatal developmental period. Available animal models will be described and evaluated and regulatory expectations will be discussed. It is expected that this workshop will help define the questions that studies should answer, review current animal models and identify research gaps that should be considered prior to additional regulation. While this workshop will be focussed primarily on recent testing requests by the USFDA, recent changes in EPA policy will be noted as well. The workshop will conclude with a presentation of several case studies of pharmaceuticals intended for pediatric patients.

#1947 1:30 TOXICOLOGICAL CONSIDERATIONS OF PHARMACEUTICALS FOR PEDIATRIC PATIENTS. H. V. Sheever and M. S. Tassinari.

#1948 1:40 SKELETAL GROWTH AND GROWTH DYNAMICS: ASPECTS TO CONSIDER FOR THE DESIGN OF JUVENILE ANIMAL STUDIES. M. S. Tassinari. Pfizer Central Research, Groton, CT.

#1949 2:10 ANIMAL MODELS AND CONSIDERATION OF IMMUNE SYSTEM DEVELOPMENT. K. L. Hastings. FDA/CDER, Rockville, MD.

#1950 2:40 CNS DEVELOPMENT: DEVELOPMENT OF THE HYPOTHALAMIC-PITUITARY-ADRENAL AXIS AND CONSEQUENCES OF EARLY DRUG EXPOSURE. M. T. Williams and C. V. Vorhees. Children's Hospital Research Foundation, Cincinnati, OH.

#1951 3:10 INTERNATIONAL REGULATORY CONSIDERATIONS OF PHARMACEUTICALS FOR PEDIATRIC PATIENTS. H. V. Sheever. Milestone Biomedical Assoc., A Division of PAI-SAI, Rockville, MD.


4:10 GENERAL DISCUSSION.

THURSDAY AFTERNOON, MARCH 23
1:30 PM - 4:30 PM
PENNSYLVANIA CONVENTION CENTER
ROOMS (5) 2028B

PLATFORM SESSION: METALS

Chairpersons: Francis Schanne, St. John's University, Jamaica, NY and Rudolf K. Zulips, Mercer University School of Medicine, Macon, GA.

#1953 1:30 CADMIUM UPTAKE KINETICS IN RAT HEPATOCYTES: CORRECTION FOR ALBUMIN BINDING. N. DelRaso, B. Foy and J. Frazier.

1AFRL/HEST, Wright-Patterson AFB, OH and 2Wright State University, Dayton, OH.

SOT


#1956 2: 15 CADMIUM-INDUCED UP-REGULATION IN EXPRESSION OF THE REGULATORY  \( \gamma \)-GLUTAMYL-CYSTEINE SYNTHESE SUBUNIT IN RAT LUNG AND ALVEOLAR EPITHELIAL CELLS. G. Shukla, J. F. Chu, and R. Hart. University of Vermont College of Medicine, Burlington, VT.

#1957 2: 30 INHIBITION OF DNA-(CYTOSINE-5) METHYLTRANSFERASE ACTIVITY BY CARCINOGENIC METALS. M. Takiguchi and M. P. Weilwes. Laboratory of Comparative Carcinogenesis, NCI at NIEHS, Research Triangle Park, NC.

#1958 2: 45 ARSENIC-SELENIUM INTERACTIONS IN HUMAN AND RAT HEPATOCYTES. M. Styblo, E. L. LeClayse, G. A. Hamilton, and D. J. Thomas. 1Department of Pediatrics, School of Medicine, University of North Carolina, Chapel Hill, NC; 2Division of Drug Delivery and Disposition, School of Pharmacy, University of North Carolina, Chapel Hill, NC; and 3Experimental Toxicology Division, NHcoL, USEPA, Research Triangle Park, NC.

#1959 3: 00 DMPS MODULATION OF ARSENIC SPECIES, INCLUDING MONOMETHYLARSONOUS ACID (MMAIII), IN HUMAN URINE. S. M. Healy, H. Y. Apostolou, B. Zheng, M. M. Apostolou, X. C. Le, W. E. Cebrian, W. R. Cullen, R. A. Zakharyan, and R. C. Dorf. 1University of Arizona, Tucson, AZ; 2Institute of Geochemistry, Guiyang, China; 3University of Alberta, Edmonton, Alberta, Canada; 4CINVESTAV-IPN, Mexico D.F., Mexico; 5University of British Columbia, Vancouver, British Columbia, Canada; and 6Rocky Mountain Poison and Drug Center, Denver, CO.

#1960 3: 15 MEDICAL MONITORING SURVEY RESULTS AND BERYLLIUM EXPOSURE AT A BERYLLIUM MINE AND EXTRACTION FACILITY. M. Kels1, D. Deubner, L. Maier, M. Kent, B. Smith, P. Chapman, K. Zhao, D. J. Pausientbach, and M. Kolanz. 1Exponent, Menlo Park, CA; 2Brush Wellman Inc., Elmore, OH; 3National Jewish Center, Denver, CO and 4Brush Wellman Inc., Cleveland, OH.

#1961 3: 30 LUMINAL TRANSPORT OF DI-N-ACETYLCYSTEINE MERCURY (\((\text{NAC})_2\text{Hg}\)) IN THE RABBIT PROXIMAL TUBULE. D. W. Harfsson and R. K. Zalups. 1Georgia State University, Atlanta, GA and 2Mercer University, Macon, GA.


#1963 4: 00 DISTINCT EFFECTS OF LEAD ON INDIVIDUAL PROTEIN KINASE C ISOFORMS. A. A. Coppi, D. Zelba, and F. A. X. Schanne. St. John’s University, Jamaica, NY.


THURSDAY AFTERNOON, MARCH 23
1: 30 PM - 4: 15 PM
PENNSYLVANIA CONVENTION CENTER
ROOM(S) 101AB
POSTER DISCUSSION SESSION: PEROXISOME PROLIFERATION IN CARCINOGENESIS
Chairpersons: Ruth A. Roberts, AstraZeneca Ltd., Macclesfield, United Kingdom and Jon C. Corton, Chemical Industry Institute of Toxicology, Research Triangle Park, NC.
Displayed: 1: 30 PM - 4: 15 PM
Discussed: 2: 30 PM - 4: 15 PM

#1965 PEROXISOME PROLIFERATOR ACTIVATED RECEPTOR \( \alpha \): SPECIES DIFFERENCES IN QUALITY AND QUANTITY. N. Macdonald, K. Lambe, N. J. Woodyatt and R. A. Roberts. AstraZeneca CTL, Macclesfield, United Kingdom.

#1966 USE OF MICROARRAY EXPRESSION PROFILING IN PPAR\( \alpha \) NULL AND WILD-TYPE MICE TO INVESTIGATE THE MECHANISM OF HEPATOCARCINOGENESIS INDUCED BY THE PEROXISOME PROLIFERATOR DIETHYLHEXYLPHTHALATE (DEHP). G. Orphanides, N. H. James, S. Chevalier, W. D. Pinnic, L. Kimber, F. I. Gonzalez, J. Peters and R. A. Roberts. AstraZeneca Central Toxicology Laboratory, Macclesfield, United Kingdom and 2NCI, Bethesda, MD.


#1969 THE USE OF PROTEOMIC TECHNOLOGY AND AN EPIDERMAL GROWTH FACTOR RECEPTOR TYROSINE KINASE INHIBITOR TO COMPARE PEROXISOME PROLIFERATOR AND GROWTH FACTOR - INDUCED S PHASE. S. Chevalier1, N. Macdonald1, R. Tonge2, J. Sykes2, M. Davison2 and R. A. Roberts1. AstraZeneca CTL, Macclesfield, United Kingdom and 2AstraZeneca Pharmaceuticals, Macclesfield, United Kingdom.

#1970 HEPATIC EXPRESSION OF DNA POL. B, REF-1, BCL-2 AND BAX PROTEINS IN PEROXISOME PROLIFERATOR-PP-TREATED RATS AND HAMSTERS. E. W. Holmes1, C. M. Bingham1, A. Keshavarzian2 and M. L. Cunningham3. Loyola University Stritch School of Medicine, Maywood, IL, 2Rush Presbyterian St. Luke’s Medical Center, Chicago, IL and 3NIHES, Research Triangle Park, NC.


#1972 EFFECTS OF 9-CIS, 11-TRANS CONJUGATED LINOLEIC ACID (CLA) ON HUMAN HT-29 COLON CARCINOMA CELLS. S. A. Khan, E. Zajko and J. P. Vandlen Heuvel. Penn State University, University Park, PA.

#1973 NADPH OXIDASE IS THE SOURCE OF OXIDANTS FOR ACTIVATION OF NF-κB BY THE PEROXISOME PROLIFERATOR WY-14,643. J. Rosyn1, R. Schoonhoven2, B. Segal1, S. M. Holland4, R. C. Cattley3, J. A. Swenberg1,3 and R. G. Thurman1,2. 1Curriculum in Toxicology, UNC-CH, Chapel Hill, NC, Department of 2Pharmacology and 3Environmental Sciences & Eng., UNC-CH, Chapel Hill, NC. 4Lab. of Host Defences, NIAID, Bethesda, MD and 5CITI, Research Triangle Park, NC.


#1976 HEPATIC MITOGENESIS AND CARCINOGENESIS INDUCED BY PEROXISOME PROLIFERATORS IS ASSOCIATED WITH ALTERATIONS IN IL-1β SIGNALING PATHWAYS. S. P. Anderson1, C. S. Dunn1, R. C. Cattley2 and J. C. Corton1. CITI, Research Triangle Park, NC and 2Amgen, Thousand Oaks, CA.

THURSDAY AFTERNOON, MARCH 23
1:30 PM – 4:15 PM
PENNSYLVANIA CONFERENCE CENTER
Room(3)204C

POSTER DISCUSSION SESSION: RISK ASSESSMENT OF SOLVENTS IN DRINKING WATER

Displayed: 1: 30 PM – 4: 15 PM
Discussed: 2: 30 PM – 4: 15 PM

#1977 DOSE-RELATED CHANGES IN THE PHARMACOKINETICS OF TRICHLOROETHYLENE IN RAT. M. G. Sonti1, M. M. Mostar2, H. Clewell3, V. P. Vaidya4 and M. M. Mendale4. 1Burdock and Associates, Inc., Vero Beach, FL, 2ATSDR, CDC, Atlanta, GA, 3CF Kaiser International, Ruston, LA and 4University of Louisiana at Monroe, Monroe, LA.

#1978 PHYSIOLOGICALLY BASED ESTIMATES OF THE HETEROGENEITY IN CANCER RISK VALUES FOR TETRACHLOROETHYLENE. J. Z. Byczkowski1, H. Choudhary2 and J. C. Lipscomb3. 1Consultant, Fairborn, OH and 2USA EPA, NCEA, Cincinnati, OH.

#1979 DERIVATION OF A HUMAN HEALTH-BASED GROUNDWATER CRITERION FOR TERTIARY-BUTYL ALCOHOL. T. Ledoux and G. Post. New Jersey Department of Environmental Protection, Trenton, NJ.
UNIFIED PROBABLISTIC APPROACH TO CHARACTERIZE CANCER AND NONCANCER RISKS: THE CASE OF TRICHLOROETHYLENE IN RESIDENTIAL WATER. K. T. Bogen, Lawrence Livermore National Laboratory, University California, Livermore, CA. Sponsor: H. Witschi.

DERIVATION OF A DRINKING WATER ACTION LEVEL FOR 1-HYDROXYETHYLENE DIPHOSPHONIC ACID (HEDP), M. H. Whittaker1, G. Ball2, L. Besterveld2 and A. Phelka2. 1The Weinberg Group, Washington, DC and 2NSF International, Ann Arbor, MI. Sponsor: M. Dourson.

RISK ASSESSMENT OF ALUMINUM, BENZENE, CARBOFURAN, CARBON TETRACHLORIDE, DICHLOROMETHANE, DIOXIN, NICKE, SIMazine, TETRACHLOROETHYLENE, THIOBENCARB, URANIUM AND VINYL CHLORIDE IN DRINKING WATER. A. Fan, J. Brown, T. McDonald, T. Parker, Y. Wang, D. Ting, A. Salmon, D. Morry, M. Dillardolomets, G. Merrell, H. Russell and E. Hernandez. California Environmental Protection Agency, Oakland, CA.

RISK ASSESSMENT OF TETRACHLOROETHYLENE (PCE) FOR CALIFORNIA DRINKING WATER. A. G. Salmon1, E. W. Fanning2, J. P. Brown1 and A. M. Fan1. 1Office of Environmental Health Hazard Assessment, California Environmental Protection Agency, Oakland, CA and 2University of California, Berkeley, CA.


RISK ASSESSMENT OF DRINKING WATER DISINFECTION BY-PRODUCTS (DBPs): USE OF STRUCTURE-ACTIVITY RELATIONSHIPS (SAR) ANALYSIS IN RANKING OF CARCINOGENIC POTENTIAL AND PRIORITIZATION FOR TESTING. Y. Woo1, D. Y. Lai1, M. K. Manibusan1, J. L. McLaun1 and V. L. DeLacco1. 1USEPA, OPPT, Washington, DC, 2USEPA, OW, Washington, DC and 3USEPA, OPP, Washington, DC.


ACCEPTABLE CONCENTRATIONS FOR CHLOROFORM (TCM) IN DRINKING WATER ON THE INTERNATIONAL SPACE STATION. H. D. Garcia. Wyle Laboratories Life Sciences Systems and Services, Houston, TX. Sponsor: C. Lam.
Abbott Laboratories
Abbott Park, Illinois

Alcon Laboratories, Inc.
Ft. Worth, Texas

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Morristown, New Jersey

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Princeton, New Jersey

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Purpose

To encourage, support, and promote charitable and educational activities that increase the public understanding of toxicology, including:

- promoting the development and dissemination of educational programs in toxicology; and
- acquiring, preserving and building the financial resources necessary to achieve the Foundation’s mission.

Themes

The Dose Makes the Poison
Toxicology is Part of the Solution
Toxicology Literacy for the 21st Century

Focus for 1999-2002: Toxicology for the Classroom, a program to disseminate middle school curricula to teachers throughout the United States to support science education reform and increase toxicology literacy.

Previous Programs

$30,000 Connecticut United for Research-Risk Assessment BioRAP Issue
$30,000 High School Teacher Education Program (1996, 1997)
$15,000 IUTOX Risk Assessment Summer School
$10,000 Travel Grant to IUTOX for Participants from Developing Countries (1998)
$ 6,000 Dixon Graduate Travel Award to IUTOX Meeting (1992, 1995, 1998)
$ 1,000 Travel Award for Mexican SOT Representative to Attend SOT Annual Meeting (1996)

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John Thomas
Liaison, Education Subcommittee for
K-12 Education (1999-2000)

Mary Jo Vodicnik
SOT Past Treasurer (1999-2001)
Officers — Specialty Sections

(Alan M. Goldberg, Liaison)

Biorhythms (227)
Organizer: Jack E. Nusbaum
President: John J. Cidlowski
Vice President: David E. Tracy
Secretary/Treasurer: Bruce A. McEwen

Biological Modeling (New)
Organizer: Michael Pelesis

Carcinogenesis (247*)
President: James D. Yager
Vice President: Yvonie P. Dragan
Vice President-elect: Byron E. Butterworth
Secretary/Treasurer: Barbara S. Shane
Councillors: James E. Klaunig (Past President), John DiGiovanni, David Warchawsky

Comparative and Veterinary (102)
President: Frederick W. Ochme
Vice President: David C. Dorman
Vice President-elect: Wanda M. Haeseck-Hock
Secretary/Treasurer: Jim E. Viere
c
Councillors: Cecil F. Brownie (Past President), William M. Valentine, Marion F. Ehrich

Dermal Toxicology (New)
Organizer: Anna A. Shvedova

Epidemiology (43)
President: Richard A. Parent
Vice President: David Littenfeld
Vice President-elect: Gary W. Olsen
Secretary/Treasurer: Brian J. Hughes
Councillors: Martha Moore, Arnold J. Schecter, Edward V. Ohanian

Food Safety (110)
President: Richard W. Lane
Vice President: Joe A. Scimeca
Vice President-elect: Robert A. Roth
Secretary/Treasurer: David E. Williams
Secretary/Treasurer-elect: Nancy L. Kerkvliet
Councillors: Thomas J. Trauman (Past President), Lori A. Fix, Kenneth A. Voss, Steve Saunders

Immunotoxicology (210)
President: Judith T. Zelikoff
Vice President: Doris R. Gemmell
Vice President-elect: Mary J. Selgrage
Secretary/Treasurer: Robert W. Luebbe
Councillors: Kathleen A. Rodgers (Past President), John Barnett, Elizabeth E. Sikorski

Inhalation (200)
President: Kevin E. Driscoll
Vice President: Michelle M. Schaper
Vice President-elect: Jack R. Harkema
Secretary/Treasurer: Lung Chi Chen
Councillors: David B. Warheit (Past President), Robert L. Carpenter, Jeff M. Gearhart, Daniel L. Morgan

In Vitro (87)
President: Paul M. Silber
Vice President: Alan M. Goldberg
Vice President-elect: Nancy A. Montazeri-Riviere
Secretary/Treasurer: Janis L. Demetrius
Councillors: Rodger D. Curren (Past President), Monica A. Valentovic, Marion F. Ehrich

Mechanisms (309)
President: Garold S. Yost
Vice President: James L. Stevens
Vice President-elect: David Ross
Secretary/Treasurer: Kendall B. Wallace
Councillors: James P. Khorer (Past President), Daniel C. Liebler, Patricia E. Ganey

Metals (96)
President: Michael P. Waalkes
Vice President: Katherine S. Squibb
Vice President-elect: Elaine M. Faustman
Secretary/Treasurer: Marya H. Bhattacharya
Councillors: Peter L. Goering (Past President), David J. Thomas, James Koropatkyn

Molecular Biology (172)
President: Kenneth Ramos
Vice President: Christopher A. Bradfield
Vice President-elect: Colin R. Jefcoate
Secretary/Treasurer: Jack P. Vanden Heuvel
Councillors: Michael S. Denison (Past President), Valeria L. Culotta, Melissa A. Runge-Morris
Student Representative: Jane M. Rogers

Neurotoxicology (205)
President: Tomas R. Guilarte
Vice President: William D. Atchison
Vice President-elect: Merle G. Paulie
Secretary/Treasurer: Kevin M. Crofton
Councillors: Janice E. Chambers (Past President), Chris Newland, Robert C. MacPhail

Occupational Health (112)
President: Shayne C. Gad
Vice President: William J. Brock
Vice President-elect: **TBE
Secretary/Treasurer: Calvin C. Whillhite
Councillors: Ross E. Jones, Jr. (Past President), Edward V. Sargent, Michelle M. Schaper

Regulatory and Safety Evaluation (313)
President: Robert E. Osterberg
Vice President: Shayne C. Gad
Vice President-elect: Glenn S. Simon
Secretary/Treasurer: Hilary V. Sheevers
Councillors: Sharon J. Northup (Past President), Harry M. Olson, Judith A. MacGregor

Reproductive and Developmental (213)
President: Paul M. D. Foster
Vice President: Rita Log-Caruso
Vice President-elect: Peter G. Wells
Secretary/Treasurer: Terrell J. Mast
Councillors: Betsy D. Carlton (Past President), Marion G. Miller, Dana L. Shuey

Risk Assessment (298)
President: Robert J. Rubin
Vice President: Dennis J. Paustenbach
Vice President-elect: Michael L. Durson
Secretary/Treasurer: Steven R. Myers
Councillors: Clay B. Frederick (Past President), Matthew S. Bogdanoff, Michael L. Gargas

Toxicologics and Exploratory Toxicology (New)
Organizer: Reid Patterson

*Membership Totals
**TBE = To Be Elected
Officers — Regional Chapters
(Charlene A. McQueen, Liaison)

Allegheny-Erie
President: A. Philip Leber
President-elect: William E. Brown
Vice President: Jean S. Chun
Secretary/Treasurer: Maryanne F. Stock
Councilors: Anna A. Shvedova (Past President), Brian T. Laplante, Mark J. Rease
Student Representative: Andrea Wielhoff

Midwest
President: Bernadette M. Ryan
President-elect: Daniel M. Wilson
Secretary: Tony Kong
Treasurer: William M. Bracken
Councilors: Robert V. House (Past President), Lise J. Lobberg, Sabrina Morton, Paul E. Newton, Darryl Szyka

Mountain West
President: Patricia B. Hoyer
Vice President: Dennis R. Petersen
Vice President-elect: Ann E. Aust
Secretary: Mark A. Nelson
Treasurer: William K. Nichols
Councilors: Craig Marcus (Past President), Laurie Hudson, Mary K. Walker
Student Councilors: Chad Borges, Susan M. Fontaine

National Capital
President: Joy A. Cavagnaro
Vice President: Peter L. Goering
Secretary: Ronald S. Slesinski
Treasurer: Susan L. Makris
Councilors: Carole A. Kimmel (Past President), Barbara F. Bass, Nancy F. Doerter, Marion F. Ehrlich, Walter Kuzumbo
Student Representative: Christiane Massicotte

North Carolina
President: Robert J. Kavlock
Vice President: Timothy R. Fennell
President-elect: Robert E. Chapin
Secretary/Treasurer: Glenda J. Moser
Councilors: Michael L. Cunningham (Past President), Richard T. Miller, Mac Law
Student Councilors: Dana Tanka

Northland
President: Kendall B. Wallace
Vice President: Robert R. Roy
Secretary/Treasurer: Robert Skoglund
Councilors: Hillary M. Carpenter, Jeffrey C. Stevens, Michael J. Murphy, Steve C. Gordon
Student Representative: Nan Lin

Ohio Valley
President: David W. Hein
Vice President: Yvonne P. Dragan
President-elect: Joseph C. Siglin
Secretary/Treasurer: Lisa M. Kamendulis
Councilors: Darol E. Dodd (Past President), Howard P. Glauert, John C. Lipscomb, August V. Wilke
Student Representative: Scott Heid

Pacific Northwest
President: Nancy E. Kerckhout
Vice President: Brian D. Thrall
President-elect: Steven G. Gilbert
Secretary/Treasurer: Jeffrey J. Jenkins
Councilor: Richard Okita (Past President), Paige T. Lawrence
Student Representative: Michael Garry

South Central
President: Galen R. Wenger
Vice President: Andrew C. Scalet
President-elect: Benny L. Blaylock
Secretary: Daniel Schenk
Treasurer: Stephen B. Pruitt
Councilor: Ray N. Pope (Past President), Deborah K. Hansen, Neil R. Pumford
Student Representative: Lisa Walker

Southeastern
President: Mary Alice Smith
Secretary/Treasurer: Allan S. Sasten
Councilors: Randall O. Manning (Past President), James A. Deyo, Eric A. Schulte
Student Representative: Bora Han

Southern California
President: Jill E. Reyer-Powder
Vice President: David K. Monteith
President-elect: Grace M. Forman
Secretary/Treasurer: Tina Leakos
Councilors: Stephen B. Harris (Past President), Julie K. Doer-Stevens, Dianne Meacher, Gregory J. Stevens, Mark A. Zorbas

*TBE = To Be Elected
Media Resource Specialists

The Society of Toxicology has established a Toxicology Media Resource Program to assist journalists in identifying or locating expert toxicologists who can provide factual information on issues of public concern. The Media Resource Specialists provide information based on their own credentials and do not represent the views of the Society of Toxicology. Nominations are accepted twice a year: June 1 and December 1. Applications may be found on the SOT Web site (www.toxicology.org/medexperts.html). If you require further information, please contact Public Affairs Director Deborah Hyman at SOT Headquarters at (703) 438-3115, ext. 327.

Specialties

Carcinogenesis
James Bond
Richard Bull
David Eaton
Jay Goodman
Michael McClain
Charlene McQueen
Henry Pitot
James Pop
Robert Rubin
Jacqueline Smith

Comparative and Veterinary
Roger McClellan

Epidemiology
Ellen Silbergeld

General Toxicology
Linda Birnbaum
David Eaton
Sidney Green
Michael McClain
Kendall Wallace

Genetic Toxicology
Sidney Green
Charlene McQueen
(environmerntal)

Immunotoxicology
Scott Burchiel
Joy Cavagnaro
Jack Dean
Jay Gandolfi (hypersensitivity)
Nancy Kerkvliet
Kathleen Rodgers
Mary Jane Selgrade

Inhalation/Pulmonary
Barbara Beck
James Bond
Gary Boorman (pulmonary pathology)
Robert Drew
Roger McClellan
John Morris
Robert Phalen
Gary Yost

In Vitro
Daniel Acosta, Jr.
Jay Gandolfi
Kenneth Ramos
Jacqueline Smith

Kidney Toxicity
William Berndt
Steven Cohen
Mary Davis
Ernest Foulkes
Jay Gandolfi
Robin Goldstein

Liver Toxicity
Steven Cohen
Mary Davis
Jay Gandolfi
Robin Goldstein
Hari Mehendale

Mechanisms
Daniel Acosta, Jr.
William Berndt
Linda Birnbaum
Jay Gandolfi
Hari Mehendale
James Pop
Kenneth Ramos
Stephen Safe
Ellen Silbergeld
Kendall Wallace
Gary Yost

Metabolism/Toxicokinetics
Linda Birnbaum
Raymond Novak

Molecular
Henry Pitot
Kenneth Ramos
Robert Rubin
Raymond Novak (cell signaling, gene expression)
Kendall Wallace
Gary Yost

Neurotoxicity
Joel Mattsson
Ellen Silbergeld
William Slukker
Hugh Tilson

Regulatory Toxicology/
Regulatory Affairs/
Safety Evaluation
Daniel Acosta, Jr.
(drugs/addictive agents)
Gregory Allgood
Richard Bull
Joy Cavagnaro (drugs and biologics)
Jack Dean (drugs)
Michael Dourson
Robin Goldstein (drugs)
James Lamb (pesticides and industrial chemicals)
Michael McClain (drugs)
Kathleen Rodger (drugs)
Robert Rubin
Mary Jo Vodicnik (drugs)

Reproductive/Developmental
Robert Chapin
George Daston
Carole Kimmel
James Lamb
Hugh Tilson (developmental neurotoxicology)

Risk Assessment
Barbara Beck
Michael Bolger
James Bond
Richard Bull
John Christopher
Rory Conolly
Michael Dourson
Jay Goodman
Carole Kimmel
James Lamb
Roger McClellan
Robert Rubin
Jacqueline Smith

/issues

Air Pollution
James Bond
Robert Drew (air quality standards)
Roger McClellan (air quality standards—environmental and occupational)
John Morris
Robert Phalen
Mary Jane Selgrade

Animal Studies/
Animals in Research
Gary Boorman
Stephen DiZio
Robert Phalen

Biotechnology/
Biopharmaceutical Toxicology
Scott Burchiel
Joy Cavagnaro

Chemical-Chemical Interactions
Steven Cohen
Jay Gandolfi

Chlorine-Based Compounds
Richard Bull
Rory Conolly
Jay Gandolfi (also fluorine compounds)
H. B. Matthews
Hugh Tilson (PCBs)

Dioxins
Michael Bolger
Rory Conolly
David Eaton
Nancy Kerkvliet
Kenneth Ramos
Ellen Silbergeld
Hugh Tilson
Media Resource Specialists

(Continued)

ISSUES (continued)

Endocrine Disrupters
Linda Birnbaum
Michael Bolger
Sharon Bus
Robert Chapin
Rory Conolly
Michael Gallo
Nancy Kerkvliet
James Lamb

Food Additives/
Food Safety/Food Toxins
Gregory Allgood
Michael Dourson
David Eaton (especially aflatoxins)
Robert Rubin

Free Radicals/
Oxidative Stress/
Antioxidants
Gregory Allgood
James Kehrer
Kendall Wallace

Industrial Chemical
Toxicology
James Bus
Kendall Wallace

Medical Devices
Scott Burchiel
Kathleen Rodgers
Stephen Safe

Metals
Barbara Beck
William Berndt
Michael Bolger
Ernest Foulkes
Jay Gandolfi
Hugh Tilson (lead, methyl mercury)

Natural Toxins
Michael Bolger
Joel Mattsson

Pesticides
James Bus
James Lamb
H. B. Matthews
Kathleen Rodgers
Stephen Safe

Radiation
Gary Boorman (EMF exposure)
Mary Jane Selgrade

Solvents
Mary Davis
Kendall Wallace

Validation of Alternative
Methods
Joy Cavagnaro
Sidney Green

Water Pollution
Richard Bull

SOT Chapter
Geographical
Distribution

Central States
William Berndt (NE)
Kendall Wallace (MN)

Gulf Coast (Texas)
James Kehrer
Kenneth Ramos
Stephen Safe
William Slikker

Michigan
James Bus
Jay Goodman
Joel Mattsson
Raymond Novak

Mid-Atlantic
Jack Dean (PA)
Michael Gallo (NJ)
Robin Goldstein (NJ)
Michael McClain (NJ)
James Popp (PA)
Jacqueline Smith (NJ)

Midwest
Henry Pitot (WI)

Mountain West
Scott Burchiel (NM)
Jay Gandolfi (AZ)
Charlene McQueen (AZ)
Gary Yost (UT)

National Capital
Michael Bolger (DC)
Joy Cavagnaro (MD)
Robert Drew (DC)
Sidney Green (DC)
Carole Kimmel (DC)
James Lamb (VA)
Robert Rubin (MD)
Ellen Silbergeld (MD)

North Carolina
Linda Birnbaum
James Bend
Gary Boorman
Robert Chapin
Rory Conolly
H. B. Matthews
Roger McClellan
Mary Jane Selgrade
Hugh Tilson

Northeast
Barbara Beck (MA)
Steven Cohen (CT)
John Morris (CT)

Northern California
John Christopher

Ohio Valley or
Allegheny-Erie
Daniel Acosta, Jr. (OH)
Gregory Allgood (OH)
George Dastin (OH)
Mary Davis (WV)
Ernest Foulkes (OH)
Michael Dourson (OH)
Mary Jo Vodicnik (IN)

Pacific Northwest
Richard Bull (WA)
David Eaton (WA)
Nancy Kerkvliet (OR)

South Central
Hari Mehendale (LA)

Southern California
Robert Phalen
Kathleen Rogers
Stephen DiZio
Society of Toxicology Awards

In recognition of distinguished toxicologists, the SOT presents several awards each year. Award recipients are listed in the annual Membership Directory and are honored at a special Awards Presentation at the SOT Annual Meeting.

SOT Awards

Achievement

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

1967 .................................. Gabriel L. Plass
1968 .................................. Allan H. Conney
1969 .................................. Samuel S. Epstein
1970 .................................. Sheldon D. Murphy
1971 .................................. Yves Alarie
1972 .................................. Robert L. Dixon
1973 .................................. (No Award)
1974 .................................. Morris C. Cranmer
1975 .................................. Jan C. Munro
1976 .................................. Curtis D. Klaassen
1977 .................................. James E. Gibson
1978 .................................. Raymond D. Harbison
1979 .................................. Michael R. Boyd
1980 .................................. Philip G. Waterman
1981 .................................. (No Award)
1982 .................................. Frederick P. Guengerich
1983 .................................. (No Award)
1984 .................................. Melvin E. Andersen
1985 .................................. Alan R. Buczkowski
1986 .................................. Sam Kacew
1987 .................................. James S. Busch
1988 .................................. Jeanne M. Manson
1989 .................................. James P. Kehrer
1990 .................................. Michael P. Waalkes
1991 .................................. Debra Lynn Laskin
1992 .................................. Michael P. Holsapple
1993 .................................. David L. Eaton
1994 .................................. James L. Stevens
1995 .................................. Lucio G. Costa
1996 .................................. Kenneth Ramos
1997 .................................. Kevin E. Driscoll
1998 .................................. Rick G. Schmellman
1999 .................................. Michel Charbonneau
2000 .................................. Christopher Bradford

1980 .................................. Allan H. Conney
1981 .................................. Gabriel L. Plass
1982 .................................. Gary M. Williams
1983 .................................. David P. Rall
1984 .................................. Tibor Balazs
1985 .................................. Frederick Coulston
1986 .................................. Gerrit Johannes Van Esch
1987 .................................. John P. Frawley
1988 .................................. Kundan S. Khera
1989 .................................. Richard H. Adamson
1990 .................................. Harold C. Grebe
1991 .................................. Bernard A. Schwartz
1992 .................................. Roger O. McClelan
1993 .................................. Thomas W. Clarkson
1994 .................................. Bruce Ames
1995 .................................. Emil A. Pfeifer
1996 .................................. John F. Rosen
1997 .................................. (No Award)
1998 .................................. Helmut Alfred Greim
1999 .................................. (No Award)
2000 .................................. Carole Kimmel, Janardan Reddy

Board of Publications

The Board of Publications Awards for the Best Paper in Toxicology and Applied Pharmacology and the Best Paper in Toxicological Sciences are presented to the author(s) of the best paper published in each of the official SOT publications during a 12-month period, terminating with the June issue of the calendar year preceding the Annual Meeting at which the award is presented. The author(s) need not be a member of the SOT. These awards consist of a plaque and cash stipend. Submissions should include a one-page summary of the paper's contribution to the science of toxicology and a copy of the article for which the nomination is being made. Any member of the Society may submit one title for consideration per journal award. In addition, the titles of no more than six papers to be considered for each award are submitted by the editors of each official SOT publication. All papers submitted will be evaluated by the Board of Publications.

Best Paper in Toxicological Sciences
(Previously Fundamental and Applied Toxicology)

1995 ....................... M. I. Lustig, C. Portier, D. G. Pait, G. J. Rosenthal,
                      D. R. Gormolec, E. Corsini, B. L. Blaylock,
                      P. Pollock, Y. Kouchi, W. Craig, K. L. White,
                      A. E. Munson, C. E. Comment

1996 ....................... B. C. Allen, R. J. Kavlock,
                      C. A. Kimmel, E. M. Faustman

1997 ....................... F. L. Fort, H. Ando, T. Suzuki, M. Yamanoto,
                      T. Hamashima, S. Sato, T. Kizukaki,
                      M. C. Matony, G. D. Hodgen

1998 ....................... D. D. Parrish, M. J. Schlosser,
                      J. C. Kaptehian, V. M. Traina

1999 ....................... C. A. Franklin, M. J. Inskipp, C. L. BaccusAle,
                      C. M. Edwards, W. J. Manton, E. Edwards, E. J. O'Flaherty

2000 ....................... H. A. Boulares, C. Giardina, C. L. Navarro,
                      E. A. Khairallah, S. D. Cohen

Arnold J. Lehman

The Arnold J. Lehman Award is presented to recognize 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 regulation and/or from research activities that have significantly influenced the regulatory process. The nominee may be employed in academia, government or industry and must be a SOT member. This award consists of a plaque and a cash stipend.
Society of Toxicology Awards
(Continued)

Best Paper in Toxicology and Applied Pharmacology
1995 ........................................ M. F. Denny, M. F. Ware, W. D. Atchison
1996 ........................................ T. A. Slotkin, C. Lau, E. C. McCook,
                                 S. E. Lappi, F. J. Seidler
1997 ........................................ P. R. S. Kodavanti, T. R. Ward, J. D. McKinney,
                                 C. L. Waller, H. A. Tison
1999 ........................................ S. K. Ramaiah, M. G. Soni, T. J. Bucci, H. M. Mehendale,
                                 C. L. Zuch, D. J. O’Mara, D. A. Cory-Slechta
2000 ........................................ E. Staples, N. C. Fiore, D. E. Frazier, Jr.,
                                 T. A. Gasiewicz, A. E. Silverstone

Contributions to Public Awareness of the Importance
of Animals in Toxicology Research

NEW! The Contributions to Public Awareness of the Importance
of Animals in Toxicology Research Award may be 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. This award may be for either a single
seminal piece of work or a longer-term contribution to public
understanding of the necessity of the use of animals in toxicological
research both to ensure and enhance the quality of human and animal
health and the environment. Guidelines and examples are provided in
the full description posted on the SOT Web site. This award consists of
a plaque and a cash stipend.

2000 ........................................ Allegheny-Erie Chapter

Education

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. This award consists of a plaque and a cash stipend.

1975 ........................................ Harold C. Hodge
1976 ........................................ Ted A. Loomis
1977 ........................................ Robert B. Forney
1978 ........................................ (No Award)
1979 ........................................ Sheldon D. Murphy
1980 ........................................ Herbert H. Cornish
1981 ........................................ Frederick Sperling
1982 ........................................ Lloyd W. Hazleton
1983 ........................................ Julius M. Coon
1984 ........................................ Frank Guthrie, Ernest Hodgson
1985 ........................................ William B. Buck
1986 ........................................ Robert I. Krieger
1987 ........................................ Gabriel L. Plaa
1988 ........................................ John Autian
1989 ........................................ Tom S. Miya
1990 ........................................ Charles H. Hine
1991 ........................................ Hanspeter R. Witschi
1992 ........................................ Dean E. Carter
1993 ........................................ Curtis D. Klaassen
1994 ........................................ Robert A. Neal
1995 ........................................ William Carlton
1996 ........................................ Robert Snyder
1997 ........................................ Albert E. Munson
1998 ........................................ David J. Holbrook
2000 ........................................ Jules Brudere
2000 ........................................ Gary Carlson

Enhancement of Animal Welfare

NEW! The Enhancement of Animal Welfare Award may be 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/significant contributions made by members of the SOT to
the scientifically sound and responsible use of animals in research. The
achievement recognized may be either a seminal piece of work or a
long-term contribution to toxicological science and animal welfare.
Guidelines and examples are provided in the full description posted on
the SOT Web site. This award consists of a plaque and a cash stipend.

2000 ........................................ Yves Alarie

Frank R. Blood

The Frank R. Blood Award was presented to the author(s) of the best
paper published in official SOT publications during a 12-month period
terminating with the June issue of the calendar year preceding the
Annual Meeting at which the award was presented. This award is
no longer sponsored by the SOT. (Replaced by Best Paper Award.)

1974 ........................................ Yves Alarie
1975 ........................................ Donald J. Ecobichon, G. J. Johnstone, O. Hutzinger
1976 ........................................ Richard D. Brown
1977 ........................................ J. Dedinas, George D. DiVincento, C. J. Kaplan
1978 ........................................ Perry J. Gehring, E. O. Madrid, G. R. McGowan,
                                 Philip G. Watanabe
1980 ........................................ Jerold A. Last, Peter F. Moore, Otto G. Raabe,
                                 Brian T. Tarrant
1981 ........................................ Yves Alarie, Martin Brady, Christine Dixon, Meryl Karol
1982 ........................................ Melvin E. Andersen, Michael L. Gargas,
                                 Lawrence J. Jenkins, Jr., Robert A. Jones
1983 ........................................ Henry D. Heck
1984 ........................................ Erik Dybing, Sidney Nelson, Erik Soderlund,
                                 Christe Von Bahr
1985 ........................................ Nobumasa Imura, Masae Inokawa, Kyoko Miura
1986 ........................................ Calvin C. Wilhite, M. I. Dawson, K. J. Williams
1987 ........................................ John Kao, Frances K. Patterson, Jerry Hall
1988 ........................................ Debra L. Laskin, Sunghul Ji, Anne M. Pilaro
1989 ........................................ R. G. Cuddihy, W. C. Griffith, Rogene F. Henderson,
                                 Joe L. Maudely, Roger O. McClellan, M. D. Snipes,
                                 Ronald K. Wolff
1990 ........................................ William P. Beierschmitt, Joseph T. Brady,
                                 John B. Bartolone, D. Stuart Wyand,
                                 Edward A. Khairallah, Steven D. Cohen
1991 ........................................ Jay Babcock Silkworth, Daryl Cutler,
                                 LuAnn Antrim, Don Houston, Casimir Turmanosin,
                                 Laurence S. Kaminsky
1992 ........................................ Donald A. Fox, Steve D. Rubinstein, Pauline Hsu
1993 ........................................ Thomas Mabry, Robert W. Moore, Robert W. Goy,
                                 Richard E. Peterson
1994 ........................................ Susan J. Borghoff, William H. Lagarde
Society of Toxicology Awards & Sponsored Awards

(Continued)

Merit

The Merit Award is presented to a member of the SOT in recognition of a distinguished career in toxicology. This award consists of a plaque and a cash stipend.

1966 ..................................... Henry F. Smyth, Jr.
1967 ..................................... Arnold J. Lehman
1968 ..................................... R. T. Williams
1969 ..................................... Harold C. Hodge
1970 ..................................... Don D. Irish
1971 ..................................... Kenneth P. DaBois
1972 ..................................... O. Garth Fitzhugh
1973 ..................................... Herbert E. Stokinger
1974 ..................................... William B. Deichmann
1975 ..................................... Frederick Coulston
1976 ..................................... Gerald K. Rowe
1977 ..................................... Harry W. Hays
1978 ..................................... Julius M. Coon
1979 ..................................... David W. Fassett
1980 ..................................... Bernard L. Oser
1981 ..................................... John H. Weisburger
1982 ..................................... Harold M. Peck
1983 ..................................... Perry J. Gehring
1984 ..................................... Tom S. Miya
1985 ..................................... Carol S. Weil
1986 ..................................... Ted A. Loomis
1987 ..................................... Bo Holmstedt
1988 ..................................... Seymour L. Friess
1989 ..................................... Wayland J. Hayes, Jr.
1990 ..................................... Sheldon D. Murphy
1991 ..................................... Tohio Narahashi
1992 ..................................... W. Norman Aldridge
1993 ..................................... John Douil
1994 ..................................... Ernest Hodgson
1995 ..................................... Robert A. Scala
1996 ..................................... Gabriel L. Plaa
1997 ..................................... Mary O. Amstutz
1998 ..................................... John A. Thomas
1999 ..................................... Thomas Clarkson
2000 ..................................... Philippe Shubik

Sponsored Awards

Burroughs Wellcome Fund Toxicology Scholar

The Burroughs Wellcome Fund offers five-year scholar awards to support career development in toxicology. These awards are intended to identify and encourage the development of established, independent investigators whose work will advance the understanding of toxicological processes on both fundamental and physiological levels. The SOT no longer sponsors this award.

1981 ..................................... Alan P. Poland
1982 ..................................... Curtis D. Klaassen
1983 ..................................... Frederick P. Gentnerich, R. Craig Schnell
1984 ..................................... Philip Guzelian
1985 ..................................... J. Glenn Sipes
1986 ..................................... Daniel Acosta
1987 ..................................... Bruce D. Hambrock, Richard P. Mailman
1988 ..................................... Harigha M. Mehdande
1989 ..................................... Stephen H. Safe
1990 ..................................... Mahin D. Maines
1991 ..................................... Robert A. Roth
1992 ..................................... Janice E. Chambers
1993 ..................................... Debra Lynn Laskin, Leona Samson
1994 ..................................... Kim Bockelheide, Dennis Thiele
1995 ..................................... Ellen Li, Curtis J. Omeckinski
1996 ..................................... Christopher Bradford, Bennett Van Houten
1997 ..................................... Titia de Lange

Colgate-Palmolive Traveling Lectureship in Alternative Methods in Toxicology Award

The Colgate-Palmolive Company sponsors this Traveling Lectureship in Alternative Methods in Toxicology Award annually through the SOT. This award covers expenses for an individual scholar to visit institution(s) for the dissemination of knowledge and for stimulating research that takes advantage of modern in vitro toxicology approaches. The overall goal of this program is to make scientists aware of the benefits of modern in vitro toxicology approaches and to simulate research for the replacement, reduction or refinement of currently used animal models. The scholar may be asked to make a special presentation at the SOT Annual Meeting.

Lecturing scholars should be established, mid-career through late-career scientists who are members of SOT and who are interested in developing collaborative relationships with scientists at other institutions.

Requests for funds can be made by the individual scholar or by an organization such as universities, colleges, SOT Specialty Sections and SOT Regional Chapters and other toxicology organizations that are interested in inviting the scholar. The application must be accompanied by a statement of the applicant's experience, a brief overview of the techniques to be discussed in the lecture and letter from the hosting institution(s) indicating their interest in serving as host and the potential benefits to the institution. The application should not exceed 1,500 words. The following format is suggested for the scientific application:
1) name and affiliation; 2) statement of experience and expertise; 3) proposed lecture itinerary; 4) rationale for itinerary; 5) statement of benefits to the applicant and institution; 6) curriculum vitae (limited to 20 pages) and 7) a budget.

28
Sponsored Awards
(Continued)

1996 University of Mississippi Medical Center, Visiting Professor: Tetsuo Satoh
1996 University of Illinois at Urbana, Visiting Professor: Julio Davila
1996 Mississippi State University, Visiting Professor: Michael Holmes
1996 Washington State University, Visiting Professor: Daniel Acosta
1997 Indiana University School of Medicine, Visiting Professor: A. Jay Gandolfi
1997 University of Arizona Health Sciences Center, Visiting Professor: Kevin E. Driscoll
1997 University of New Mexico Health Sciences Center, Visiting Professor: Sam Kacew
1997 University of Illinois, Visiting Professor: Michael Denison
1998 University of Washington, Visiting Professor: Bruce Fowler
1998 San Diego State University, Visiting Professor: Leigh Ann Burns Nais
1999 San Diego State University, Graduate School of Public Health, Visiting Professor: Robert Chapin
2000 Yale University, Visiting Professor: Narendra Singh

refine the use of animals on toxicological research. The speaker will be a scholar known for such work, for example, the Colgate-Palmolive Traveling Professorship Award winner or other scholars known for their work in developing animal reduction models such as the Enhancement of Animal Welfare Award winner.

2000 Charles Ruegg

Colgate-Palmolive/SOT Awards for Student Research Training in Alternative Methods

NEW! The purpose of the Colgate-Palmolive/SOT Awards for Student Research Training in Alternative Methods is to enhance student research training in alternative methods. Awards will be made to graduate students or to institutions that provide student research internships.

A. Graduate Students: The award will help to defray expenses for graduate students in toxicology to visit an off-site laboratory for the purpose of gaining knowledge about and developing in vitro toxicity techniques which will support student's dissertation research. The overall goal of this program is to support the replacement, reduction or refinement of currently used animal models in toxicological research and testing.

Applications must include a statement of the applicant's experience. A proposed itinerary and its underlying rationale should be provided, along with an indication of the benefits anticipated from the research experience. The application should not exceed 1,500 words and should be accompanied by support letters from the applicant's mentor and the director of the hosting laboratory. The Education Committee will decide recipients of the award.

B. Institutions: Awards will also be made to institutions that propose a 10-week summer research experience for students involving in vitro toxicity or alternative methods to reduce, replace or refine the use of animals in toxicological research.

Graduate Student Fellowships

The Graduate Student Fellowship Awards are provided by generous sponsors and are open to graduate students who have completed one year, but not more than three years, of full-time graduate study towards a Ph.D. degree in toxicology. The major professor must be an SOT member and the applicant must be an SOT member or have applied for membership. The Education Committee's evaluation is based primarily on originality of the dissertation research, research productivity, relevance to toxicology, scholastic achievement, and letters of recommendation. Applications can be obtained from the SOT Web site (www.toxicology.org) or from SOT Headquarters.

Colgate-Palmolive Post-Doctoral Fellowship in In Vitro Toxicology

The Colgate-Palmolive Company sponsors this Post-Doctoral Fellowship Award through the Society of Toxicology in alternate years to advance the development of alternatives to animal testing in toxicological research. The award, which includes stipend and research-related costs, is for one year, and may be extended for an additional year upon agreement between Colgate-Palmolive and the post-doctoral fellow. Post-doctoral trainees in their first year of study beyond the Ph.D., M.D. or D.V.M. degree who are employed by academic institutions, federal/national laboratories or research institutes worldwide may apply. Applications are due in even calendar years and the fellowship is awarded for the following year.

1988 Ernest Bloom
1989 Gin Hsieh
1990 Dennis E. Chapman
1991 Anne Walsh
1992 Qin Chen
1993 Erika Cretton
1994 William Chan
1995 Bob Van de Water
1997 Alan Parrish
1999 Russell Thomas

In Vitro Toxicology Lecture for Graduate Students—Sponsored by Colgate-Palmolive

NEW! The Colgate-Palmolive Company sponsors the In Vitro Toxicology Lecture annually through the SOT. The SOT Education Committee has organized a breakfast lecture to be held at the SOT Annual Meeting. The audience for the lecture will be students and post-doctoral fellow registrants. The purpose of the lecture will be to increase students' knowledge of the methods/techniques available for toxicology research using in vitro or other methods to reduce, replace, or
Sponsored Awards (Continued)

Covance (formerly Hazleton Laboratories) Corporation Fellowship
1984 ........................................ Patricia Ganey
1985 ........................................ Kevin Gaido
1986 ........................................ Lisa Naser
1987 ........................................ Marjorie Romkes
1988 ........................................ Caroline J. Decker
1989 ........................................ Lorraine E. Twerdok
1991 ........................................ Dale Morris
1993 ........................................ Michael F. Denny
1995 ........................................ Michael DiMatteo
1998 ........................................ Rebecca Laposata

Hoffmann-La Roche, Inc. Fellowship
1987 ........................................ Andrew G. King
1988 ........................................ Dori J. Thomas
1989 ........................................ Timothy J. Shaffer
1990 ........................................ Justin Lane Green
1991 ........................................ Kathryn Guyton
1992 ........................................ Anton Bennett
1993 ........................................ Bevin Engeland
1994 ........................................ Jennifer Counts
1995 ........................................ Radoslav Goldman
1996 ........................................ William Salminen
1997 ........................................ Jessica Greene
1998 ........................................ Kaviya Ramamoorthy

Novartis (formerly CIBA-GEIGY) Corporation Fellowship
1989 ........................................ Timothy Zacharewski
1990 ........................................ Mary Suzanne Stefaniak
1991 ........................................ Donald Bjornke
1992 ........................................ Lhanoo Gunawardhana
1993 ........................................ Christopher Martenson
1994 ........................................ Nyla Harper
1995 ........................................ Heather E. Kleiner
1996 ........................................ Russell Thomas
1997 ........................................ Melva Rios-Blancos
1998 ........................................ Kent Carlson
1999 ........................................ Mark Hickman

The Procter & Gamble Company Fellowship
1979 ........................................ Paul W. Ferguson
1980 ........................................ Anthony P. De Capri
1981 ........................................ Cheng Wang
1982 ........................................ Samson Chow
1983 ........................................ Laurie Basting
1984 ........................................ Philip Bartholomew
1985 ........................................ Russell Esterline
1986 ........................................ Leonard Sowers
1987 ........................................ Randall Ruch
1988 ........................................ Lawrence J. Dahm
1989 ........................................ Christopher M. Weghorst
1990 ........................................ Enrique Chacon
1991 ........................................ Janice Thornton-Manning
1992 ........................................ Melcita Archuleta
1993 ........................................ Regina Donohoe
1994 ........................................ Gary Miller
1995 ........................................ Sanjay Jain
1996 ........................................ Weston Porter
1997 ........................................ Louise Winn
1998 ........................................ Kristin Williamson
1999 ........................................ James Kerzee

Stauffer Chemical Company Fellowship
1987 ........................................ Lydia R. Cox
1988 ........................................ Hyo J. Kim

Graduate Student Travel Grants
Graduate Student Travel Grants are available on a one-time only basis
to graduate student members presenting papers or posters at the Annual Meeting. Applications can be obtained from the SOT Web site
(www.toxicology.org) or from SOT Headquarters.

Robert L. Dixon
The Robert L. Dixon Award of the Toxicology Education Foundation
takes applications from graduate students in the area of reproductive
toxicology and carries a stipend of $2,000 to enable students to attend
the International Congress on Toxicology meeting. It is available every three
years.
1989 ........................................ Kevin L. Stark
1992 ........................................ Dalaland Richard Juberg
1995 ........................................ Xuelin Li
1998 ........................................ Jeeyeon Bee

Zeneca Traveling Lectureships
The Zeneca Traveling Lectureships Awards are presented through the
SOT to recognize excellence in research and service in toxicology.
Zeneca, Ltd., provides two awards annually to promote greater
collaboration between European and North American toxicologists and to
enable North American toxicologists to undertake a three- to four-week
lecture tour of Europe. The awards are intended to familiarize recipients
with research and regulatory issues in Europe as well as bring a North
American perspective to these issues.
Candidates for these awards should be established, mid-career, North
American scientists who are members of the SOT and who demonstrate
the ability to develop collaborative relationships with European
colleagues.
Applicants must include a statement of the applicant's experience and
area of expertise. A proposed itinerary and its underlying rational should be
provided, along with an indication of the benefits that the lecture
will confer on the applicant. The itinerary must include a visit and lecture
at Zeneca's Alderley Park Facility in Cheshire, England. Candidates
should contact the itinerary hosts prior to submission of the application.
The application should not exceed 1,500 words.

The following format is suggested for the application: 1. Name and affiliation; 2. Statement of experience and expertise; 3. Proposed lecture
itinerary; 4. Rationale for itinerary; 5. Statement of benefits to the applicant; and 6. Curriculum vitae.
The SOT Awards Committee will select recipients for the Zeneca
Traveling Lectureships. The awardees will be named at the SOT 2000
Annual Meeting. Applications must be received at the SOT Headquarters
by October 1, 2000.

1990 ........................................ Robert I. Krieger, Joseph R. Landolph
1991 ........................................ Sam Kacew
1992 ........................................ Charles W. Smith, Jerold A. Last
1993 ........................................ Terrence James Monks, Harithara H. Mehendale
1995 ........................................ David L. Eaton, Hanspeter R. Wischi
1996 ........................................ Rick G. Schnellmann, James P. Keeler
1997 ........................................ Lucio G. Costa, Duraisa Desai
1998 ........................................ Syed F. Ali, Curtis J. Ormecinski
1999 ........................................ Alvaro Fugio
2000 ........................................ Kenneth Ramos, Garold Yost
Society of Toxicology
39th Annual Meeting
Society of Toxicology
39th Annual Meeting
Society of Toxicology
39th Annual Meeting
SOCIETY OF TOXICOLOGY
39th Annual Meeting
Society of Toxicology
39th Annual Meeting
Society of Toxicology
39th Annual Meeting
SOCIETY OF TOXICOLOGY
MEMBERSHIP APPLICATION

Instructions to Applicants for Membership in the Society of Toxicology

PLEASE READ CAREFULLY BEFORE COMPLETING ANY PORTION OF THIS APPLICATION.

General Membership Benefits

- Discounted registration fees to the largest toxicology meeting in the world.
- Opportunities to present your original research and sponsor that of others.
- A copy of The Toxicologist—a compilation of abstracts presented at the Annual Meeting.
- Opportunities to promote knowledge in the field of toxicology and to network with other toxicologists dedicated to the improvement of the health and safety of living beings and the protection of their environment.
- Subscription to the journal Toxicological Sciences and a discount on a subscription to Toxicology and Applied Pharmacology.
- Five issues of SOT's newsletter, Communiqué.
- SOT's Membership Directory—available on-line on SOT's Home page.
- Affordable health, life and disability insurance plans.
- Legislative updates and advocacy on behalf of toxicology and 4,500+ members.
- Fax-on-Demand—information 24 hours a day, 7 days a week.
- Specialty Section membership opportunities.
- Committee opportunities.
- Award eligibility.

Deadlines

There are three deadlines for application: January 1, May 1 and September 1. Completed application packets received by the January 1 deadline will be reviewed by the Membership Committee in February; completed packets received by the May 1 deadline will be reviewed by the Membership Committee in June; completed packets received by the September 1 deadline will be reviewed by the Membership Committee in October.

In April (for January 1 applications), August (for May 1 applications) and December (for September 1 applications), a list of pending member names will be sent to the voting membership of the Society of Toxicology for comments.

In May (for January 1 applicants), in September (for May 1 applicants) and in January (for September 1 applicants), Council will review the recommendations from the Membership Committee.

Candidates will be notified of their acceptance in June (for January 1 applications), in October (for May 1 applications) and in February (for September 1 applications).

Each applicant must be a qualified person with a professional, scientific interest in toxicology, in addition to meeting the requirements for the specific category of membership.

To assist the applicant in determining eligibility for membership, the Council of the Society of Toxicology has developed the following definitions and criteria for admission. The SOT Membership Committee is charged with the responsibility of evaluating each application according to these criteria.

FULL MEMBERSHIP

An individual may qualify for Full Membership in two ways:

A. Based on record of peer-reviewed publications.

- Ph.D. applicants require three years of relevant toxicology experience; Master applicants require six years of relevant toxicology experience; Bachelor of Science applicants require eight years of relevant toxicology experience.
- Applicants must have at least two peer-reviewed, toxicology-related publications that are not the result of graduate research experience.
- Sponsorship by two Full Members of SOT. Sponsors must complete and sign sponsorship forms (forms provided). Full Member Applicants—no two sponsors may be from the same institution. Sponsors must be Full Members of the Society and may not be a member of the SOT Council or Membership Committee.
- Letters of support should be forwarded directly from the sponsor to the attention of the Membership Committee at SOT Headquarters.
- Examples of unacceptable publications include, but may not be limited to, abstracts, letters to the editor, commentaries, technical notes, book chapters and review articles.
- Do not submit manuscripts in preparation. If manuscripts are in press, but not yet in print, indicate this and submit a copy of the letter of acceptance.
- The applicant must also submit a complete bibliography (including thesis and dissertation titles). It is essential that exact bibliographic citations be given (title, authors, journal name and volume, inclusive page numbers and year of publication).

B. Based on documented professional, scientific experience in toxicology.

- Ph.D. applicants require five years of relevant toxicology experience; Master applicants require eight years of relevant toxicology experience; Bachelor of Science applicants require ten years of relevant toxicology experience.
- Sponsorship by three Full members of SOT. Sponsors must submit completed, signed sponsorship forms (forms provided). Letters of support should be forwarded directly from the sponsor to the attention of the Membership Committee at SOT Headquarters. Full Member Applicants—no two sponsors may be from the same institution. Sponsors must be Full members of the Society and may not be a member of the SOT Council or Membership Committee.

Appendix
B. Based on documented professional, scientific experience in toxicology (CONTINUED).

- Applicants must clearly document activities and accomplishments supportive of the application such as:
  - Relevant professional experience.
  - Appointment to expert toxicology committees.
  - Awards for scientific endeavor.
  - Certification in toxicology.
  - Invited participation in toxicology meetings, seminars, symposia and workshops.
  - Contributions to toxicology literature, such as review articles, monographs and textbook chapters demonstrating a scholarly and/or innovative approach by the applicant.

Full Member Benefits

- Voting privileges:
  - At the Annual Meeting and at any special meeting.
  - By mail for election of Officers of the Society.
  - By mail on other matters.
- Ability to sponsor non-member colleague abstracts at the Annual Meeting.
- Officer eligibility.
- Elected Committee eligibility.
- Unrestricted eligibility to participate on SOT's appointed committees.
- Regional Chapter Officer eligibility.
- Recognition among your peers.
- Eligibility for many of SOT's distinguished awards.

ASSOCIATE MEMBERSHIP

- Must have demonstrated professional, scientific activities in toxicology. Evidence of such activities may include:
  - Attendance at toxicology scientific meetings.
  - Employment responsibilities that require an understanding of toxicologic principles.
  - A beginning career in toxicologic research.
- All items of the application must be completed, in full, with special emphasis on evidence of continuing professional activities in toxicology.
- Sponsorship by two Full Members of SOT. Sponsors must submit completed, signed sponsorship forms (forms provided). Letters of support should be forwarded directly from the sponsor to the attention of the Membership Committee at SOT Headquarters. Sponsors must be Full members and may not be members of the SOT Council or Membership Committee.

Associate Member Benefits

- Ability to sponsor non-member colleague abstracts at the Annual Meeting.
- Recognition among your peers.
- Eligibility for many of SOT's distinguished awards.
- Eligibility for participation on many of SOT's appointed committees.

STUDENT/POST-DOCTORAL FELLOW MEMBERSHIP

- Must be enrolled full-time in a graduate degree program, post-doctoral fellowship, or be within a 12-month period following completion of the degree program or fellowship.
- Two Full members must provide completed, signed sponsorship forms (forms provided). Letters of support should be forwarded directly from the sponsor to the attention of the Membership Committee at SOT Headquarters. Sponsors must be Full members and may not be members of the SOT Council or Membership Committee.
- The applicant's faculty advisor/post-doctoral mentor must provide assurance that the applicant is a full-time student/fellow (or has completed the degree program or fellowship within the past 12 months). If the faculty advisor/mentor is a Full member, the advisor can serve as one of the two required sponsors.
- A third sponsor who is a Full member of SOT is required as sponsor if the advisor/mentor is not a Full member of SOT or if the advisor is a member of the SOT Council or the SOT Membership Committee.

Student Member Benefits

- Ability to submit an unsponsored abstract at the Annual Meeting.
- Recognition among your peers.

Applicants: Make Sure You...

☐ Sign and date your application.
☐ Submit 1 copy of your completed application and resume or Curriculum Vitae.
☐ Confirm that your sponsors are Full Members of SOT and they are not members of the SOT Council or Membership Committee.
☐ Arrange for sponsors to complete, sign and mail the sponsorship form by the deadline.
☐ Confirm that two of your sponsors are not from the same institutions.
(Full Applicants only)
SOCIETY OF TOXICOLOGY

APPLICATION FOR MEMBERSHIP

1) Application for the following membership category (mark only one):
   - [ ] Full (based on publication record)
   - [ ] Full (based on professional experience)
   - [ ] Associate
   - [ ] Student/Post-doctoral Fellow

2) Applicant presently a:
   - [ ] Student/Post-doctoral Fellow  [ ] Associate Member
   - [ ] Non-Member

3) Full Member Applicants, would you accept Associate Membership if that is the determination of the Membership Committee?
   - [ ] Yes
   - [ ] No

4) Full Name: ________________________________  ________________________________  ________________________________  ________________________________
   - First
   - M
   - L

5) Membership Identification No. (first 3 and last 4 digits of your social security no. or any 7 digits of your choice): ________________________________

6) Organization:
   - Department: ________________________________
   - Address: ________________________________
   - City: ________________________________  State: ________________________________  Zip: ________________________________  Country: ________________________________
   - Telephone: ________________________________  Fax: ________________________________
   - E-mail: ________________________________

7) Education (include undergraduate, graduate and post-graduate institutions):

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<th>College of University</th>
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8) Area of specialization:

9) Area of expertise:

10) Board certification or other professional accreditation:

11) Experience: Attach a recently updated copy of your resume or curriculum vitae. This document should specifically include:
   - Employment history (including post-doctoral training, as applicable);
   - Description of current and previous job responsibilities related to toxicology;
   - Complete bibliography; and
   - Evidence of participation and continued interest in professional activities related to toxicology.

12) Sponsorship (see sponsorship form): Applicants must arrange for sponsorship forms to be completed by Full members of SOT (sponsors may not be members of SOT Council or SOT Membership Committee). Two sponsors are required for all applications; three sponsors are required for applicants requesting consideration as a Full member based on professional experience. Student applicants - one sponsor must be the major advisor or post-doctoral mentor; if the advisor/mentor is not a Full member of SOT or if the advisor/mentor is a member of the SOT Council or the SOT Membership Committee, two additional sponsors are required. Full applicants - sponsors must be from different organizations. Sponsorship forms should be sent directly to the SOT Headquarters address shown below. Candidate sponsored by (list all sponsors):

13) The Code of Ethics: Printed on the reverse was adopted and is subscribed to by the Membership of the Society of Toxicology. By signing below you agree to accept and abide by this code of ethics. Only signed applications will be processed.

Signature of Applicant ________________________________  Date ________________________________

Please send one copy of your completed application and resume or curriculum vitae to:

Membership Committee
Society of Toxicology
1767 Business Center Dr.
Suite 302
Reston, VA 20190-5332
Code of Ethics

(Adopted by the Society of Toxicology on January 31, 1985)

Preamble

The Society of Toxicology is dedicated to developing knowledge for the improvement of the health and safety of living beings and the protection of their environment. In attaining this objective, each Member must maintain high ethical standards and, to this purpose, this code requires a personal commitment.

Code of Ethics

I, as a Member of the Society of Toxicology, shall:

- Strive to conduct my work and myself with objectivity and integrity.
- Hold as inviolate that credible science is fundamental to all toxicologic research.
- Communicate information concerning health, safety and toxicity quickly and responsibly, with regard for the significance and credibility of the available data.
- Present my scientific statements or endorsements with full disclosure of whether or not factual supportive data are available.
- Abstain from professional judgments influenced by conflict of interest and, whenever possible, avoid situations that imply a conflict of interest.
- Observe the spirit as well as the letter of law, regulations and ethical standards with regard to the welfare of humans and animals involved in my experimental procedures.
- Practice high standards of occupational health and safety to benefit my co-workers and other personnel.

Concerns regarding ethics violations should be communicated in writing to SOT Headquarters. All questions of ethical concerns will be referred to the Society's legal counsel for review and recommendation to Council.

At the present time, Council can take action in response to objections only when those objections or comments are accompanied by specific references to findings of record as published by adjudicative bodies and when those findings cast serious doubt on the prospective member's respect for and conformity to the standards of professional conduct commonly accepted by toxicologists.
**SOCIETY OF TOXICOLOGY**

**SPONSORSHIP FORM #1**

**NOTE:** Sponsors must be Full Members of SOT and may not be members of the SOT Council or SOT Membership Committee.

Name of Sponsor: ________________________________
(Must be an SOT Full member)

Sponsor's Title: ________________________________

Academic/Organizational Affiliation: ________________________________

**To be completed by sponsor:**

- Relationship of sponsor to applicant:
  - [ ] Advisor/Mentor
  - [ ] Colleague/Co-Worker
  - [ ] Other __________________________

- How long has sponsor known applicant? ______________ years

- Applicant has or will contribute to the discipline of toxicology as a:
  - [ ] Researcher
  - [ ] Teacher
  - [ ] Consultant
  - [ ] Corporate Toxicologist/Study Director
  - [ ] Administrator/Manager
  - [ ] Other __________________________ (check all that apply)

- If applying for membership as a Student/Post-Doctoral Fellow, is the candidate enrolled as a full-time student or working full-time as a post-doctoral trainee (or within the first 12 months after completion of graduate/post-doctoral training)?
  - [ ] Yes
  - [ ] No

- For Student/Post-Doctoral Fellow Applicants, is sponsor the primary advisor/mentor for applicant?  
  - [ ] Yes
  - [ ] No
  - If so, is advisor/mentor a Full Member of SOT?  
    - [ ] Yes
    - [ ] No

**Comments:**
(The Membership Committee requires, and considers seriously, additional informative statements supporting the applicant’s candidacy for membership in the Society of Toxicology—e.g., evidence of sponsor’s substantive knowledge of the candidate, candidate’s familiarity with toxicology and sponsor’s statement regarding candidate’s personal integrity and conformance to high ethical standards of conduct as a scientist.)

I recommend acceptance of this candidate for  
- [ ] Full
- [ ] Associate
- [ ] Student/Post-Doctoral Fellow Membership
in the SOT.

Signature of sponsor ________________________________  
Date ________________________________

When completed, mail to: Membership Committee, Society of Toxicology, 1767 Business Center Drive, Suite 302, Reston, VA 20190-5332. Forms must be received by January 1, May 1, or September 1, as appropriate, of the year in which application is made. Failure to submit sponsorship forms as required will delay consideration of applications.
Name of Sponsor: ____________________________
(Must be an SOT Full member)
Sponsor's Title: ____________________________
Academic/Organizational Affiliation: ____________________________

To be completed by sponsor:

• Relationship of sponsor to applicant:
  □ Advisor/Mentor    □ Colleague/Co-Worker    □ Other ____________________________

• How long has sponsor known applicant? ____________________________ years

• Applicant has or will contribute to the discipline of toxicology as a:
  □ Researcher    □ Teacher    □ Consultant    □ Corporate Toxicologist/Study Director
  □ Administrator/Manager    □ Other ____________________________ (check all that apply)

• If applying for membership as a Student/Post-Doctoral Fellow, is the candidate enrolled as a full-time student or working full-time as a post-doctoral trainee (or within the first 12 months after completion of graduate/post-Doctoral training)?
  □ Yes    □ No

• For Student/Post-Doctoral Fellow Applicants, is sponsor the primary advisor/mentor for applicant?    □ Yes    □ No
  If so, is advisor/mentor a Full Member of SOT?    □ Yes    □ No

Comments:
(The Membership Committee requires, and considers seriously, additional informative statements supporting the applicant's candidacy for membership in the Society of Toxicology—e.g., evidence of sponsor's substantive knowledge of the candidate, candidate's familiarity with toxicology and sponsor's statement regarding candidate's personal integrity and conformance to high ethical standards of conduct as a scientist.)

I recommend acceptance of this candidate for Full  □  Associate  □  Student/Post-Doctoral Fellow Membership in the SOT.

Signature of sponsor ____________________________  Date ____________________________

When completed, mail to: Membership Committee, Society of Toxicology, 1767 Business Center Drive, Suite 302, Reston, VA 20190-5332. Forms must be received by January 1, May 1, or September 1, as appropriate, of the year in which application is made. Failure to submit sponsorship forms as required will delay consideration of applications.
SOCIETY OF TOXICOLOGY
SPONSORSHIP FORM #3

Name of Sponsor: ____________________________
(Must be an SOT Full member)

Sponsor’s Title: ____________________________

Academic/Organizational Affiliation: ____________________________

To be completed by sponsor:

- Relationship of sponsor to applicant:
  □ Advisor/Mentor    □ Colleague/Co-Worker    □ Other

- How long has sponsor known applicant? ________________ years

- Applicant has or will contribute to the discipline of toxicology as a:
  □ Researcher    □ Teacher    □ Consultant    □ Corporate Toxicologist/Study Director
  □ Administrator/Manager    □ Other ____________________________ (check all that apply)

- If applying for membership as a Student/Post-Doctoral Fellow, is the candidate enrolled as a full-time student or working full-time as a post-doctoral trainee (or within the first 12 months after completion of graduate/post-doctoral training)?
  □ Yes    □ No

- For Student/Post-Doctoral Fellow Applicants, is sponsor the primary advisor/mentor for applicant? □ Yes □ No
  If so, is advisor/mentor a Full Member of SOT? □ Yes □ No

Comments:
(The Membership Committee requires, and considers seriously, additional informative statements supporting the applicant's candidacy for membership in the Society of Toxicology—e.g., evidence of sponsor's substantive knowledge of the candidate, candidate's familiarity with toxicology and sponsor’s statement regarding candidate's personal integrity and conformance to high ethical standards of conduct as a scientist.)

I recommend acceptance of this candidate for □ Full □ Associate □ Student/Post-Doctoral Fellow Membership in the SOT.

Signature of sponsor ____________________________ Date ____________________________

When completed, mail to: Membership Committee, Society of Toxicology, 1767 Business Center Drive, Suite 302, Reston, VA 20190-5332. Forms must be received by January 1, May 1, or September 1, as appropriate, of the year in which application is made. Failure to submit sponsorship forms as required will delay consideration of applications.
TOXICOLOGICAL SCIENCES

An Official Journal of the Society of Toxicology

Formerly Fundamental and Applied Toxicology

SOT Attendees receive 15% discount on all new individual journal subscriptions from Oxford University Press!

Oxford University Press now publishes Toxicological Sciences, an official journal of the Society of Toxicology. Toxicological Sciences publishes research articles that are relevant to assessing the potential adverse health effects resulting from exposure of humans or animals to chemicals, drugs, natural products, or synthetic materials. Join your peers in subscribing to one of the most important toxicology journals and receive 12 issues per year.

Or, become a member of the Society of Toxicology and receive the journal as part of your membership.

http://toxsci.oupjournals.org

Visit Oxford University Press booth # 549 in Publisher’s Row to receive a free sample copy.