Preliminary Program Supplement—Platform and Poster Sessions

Annual Meeting & TOXEXPO • VIRTUAL
MARCH 12–26, 2021

Publication Date: February 19, 2021
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## Program Overview

### Session Types

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<td>Innovations in Toxicological Sciences</td>
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For the most up-to-date information on all Annual Meeting sessions, events, and activities, consult the [Online Planner](#) on the Annual Meeting website.

### Friday, March 12

<table>
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<tr>
<th>Time</th>
<th>Session Type</th>
<th>Title/Abstract</th>
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<tr>
<td>9:30 AM to 10:30 AM</td>
<td>CONTINUING EDUCATION COURSE</td>
<td>CE01 Chemical Probes: New Tools to Identify Molecular Targets Abstract#: 1001</td>
</tr>
<tr>
<td>10:00 AM to 1:45 PM</td>
<td>CONTINUING EDUCATION COURSE</td>
<td>CE05 Less Is More: Sustainable Product Development Requires More Toxicological Considerations Abstract#: 1005</td>
</tr>
<tr>
<td>11:00 AM to 2:45 PM</td>
<td>CONTINUING EDUCATION COURSES</td>
<td>CE02 Advances in Single Cell Genomic Analyses for Toxicological Testing Abstract#: 1002</td>
</tr>
<tr>
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<td>CE03 Applications of In Vitro and In Silico New Approach Methodologies for Predictive and Mechanistic Thyroid Toxicity Testing Abstract#: 1003</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CE04 Concepts and Approaches for Current and Future Metals Toxicological Research Abstract#: 1004</td>
</tr>
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### Saturday, March 13

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<tr>
<th>Time</th>
<th>Event Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:30 PM to 3:45 PM</td>
<td>UNDERGRADUATE STUDENT EVENT</td>
<td>What Is Toxicology and Why Should I Care: Live Introduction to Toxicology Presentation and Q&amp;A (Preregistration Required; Undergraduates Only) Sponsored by Committee on Diversity Initiatives</td>
</tr>
</tbody>
</table>

### Monday, March 15

<table>
<thead>
<tr>
<th>Time</th>
<th>Event Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 AM to 10:00 AM</td>
<td>TOEXPO EXHIBITS</td>
<td>Exhibitor representatives are available to chat about their products, services, and/or career opportunities with meeting attendees.</td>
</tr>
<tr>
<td>9:45 AM to 11:00 AM</td>
<td>PLENARY SESSION</td>
<td>Blending Art and Science to Master Science Communication</td>
</tr>
</tbody>
</table>

### Don’t Be Late

The listed times for events on Friday, March 12, and Saturday, March 13, reflect US Eastern Standard Time (UTC -5). Starting on Sunday, March 14, listed event times reflect US Eastern Daylight Time (UTC -4). For additional information, please see the World Map at the end of this document, which reflects time comparisons for UTC -4.

### Diversity, Equity, and Inclusion in Undergraduate Toxicology Education Workshop

**Facilitator:**
Nicollette Mitchell, Bates College, Lewiston, ME.

**Preregistration Required**
Sponsored by FUTURE Committee
- Facilitated discussion about diversity, equity, and inclusion among toxicologists who interface with undergraduates in the classroom, lab, and workplace.
### Program Overview—Monday, March 15

#### 11:00 AM to 4:00 PM

**NETWORKING LOUNGES**
- Enter these spaces to chat with other attendees, leave notes, or enter private rooms for short meetings.

**TOXEXPO EXHIBITS**
- Explore toxicology-related products, services, and career opportunities. Note that Exhibitor representatives are available for live discussions and meetings Mondays–Thursdays from 8:30 AM to 10:00 AM and 4:00 PM to 5:30 PM.

#### 11:15 AM to 2:00 PM

**SYMPOSIUM SESSIONS**
- Environmental Influences on Placental Origins of Development  
  *Abstract#: 1015–1019*
- Impaired Brain Barrier Systems: Relationship to Chemical-Induced Neurotoxicities  
  *Abstract#: 1020–1025*
- Industrial Applications of Artificial Intelligence in Toxicology  
  *Abstract#: 1026–1030*

**WORKSHOP SESSIONS**
- A Future Framework for Application of In Vitro Metabolism and QIVIVE Models to Inform Risk Assessment  
  *Abstract#: 1031–1036*
- Chemical-Induced Mouse Lung Tumors: Mode of Action, Relevance, and Risk Assessment  
  *Abstract#: 1037–1042*
- Establishing Quality, Safety, and Regulatory Principles for Probiotics: More Than Just a Gut Check  
  *Abstract#: 1043–1047*
- Standardization of In Vitro Inhalation Exposure for Regulatory Acceptance  
  *Abstract#: 1048–1053*
- Using Human Genetics to Aid in Safety Assessment of Therapeutics  
  *Abstract#: 1054–1060*

#### 2:45 PM to 4:05 PM

**INFORMATIONAL SESSIONS**
- Turning Over a New Leaf: An Update on the Clinical Toxicology of Synthetic Cannabinoids  
  *Abstract#: 1061*
- Understanding the Spread and Toxicological, Environmental, and Public Health Impact of the COVID-19 Pandemic on the African Continent  
  *Abstract#: 1062*

### Tuesday, March 16

#### 8:30 AM to 9:45 AM

**TOXEXPO EXHIBITS**
- Exhibitor representatives are available to chat about their products, services, and/or career opportunities with meeting attendees.

#### 10:00 AM to 11:00 AM

**LEADING EDGE IN BASIC SCIENCE AWARD LECTURE**

Toxicoepigenetics and the Use of piRNA for Precision Environmental Health Research

*Lecturer: Dana C. Dolinoy, University of Michigan, Ann Arbor, MI.*

#### 11:00 AM to 4:00 PM

**NETWORKING LOUNGES**
- Enter these spaces to chat with other attendees, leave notes, or enter private rooms for short meetings.

#### 4:15 PM to 7:00 PM

**SOT COMPONENT GROUP EVENTS**
- Biological Modeling Specialty Section Meeting
- Carcinogenesis Specialty Section Meeting
- Comparative Toxicology, Pathology, and Veterinary Specialty Section Meeting
- Immunotoxicology Specialty Section Meeting
- Mixtures Specialty Section Meeting
- Nanoscience and Advanced Materials Specialty Section Meeting
- Ocular Toxicology Specialty Section Meeting
- Risk Assessment Specialty Section Meeting
- Sustainable Chemicals through Contemporary Toxicology Specialty Section Meeting

#### 8:30 AM to 10:00 AM

**TOXEXPO EXHIBITS**
- Exhibitor representatives are available to chat about their products, services, and/or career opportunities with meeting attendees.

#### 10:00 AM to 11:00 AM

**SOT COMPONENT GROUP EVENTS**
- Cardiovascular Toxicology Specialty Section Meeting
- Clinical and Translational Toxicology Specialty Section Meeting
- Computational Toxicology Specialty Section Meeting

#### 11:00 AM to 4:00 PM

**NETWORKING LOUNGES**
- Enter these spaces to chat with other attendees, leave notes, or enter private rooms for short meetings.
11:00 AM to 4:00 PM
TOXEXPO EXHIBITS
- Explore toxicology-related products, services, and career opportunities. Note that Exhibitor representatives are available for live discussions and meetings Mondays–Thursdays from 8:30 AM to 10:00 AM and 4:00 PM to 5:30 PM.

11:15 AM to 2:00 PM
SYMPOSIUM SESSIONS
- Developmental Toxicity Hazard Assessment without Animals: Pathways and Prospects
  Abstract#: 1063–1069
- From Inhaled Particles to Neurodegeneration and Toxicity: Evidence from Studies in Volunteers, Experimental Animals, and Cell-Based Systems
  Abstract#: 1070–1076
- Novel Emerging Treatments for Acetaminophen Toxicity
  Abstract#: 1077–1082
- Pairing Adverse Outcome Pathway Discovery with Advances in Gene Editing to Solve Toxicity Mechanisms
  Abstract#: 1083–1088

WORKSHOP SESSIONS
- Improving Our Understanding of Toxicant Metabolism and Cytochrome P450s Using Novel Knockout Models and High-Throughput Methods
  Abstract#: 1089–1094
- New Approach Methodologies for Exposure: Advancing Chemical Risk Assessment
  Abstract#: 1095–1100
- Precision-Cut Lung Slices: A Versatile Tool for Pulmonary Toxicology
  Abstract#: 1101–1106

11:15 AM to 1:00 PM
POSTER SESSIONS
- Carcinogenicity
  Abstract#: 2000–2021
- Epidemiology and Public Health
  Abstract#: 2022–2034
- Mixtures
  Abstract#: 2035–2047

1:00 PM to 2:45 PM
POSTER SESSIONS
- Food Safety/Nutrition
  Abstract#: 2048–2064
- Metals
  Abstract#: 2065–2107

2:45 PM to 3:15 PM
FEATURED SESSION
Meet the Director: A Conversation with Rick Woychik
Speaker: Rick Woychik, NIEHS/NTP, Research Triangle Park, NC.

2:45 PM to 4:15 PM
SYMPOSIUM SESSION
- Evolving Technologies for Determination of Biotherapeutic Specificity
  Abstract#: 1107–1110
- The Methodological Road toward Single Cell High-Throughput Transcriptomics (scHTTR)
  Abstract#: 1111–1114

4:00 PM to 5:30 PM
TOXEXPO EXHIBITS
- Exhibitor representatives are available to chat about their products, services, and/or career opportunities with meeting attendees.

4:15 PM to 8:30 PM (Exact Start and End Times Vary)
SOT COMPONENT GROUP EVENTS
- Drug Discovery Toxicology Specialty Section Meeting
- Exposure Specialty Section Meeting
- Food Safety Specialty Section Meeting
- Mechanisms Specialty Section Meeting
- Medical Device and Combination Product Specialty Section Meeting
- Metals Specialty Section Meeting
- Neurotoxicology Specialty Section Meeting
- Regulatory and Safety Evaluation Specialty Section Meeting

Wednesday, March 17
8:00 AM to 9:30 AM (Exact Start and End Times Vary)
SOT COMPONENT GROUP EVENTS
- Biotechnology Specialty Section Meeting
- In Vitro and Alternative Methods Specialty Section Meeting

8:30 AM to 10:00 AM
TOXEXPO EXHIBITS
- Exhibitor representatives are available to discuss their products, services, and/or career opportunities with meeting attendees.
10:00 AM to 11:15 AM

SOT/EUROTOX DEBATE

**Individualized Toxicity Is the Future of Risk Assessment**

**SOT Debater:** Syril D. Pettit, HESI, Washington, DC.

**EUROTOX Debater:** Alan R. Boobis, Imperial College London, United Kingdom.

11:00 AM to 4:00 PM

**NETWORKING LOUNGES**

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**TOXEXPO EXHIBITS**

- Explore toxicology-related products, services, and career opportunities. Note that Exhibitor representatives are available for live discussions and meetings Mondays–Thursdays from 8:30 AM to 10:00 AM and 4:00 PM to 5:30 PM.

11:15 AM to 1:00 PM

**POSTER SESSIONS**

- Biotransformation/Cytochrome P450
  - Abstract#: 2108–2119
- Kidney
  - Abstract#: 2120–2132
- Liver: *In Vitro*
  - Abstract#: 2133–2141
- Liver: *In Vivo*
  - Abstract#: 2142–2176

11:30 AM to 2:15 PM

**SYMPOSIUM SESSIONS**

- Challenges and New Approaches in Characterizing Toxicity within the Military
  - Abstract#: 1115–1120
- Identifying and Communicating Adverse Neurological Outcomes from Parental Cannabis Use
  - Abstract#: 1121–1126
- It Is Not Just Air: Exposure to Indoor Air Pollution, Diagnostic Tools, and Evaluation of Health Effects
  - Abstract#: 1127–1132
- Mind the Gap: Finding Practical Ways to Fast-Track the Future of Animal-Free Toxicology Testing
  - Abstract#: 1133–1137
- Opportunities and Challenges in Utilization of Toxicokinetic Data in Dose-Level Selection for Repeated-Dose Toxicity Studies
  - Abstract#: 1138–1143
- Testing the Waters: How the Zebrfish, Xenopus, and Medaka Models Are Advancing Our Understanding of Reproductive and Developmental Toxicity
  - Abstract#: 1144–1149
- The Power of Integrating Computational Toxicology with Multiparametric *In Vitro* Assay Systems
  - Abstract#: 1150–1155

1:00 PM to 2:45 PM

**POSTER SESSIONS**

- Nanotoxicology: *In Vitro*
  - Abstract#: 2177–2187
- Nanotoxicology: *In Vivo*
  - Abstract#: 2188–2194
- Nanotoxicology: Methodologies and Assessments
  - Abstract#: 2195–2207
- Systems Biology
  - Abstract#: 2208–2224

2:45 PM to 4:15 PM

**SYMPOSIUM SESSIONS**

- Across the Life Span: Emerging Mechanisms of Prenatal and Transgenerational Toxicity
  - Abstract#: 1156–1159
- Nonclinical Safety Toxicology Strategies for the Development of Novel Ocular Biotherapeutics
  - Abstract#: 1160–1165

2:45 PM to 4:05 PM

**EDUCATION–CAREER DEVELOPMENT SESSION**

- Innovation in Toxicology Training during Summer Undergraduate Internships
  - Abstract#: 1166

4:00 PM to 5:30 PM

**TOXEXPO EXHIBITS**

- Exhibitor representatives are available to chat about their products, services, and/or career opportunities with meeting attendees.

4:15 PM to 6:30 PM (Exact Start and End Times Vary)

**SOT COMPONENT GROUP EVENTS**

- Dermal Toxicology Specialty Section Meeting
- Ethical, Legal, Forensics, and Societal Issues Specialty Section Meeting
- Inhalation and Respiratory Specialty Section Meeting
- Molecular and Systems Biology Specialty Section Meeting
- Occupational and Public Health Specialty Section Meeting
- Reproductive and Developmental Toxicology Specialty Section Meeting
- Stem Cells Specialty Section Meeting
Thursday, March 18

**8:30 AM to 10:00 AM**

**TOXEXPO EXHIBITS**
- Exhibitor representatives are available to discuss their products, services, and/or career opportunities with meeting attendees.

**10:00 AM to 11:00 AM**

**DISTINGUISHED TOXICOLOGY SCHOLAR AWARD LECTURE**

*Air Pollution as a Risk Factor for Neurodevelopmental Disorders and Neurodegenerative Diseases*

*Lecturer: Deborah Cory-Slechta, University of Rochester Medical Center, Rochester, NY.*

**11:00 AM to 4:00 PM**

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**TOXEXPO EXHIBITS**
- Explore toxicology-related products, services, and career opportunities. Note that Exhibitor representatives are available for live discussions and meetings Mondays–Thursdays from 8:30 AM to 10:00 AM and 4:00 PM to 5:30 PM.

**11:15 AM to 2:00 PM**

**SYMPOSIUM SESSIONS**
- Challenges and Opportunities in Applying Quantitative and Translational Systems Toxicology Models to Drug Safety Testing
  *Abstract#: 1167–1171*
- Closing the Data Gap: Assessing Population Variability Using Next-Generation Tools in Toxicology
  *Abstract#: 1172–1176*
- Hereditary Disorders of Manganese Metabolism: Mechanisms, Clinical Presentation, and Neurotoxicity
  *Abstract#: 1177–1182*

**11:15 AM to 2:00 PM**

**WORKSHOP SESSIONS**
- Navigating Your Health and Wellness through Graduate School and Early Careers
  *Abstract#: 1187–1194*
- New Approach Methods for Cancer Risk Assessment
  *Abstract#: 1195–1200*
- The Need for Protocol Harmonization in the Advancement of Zebrafish as a Model for Toxicological Screening: Global Perspectives and Recent Advancements
  *Abstract#: 1201–1206*

**11:15 AM to 1:00 PM**

**POSTER SESSIONS**
- Cardiovascular Toxicology/Hemodynamics
  *Abstract#: 2225–2246*
- Chemical Threats and Bioterrorism
  *Abstract#: 2247–2267*
- Ocular Toxicology
  *Abstract#: 2268–2273*

**1:00 PM to 2:45 PM**

**POSTER SESSIONS**
- Air Pollution Toxicology I
  *Abstract#: 2274–2304*
- Air Pollution Toxicology II
  *Abstract#: 2305–2323*
- Ecotoxicology
  *Abstract#: 2324–2329*
- Epigenetics
  *Abstract#: 2330–2338*
- Regulation/Policy
  *Abstract#: 2339–2352*

**2:45 PM to 3:45 PM**

**MERIT AWARD LECTURE**

*Unraveling the Molecular Mechanisms of Cannabinoid-Mediated Immune Modulation and Cannabinoid Receptor 2 as a Putative Therapeutic Target*

*Lecturer: Norbert E. Kaminski, Michigan State University, East Lansing, MI.*

**2:45 PM to 4:15 PM**

**WORKSHOP SESSION**
- Revising Biology: Alternative Splicing in Toxicology
  *Abstract#: 1207–1210*
Program Overview—Thursday, March 18–Monday, March 22

2:45 PM to 4:05 PM
ROUNDTABLE SESSION • The Future of Uncertainty Factors with In Vitro Studies Using Human Cells

4:00 PM to 5:30 PM
TOXEXPO EXHIBITS • Exhibitor representatives are available to discuss their products, services, and/or career opportunities with meeting attendees.

4:30 PM to 6:30 PM
SOT COMPONENT GROUP EVENT • Women in Toxicology Special Interest Group Meeting

Friday, March 19

9:30 AM to 10:30 AM
CONTINUING EDUCATION COURSE • Insider Secrets for Design and Analysis of Defined-Mixture Experiments

11:00 AM to 2:45 PM
CONTINUING EDUCATION COURSES
CE06 Insider Secrets for Design and Analysis of Defined-Mixture Experiments

CE07 Development, Toxicology, and Pathology of the Female Reproductive Tract: Interpretation of Findings from the Pathologist and Regulatory Perspectives

CE08 Guidelines for Developing and Implementing Organ-on-a-Chip/Microphysiological Systems for Toxicity Evaluation of Drug Candidates in Drug Development

CE09 Navigating New Modalities: A Preclinical Roadmap for Developing Novel Oligonucleotide Safety Strategy

CE10 Rapid Chemical Assessment Using Open Computational Methods

Saturday, March 20

12:30 PM to 1:30 PM
UNDERGRADUATE STUDENT EVENT • Ins and Outs of Graduate School in Toxicology: Insights into Admissions, Training, and Finding Success (Preregistration Required; Undergraduates Only) Sponsored by Committee on Diversity Initiatives

3:00 PM to 4:15 PM
UNDERGRADUATE STUDENT EVENT • Case Study for Undergraduate Students: Metal Levels in Whales from the Gulf of Maine: A One Environmental Health Approach (Preregistration Required; Undergraduates Only) Sponsored by Committee on Diversity Initiatives

Monday, March 22

8:30 AM to 10:00 AM
TOXEXPO EXHIBITS • Exhibitor representatives are available to discuss their products, services, and/or career opportunities with meeting attendees.

10:00 AM to 11:00 AM
EUROTOX BO HOLMSTEDT MEMORIAL AWARD LECTURE • Understanding Three Fundamental Quantitative Principles Is a Prerequisite for Improving Toxicological Science and Risk Assessment

Lecturer: Wout Slob, Rijksinstituut voor Volksgezondheid en Milieu (RIVM), Netherlands.

11:00 AM to 4:00 PM
NETWORKING LOUNGES • Enter these spaces to chat with other attendees, leave notes, or enter private rooms for short meetings.

TOXEXPO EXHIBITS • Explore toxicology-related products, services, and career opportunities. Note that Exhibitor representatives are available for live discussions and meetings Mondays–Thursdays from 8:30 AM to 10:00 AM and 4:00 PM to 5:30 PM.

On-Demand Viewing
After a Featured or Scientific Session is presented on its assigned date and time, the session will become available for on-demand viewing through the Virtual Meeting platform.

Abstract#: 1211

Abstract#: 1006

Abstract#: 1007

Abstract#: 1008

Abstract#: 1009

Abstract#: 1010

Abstract#: 1211
11:15 AM to 2:00 PM

SYMPOSIUM SESSION

• Applications of Novel High-Throughput Approaches for Mechanism-Based Chemical Safety Assessment
  Abstract#: 1212–1217

WORKSHOP SESSIONS

• New Approaches for the Identification and Evaluation of Chemical Respiratory Sensitizers
  Abstract#: 1218–1223

• Tackling the Potential Human Health Impacts of Microplastics and Nanoplastics: Challenges for Toxicologists in the Assessment of Real-World Complex Mixtures
  Abstract#: 1224–1230

• Thresholds of Toxicological Concern: Reassessing the Basis and Expanding the Horizon
  Abstract#: 1231–1236

PLATFORM SESSION

• Pharmaceutical Safety Assessment: Spotlight
  Abstract#: 2353–2362

11:15 AM to 1:00 PM

POSTER SESSIONS

• Biological Modeling
  Abstract#: 2363–2378

• Endocrine Toxicology
  Abstract#: 2379–2394

• Immunotoxicity
  Abstract#: 2395–2433

• Neurotoxicity: Developmental
  Abstract#: 2434–2460a

• Neurotoxicity: General
  Abstract#: 2461–2489

• Reproductive and Developmental Toxicology I
  Abstract#: 2434–2517a

1:00 PM to 2:45 PM

POSTER SESSIONS

• Bioinformatics
  Abstract#: 2518–2534

• Computational Toxicology I
  Abstract#: 2535–2568

• Risk Assessment
  Abstract#: 2569–2614

• Tobacco and ENDS Toxicology
  Abstract#: 2615–2634

2:45 PM to 3:45 PM

TRANSLATIONAL IMPACT AWARD LECTURE

The Placenta: A Recorder and Transducer of Environmental Toxics

Lecturer:
Rebecca Fry, University of North Carolina at Chapel Hill, Chapel Hill, NC.

2:45 PM to 4:15 PM

WORKSHOP SESSION

• The Community Exposome: Effects of Environmental Contamination on Health Disparities and Marginalized Populations through the Lens of a Toxicologist
  Abstract#: 1237–1241

2:45 PM to 4:05 PM

INFORMATIONAL SESSION

• Toxicology for Chemists: Preparing Chemists to Design Safer Products through Smarter Molecular Design
  Abstract#: 1242

4:00 PM to 5:30 PM

TOXEXPO EXHIBITS

• Exhibitor representatives are available to discuss their products, services, and/or career opportunities with meeting attendees.

4:15 PM to 7:30 PM (Exact Start and End Times Vary)

SOT COMPONENT GROUP EVENTS

• Allegheny-Erie Regional Chapter & Lake Ontario Regional Chapter Joint Reception
• Korean Toxicologists Association in America Special Interest Group Meeting
• Northeast Regional Chapter Meeting
• Out Toxicologists and Allies Special Interest Group Meeting

4:30 PM to 6:30 PM

SPECIAL EVENT

• Tox ShowDown
Program Overview—Tuesday, March 23

8:30 AM to 10:00 AM

TOXEXPO EXHIBITS

- Exhibitor representatives are available to discuss their products, services, and/or career opportunities with meeting attendees.

9:00 AM to 10:00 AM

SOT COMPONENT GROUP EVENT

- Arab Toxicologists Association Special Interest Group Meeting

10:00 AM to 11:00 AM

PLENARY KEYNOTE MEDICAL RESEARCH COUNCIL (MRC) LECTURE

Using Luciferase-Based Mouse Reporter Lines to Detect and Track Epigenetic Changes Induced by Environmental Exposures

Lecturer:
Dame Amanda Fisher, MRC London Institute of Medical Sciences, United Kingdom.

11:00 AM to 4:00 PM

NETWORKING LOUNGES

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TOXEXPO EXHIBITS

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11:15 AM to 2:00 PM

SYMPOSIUM SESSION

- Opportunities for Human-Induced Pluripotent Stem Cell–Derived Neurons in In Vitro Neurotoxicity Safety Testing

Abstract#: 1243–1247

WORKSHOP SESSIONS

- Bile Acids Profiling as Biomarkers for Hepatobiliary Toxicity and Disease

Abstract#: 1248–1251

- Molecular-Based Points of Departure as the New Basis for Chemical Risk Assessment: Are We Ready?

Abstract#: 1252–1257

- Paving the Way for Greater Data Sharing to Advance Biomarker and Drug Development: Industry, Academia, and Regulatory Insights

Abstract#: 1258–1263

11:15 AM to 1:00 PM

POSTER SESSIONS

- Exposure Assessment/Biomonitoring

Abstract#: 2635–2651

- Neurodegenerative Disease

Abstract#: 2652–2663

- PFAS

Abstract#: 2664–2690

- POPs

Abstract#: 2691–2703

- Reproductive and Developmental Toxicology II

Abstract#: 2704–2745

- Safety Evaluation of Nonpharmaceutical Products

Abstract#: 2746–2756

1:00 PM to 2:45 PM

POSTER SESSIONS

- Alternatives to Mammalian Models I

Abstract#: 2757–2773

- Cell Death Mechanisms

Abstract#: 2774–2781

- Computational Toxicology II

Abstract#: 2782–2803

- DNA Damage and Repair

Abstract#: 2804–2823

- Respiratory Toxicology

Abstract#: 2824–2849

- Skin and Dermal Toxicity

Abstract#: 2950–2957

2:45 PM to 3:45 PM

MERIT AWARD LECTURE

The Exciting Challenge of Working in Regulatory Toxicology

Lecturer:
Rogene Henderson, Lovelace Respiratory Research Institute, Albuquerque, NM.
**2:45 PM to 4:15 PM**

**SYMPOSIUM SESSION**
- SETAC-SOT Session: Environmental Risk Assessment of PFAS
  
  *Abstract#: 1265–1268*

**2:45 PM to 4:00 PM**

**PLATFORM SESSION**
- Biological Models for In Vitro-In Vivo Extrapolation
  
  *Abstract#: 2958–2962*

**2:45 PM to 4:05 PM**

**INFORMATIONAL SESSION**
- Safety Assessment of Devices Used in Assisted Reproduction Technology: Mouse Embryo Assay
  
  *Abstract#: 1269*

**4:00 PM to 5:30 PM**

**TOXEXPO EXHIBITS**
- Exhibitor representatives are available to discuss their products, services, and/or career opportunities with meeting attendees.

**4:30 PM to 6:00 PM (Exact Start and End Times Vary)**

**SOT COMPONENT GROUP EVENTS**
- Association of Scientists of Indian Origin Special Interest Group Meeting
- Michigan Regional Chapter Meeting
- Mid-Atlantic Regional Chapter Meeting
- Northern California Regional Chapter Meeting
- Ohio Valley Regional Chapter Meeting

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**Wednesday, March 24**

**8:30 AM to 10:00 AM**

**TOXEXPO EXHIBITS**
- Exhibitor representatives are available to chat about their products, services, and/or career opportunities with meeting attendees.

**STUDENT AND POSTDOC EVENT**
- Career Exploration through Speed Informational Interviews
  
  *(Preregistration Required; Limited Space)*

  *Hosted by Postdoctoral Assembly Executive Board*

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**10:00 AM to 11:00 AM**

**FEATURED SESSION**
- A Career in Advancing the Field of Toxicology: A Tribute to Linda S. Birnbaum

  *Speakers:*
  - Michael J. DeVito, US EPA, Research Triangle Park, NC.
  - Martin van den Berg, Universiteit Utrecht, Utrecht, Netherlands.
  - Suzanne E. Fenton, NIEHS/NTP, Research Triangle Park, NC.
  - Rick Woychik, NIEHS/NTP, Research Triangle Park, NC.
  - Laurie C. Haws, ToxStrategies Inc., Austin, TX.

**11:00 AM to 4:00 PM**

**NETWORKING LOUNGES**
- Enter these spaces to chat with other attendees, leave notes, or enter private rooms for short meetings.

**TOXEXPO EXHIBITS**
- Explore toxicology-related products, services, and career opportunities. Note that Exhibitor representatives are available for live discussions and meetings Mondays–Thursdays from 8:30 AM to 10:00 AM and 4:00 PM to 5:30 PM.
11:15 AM to 1:00 PM

**POSTER SESSIONS**

- Alternatives to Mammalian Models II  
  *Abstract#: 2963–2979*
- Biomarkers  
  *Abstract#: 2980–2992*
- Clinical and Translational Toxicology  
  *Abstract#: 2993–2997*
- COVID-19 Issues  
  *Abstract#: 2998–3013*
- Medical Devices  
  *Abstract#: 3014–3027*
- Stem Cell Biology and Toxicology  
  *Abstract#: 3028–3041*

11:45 AM to 2:30 PM

**SYMPOSIUM SESSIONS**

- Application of Computational Genomic Approaches to Address Toxicity Mechanisms and Prediction  
  *Abstract#: 1270–1275*
- Botanical Mixtures: Predictive Approaches to Evaluating Pregnancy, and Reproductive and Developmental Health  
  *Abstract#: 1276–1281*

**WORKSHOP SESSIONS**

- Applicability Domains and Future of Nonanimal Tests for Skin Sensitization  
  *Abstract#: 1282–1287*
- The Scientific Challenges in Regulating Organohalogen Flame Retardants (OFRs) as a Class in Consumer Products  
  *Abstract#: 1288–1293*

11:45 AM to 1:30 PM

**PLATFORM SESSION**

- Ozone-Induced Pulmonary Toxicity  
  *Abstract#: 3042–3048*

1:00 PM to 2:45 PM

**POSTER SESSIONS**

- Disposition/Pharmacokinetics  
  *Abstract#: 3049–3059*
- Education, Ethical, Legal, and Social Issues  
  *Abstract#: 3060–3069*
- Neurotoxicity: Metals  
  *Abstract#: 3070–3091*
- Neurotoxicity: Pesticides  
  *Abstract#: 3092–3104*
- Pesticides  
  *Abstract#: 3105–3112*
- Safety Assessment: Pharmaceutical—Drug Discovery  
  *Abstract#: 3113–3117*

3:00 PM to 4:30 PM

**SOT ANNUAL BUSINESS MEETING**

- SOT members are encouraged to attend.

4:00 PM to 5:30 PM

**TOXEXPO EXHIBITS**

- Exhibitor representatives are available to chat about their products, services, and/or career opportunities with meeting attendees.

4:30 PM to 7:30 PM (Exact Start and End Times Vary) **SOT COMPONENT GROUP EVENTS**

- American Association of Chinese in Toxicology Special Interest Group Meeting
- Toxicologists of African Origin Special Interest Group Meeting

4:30 PM to 5:30 PM

**UNDERGRADUATE STUDENT EVENT**

- Toxicology Career Roundtables  
  *(Preregistration Required; Undergraduates Only)*  
  Sponsored by FUTURE Committee

5:30 PM to 8:15 PM

**SOCIETY OF TOXICOLOGY AND JAPANESE SOCIETY OF TOXICOLOGY SYMPOSIUM**

**Oxidative Stress in Multiple Manifestations of Toxicity**

- **JSOT Speaker:**  
  Yoshito Kumagai, University of Tsukuba, Tsukuba, Japan.

- **JSOT Speaker:**  
  Yoshiro Saito, Tohoku University, Sendai, Japan.

- **SOT Speaker:**  
  Alicia R. Timme-Laragy, University of Massachusetts Amherst, Amherst, MA.

- **SOT Speaker:**  
  Dean P. Jones, Emory University School of Medicine, Atlanta, GA.
### Thursday, March 25

#### 8:30 AM to 10:00 AM
**TOXEXPO EXHIBITS**
- Exhibitor representatives are available to chat about their products, services, and/or career opportunities with meeting attendees.

#### 10:00 AM to 11:00 AM
**SPECIAL EVENT**

**Awards & Honors Recognition**

All are invited to attend this recognition of the 2021 SOT Award recipients.

#### 11:00 AM to 4:00 PM
**NETWORKING LOUNGES**
- Enter these spaces to chat with other attendees, leave notes, or enter private rooms for short meetings.

**TOXEXPO EXHIBITS**
- Explore toxicology-related products, services, and career opportunities. Note that Exhibitor representatives are available for live discussions and meetings Mondays–Thursdays from 8:30 AM to 10:00 AM and 4:00 PM to 5:30 PM.

#### 11:15 AM to 1:00 PM
**POSTER SESSIONS**
- Animal Models  \(^{\text{Abstract#: 3118–3127}}\)
- Autoimmunity/Hypersensitivity  \(^{\text{Abstract#: 3128–3134}}\)
- Inflammation  \(^{\text{Abstract#: 3135–3146a}}\)
- Natural Products  \(^{\text{Abstract#: 3147–3153}}\)
- Oxidative Injury and Redox Biology  \(^{\text{Abstract#: 3154–3162}}\)
- Receptors  \(^{\text{Abstract#: 3163–3167}}\)

#### 11:30 AM to 1:30 PM
**HOT TOPIC FEATURED SESSION**

**COVID-19 Therapeutics and Vaccines: A Race to Save Lives**

**Speakers:**
- Roy Bannister, Gilead Sciences Inc., Foster City, CA.
- Matt Liu, Regeneron Pharmaceuticals Inc., Tarrytown, NY.
- Cynthia Rohde, Pfizer Inc., Pearl River, NY.
- Arianne L. Motter, US FDA/CDER, Silver Spring, MD.
- John Dubinion, US FDA/CDER, Silver Spring, MD.
- Claudia Wrzesinski, US FDA/OVRR, Silver Spring, MD.

#### 11:30 AM to 2:15 PM
**SYMPOSIUM SESSIONS**
- Controlling the Message: Safely Navigating the Development of Novel Oligonucleotide Therapeutics  \(^{\text{Abstract#: 1294–1298}}\)
- From Conception to Cane: Unique Life-Stage Considerations for Reproductive Toxicity  \(^{\text{Abstract#: 1299–1303}}\)

#### 2:45 PM to 3:45 PM
**UNDERGRADUATE STUDENT EVENT**

- Undergraduate Networking with Graduate Students (Preregistration Required; Undergraduates Only)
  Sponsored by FUTURE Committee

#### 4:00 PM to 5:30 PM
**TOXEXPO EXHIBITS**
- Exhibitor representatives are available to chat about their products, services, and/or career opportunities with meeting attendees.

#### 4:30 PM to 6:00 PM
**SOT COMPONENT GROUP EVENT**
- Hispanic Organization of Toxicologist Special Interest Group Meeting
**Friday, March 26**

11:00 AM to 2:45 PM

**CONTINUING EDUCATION COURSES**

**CE11** Establishing Confidence in Organ-on-a-Chip Systems for Toxicity Testing: Lung-on-a-Chip as an Example

*Abstract#: 1011*

**CE12** Risk Assessment, DART, and Endocrine Disruption: A World View

*Abstract#: 1012*

**CE13** Timing Is Everything: Role of Aging in Immune Responses and Toxicological Implications

*Abstract#: 1013*

**CE14** Understanding Tox21/ToxCast High-Throughput Screening Data and Applications to Modeling

*Abstract#: 1014*

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**Live and On-Demand Poster Experiences**

All posters available beginning March 12 in the Virtual Poster Gallery

Chat live with poster authors during the scheduled Poster Sessions or listen to author-provided narration any time on demand.
The Virtual 2021 Annual Meeting and ToxExpo will feature 70+ Scientific Sessions and courses, alongside poster presentations, virtual exhibits, networking lounges, and more. Presentations, digital chats, and social activities will be presented live, semi-live, and on demand for flexible attendance and participation. Essentially, attendees will experience all the content traditionally associated with the SOT meeting without travel and hotel costs. Select activities, such as Continuing Education courses, are available for small add-on fees: see the "Registration Fees and Types" web page on the Annual Meeting website for add-on fee information.

### Registration Fees

<table>
<thead>
<tr>
<th></th>
<th>Standard (Jan. 23–Feb. 19)</th>
<th>Final (After Feb. 19)</th>
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<tbody>
<tr>
<td>SOT Member</td>
<td>$400</td>
<td>$460</td>
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<tr>
<td>Nonmember</td>
<td>$760</td>
<td>$820</td>
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<tr>
<td>SOT Retired/Emeritus Member</td>
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<td>SOT Global Partner</td>
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<tr>
<td>Press</td>
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</table>
How to Register

Online Registration
SOT members and nonmembers paying by credit card may use the SOT Online Registration System. The Online Registration System is available 24-7 and will remain open throughout the meeting. Online registrants will receive an electronic confirmation after registering. If you do not, please contact the SOT Registration Department by email or call 703.438.3115.

Fax or Mail Registration
To pay by check, government purchase order, money order, or credit card, register by mailing the Registration Form to SOT Headquarters. Fax registrations must be accompanied by credit card payment. Forms will be date-stamped as they arrive. This is your date of registration. A registration confirmation will be provided via email; if you do not receive confirmation within two weeks, please contact the SOT Registration Department by email or call 703.438.3115.

DO NOT mail your Registration Form to SOT if it will arrive after March 10, 2021. SOT will accept hard copy Registration Forms until March 11; only online registrations will be accepted from March 11 until the close of the meeting.

Payment Reminders
Company or personal checks must be in US currency and should list all registrants in the check memo area or on the check stub. Please address payment to “Society of Toxicology.”

Government purchase orders must be drawn from the US Department of the Treasury.

SOT accepts American Express, Diner’s Club, Discover, MasterCard, or Visa. Fax registrations will be accepted only if a credit card number is clearly listed in the appropriate area.

Attendees from Developing Countries
Registrants residing in a developing country are eligible for a 60% discount on registration for the Virtual 2021 Annual Meeting. Please contact the SOT Registration Department for details.

Exhibitor Registration
Exhibitors should register using the Exhibitor Service Center on the ToxExpo website. For assistance with exhibitor registration, please contact Will Low by email or call 703.438.3115.

Media Registration
Accredited and vetted representatives of media organizations receive complimentary registration for the meeting. To request press registration or for more information, please contact Michelle Werts by email or call 703.438.3115.

Undergraduate and High School Student Registration
Registration is free for undergraduate and high school students. To register, complete and return the Registration Form along with a copy of your student ID to the SOT Registration Department.
Cancellation, Refund, and Registration Policies

All requests for cancellations and/or refunds must be received in writing at SOT Headquarters by February 19, 2021. These refunds will be processed, less a $50 fee, after the SOT Annual Meeting and ToxExpo. Refund requests received after February 19, 2021, will not be processed.

By registering for the 2021 SOT Annual Meeting and ToxExpo, you are agreeing to the terms and conditions of the Annual Meeting Policies.

Virtual 2021 SOT Annual Meeting Policies

Attendee Qualifications
The Society of Toxicology (SOT) reserves the right to review applications for participation in the SOT Annual Meeting and ToxExpo to confirm that the applicant meets the SOT attendance qualifications. The Society may reject a registration by any individual or organization or withdraw registration privileges at any time if the individual or organization is found to be inconsistent with the Society’s principles and interests.

Individuals
Participation is available only to bona fide individuals who are engaged in or promote the field of toxicology or biotechnology research and support the growth and development of the toxicology field.

Organizations
Participation is available only to bona fide organizations with public policy positions and business practices that are generally consistent with the SOT mission, goals, and reputation, as well as its policies and principles, as determined by the Society.

SOT Code of Conduct
The Society of Toxicology is committed to providing a safe and productive environment for all of its meetings; one that fosters open dialogue, the free exchange of scientific ideas, the promotion of equal opportunity, and is free of any sort of harassment, coercion, and discrimination. All meeting participants are expected to treat others with respect and consideration, follow virtual platform rules, and alert Society of Toxicology staff or officers of instances of harassment, coercion, or discrimination. The Society of Toxicology is fully cognizant that there are areas of our science that are controversial. Our meetings can and should serve as an effective forum to consider and debate scientifically-relevant viewpoints in an orderly, respectful and fair manner. The policies herein apply to all meeting attendees, speakers, exhibitors, guests, staff, contractors, and volunteers.

What Is Harassment?
Harassment includes speech or behavior that is not welcome or is personally offensive, whether it is based on ethnicity, race, gender, religion, age, body size, disability, veteran status, marital status, sexual orientation, gender identity, or other reason not related to scientific merit.

Behavior acceptable to one person may not be acceptable to others. As such, meeting attendees must use discretion to ensure that respect is clearly communicated. Harassment expressed in a joking manner still constitutes unacceptable behavior. Retaliation for reporting harassment is a violation of this policy, as is reporting an incident in bad faith.

(Annual Meeting Policies continued on next page)
Registration

(Annual Meeting Policies continued from previous page)

Reporting Harassment
The Society of Toxicology is committed to providing a safe environment for everyone at any of its meetings. If an individual experiences or witnesses harassment of any kind, they should contact Society of Toxicology staff at SOTHQ@toxicology.org or 703.438.3115. All complaints will be treated seriously and responded to promptly.

If an individual wishes to file a formal grievance of harassment:
• The individual should notify meeting staff at SOTHQ@toxicology.org or 703.438.3115.
• Society of Toxicology staff will discuss any grievance first with the individual filing the grievance then with the alleged offender, seek counsel if the appropriate action is unclear, and report the incident and findings to the Society of Toxicology Council and legal counsel.
• The Society of Toxicology will consult with the individual filing the grievance before taking any action.

The Society of Toxicology reserves the right to remove an individual from a meeting without warning or refund of any expenses, to prohibit attendance at future Society of Toxicology meetings, and to notify the individual's employer.

If there are questions related to this policy, please contact the Society of Toxicology Executive Director at SOTHQ@toxicology.org or 703.438.3115.

Attendance Terms and Conditions
By registering for the Virtual SOT 60th Annual Meeting and ToxExpo, you are agreeing to abide by SOT Code of Conduct policy and to the following terms and conditions, granting SOT permission to:
• Reproduce, copy, and publish your image, voice, and any or all media taken as part of the Annual Meeting and ToxExpo.
• Share your contact information with organizations that the Society believes might have a product or service of interest to you. Limited data provided to third parties include name, title, affiliation, and business address. Your telephone and fax numbers and email will not be disclosed to third parties.
• Share your name and affiliation with ToxExpo exhibitors and Annual Meeting Supporters.
• Include you in the attendee list, which includes your name and affiliation, accessible to meeting registrants using the SOT Event App.

SOT Annual Meeting registrants are prohibited from:
• Including promotional materials, special offers, job offers, product announcements, or solicitation for services outside of the Virtual ToxExpo and/or other designated spaces. SOT reserves the right to remove such messages and potentially ban the sources of those solicitations.
• Causing a disruption to any virtual activity, session, or event.
• Capturing, copying, or taking screenshots of any aspect of the Virtual Annual Meeting without the consent of the presenter(s)/author(s)/exhibitor(s)/etc., including but not limited to slide presentations, video presentations, audio presentations, Q&As, chats, exhibits, posters, and abstracts.
• Sharing derogatory, offensive, or inappropriate content in any format on the Virtual Meeting platform.

These policies will be enforced by the Society. Those individuals who do not comply will be asked to leave the Virtual Meeting. To request an exemption from any of the Annual Meeting policies, written notification by the registrant must be submitted to SOT Headquarters before the start of the Annual Meeting and ToxExpo. If you have any questions regarding these policies, please contact the SOT Headquarters Office.

SOT Privacy Policy and Disclaimer
The SOT Annual Meeting and ToxExpo adheres to the Society’s general privacy policy and disclaimers.
Please note that the listed times for all Platform Sessions reflect US Eastern Daylight Time (UTC −4).

Monday, March 22, 11:15 AM to 2:00 PM

Platform Session: Pharmaceutical Safety Assessment: Spotlight

Chair(s): Saurabh Vispute, Pfizer Inc.; and Doris Zane, Gilead Sciences Inc.

Abstract #

#2353 11:15 AM  Evaluating the Therapeutic Effectiveness of Antidiabetic Drugs to Reduce Tobacco Smoke–Promoted Cerebrovascular Damage after Traumatic Brain Injury.  F. Sivandzade1, L. Cucullo1, and F. Algahtani2.  
1Oakland University, Rochester, MI; and 2King Saud University, Riyadh, Saudi Arabia.

#2354 11:30 AM  Target Safety Assessments: Evaluation of the Toxicological Risk of Targeting Prolyl-tRNA Synthetase (PRS) in the Treatment of Malaria.  J. Barber1, C. Sadler1, R. Roberts1, and D. Baud2.  
1Apconix, Alderley Edge, United Kingdom; and 2Medicines for Malaria Venture, Geneva, Switzerland.

Bristol-Myers Squibb Company, San Diego, CA.

#2356 12:00 PM  Assessing Contractility of 3D iPSC-Derived Muscle Models for Safety and Discovery at High-Throughput Using a Novel Label-Free Magnetic Detection Method.  B. J. Berry1, T. Moerk1, E. J. Fine1, J. Silver1, K. Gray1, S. Kharoufeh1, N. J. Sniadecki2, and N. A. Geisse1.  
1Curi Bio, Seattle, WA; and 2University of Washington, Seattle, WA.

#2357 12:15 PM  Irinotecan Decreases Intestinal UDP-Glucuronosyltransferase (UGT)1A1 via TLRs/MyD88 Pathway: A Novel Mechanism of Chemotherapy-Induced Diarrhea.  G. Tao, F. Dagher, and R. Ghose.  
University of Houston, Houston, TX.

1Biosyndyn, Manchester, United Kingdom; 2Bayer AG, Berlin, Germany; 3Merck & Co. Inc., Harleysville, PA; 4Sanofi, Frankfurt, Germany; 5University of Manchester, Manchester, United Kingdom; 6Antaros Medical AB, Mölndal, Sweden; 7Chalmers University of Technology, Gothenburg, Sweden; and 8University of Sheffield, Sheffield, United Kingdom.

#2360 1:00 PM  Quantitative Analysis of Transmural and Rate-Dependent Properties of Drug-Induced Arrhythmogenic Toxicities: A Simulation Study.  H. Lian1, Q. Fu1, M. Yuan1, P. Zhao1, and P. Li1, 2.  
1Xinxiang Medical University, Xinxiang, China; and 2Yunmai Biomedical Research Institute, Xinxiang, China. Sponsor: P. Li, International Society for Computational Biology

1University of Saint Joseph School of Pharmacy, Hartford, CT; and 2University of Connecticut Health, Farmington, CT.

#2362 1:30 PM  Cardiac Drug Amiodarone Accumulation and Neurotoxicity in the iPSC-Derived Human 3D Model BrainSpheres.  C. Nunes1, S. Proença1, D. Pamies1, 2, N. Kramer1, and M. Zurich1, 2.  
1Université de Lausanne, Lausanne, Switzerland; 2Swiss Centre for Applied Human Toxicology, Lausanne, Switzerland; and 3Institute for Risk Assessment Sciences, Utrecht, Netherlands.
Please note that the listed times for all Platform Sessions reflect US Eastern Daylight Time (UTC -4).

Tuesday, March 23, 2:45 PM to 4:00 PM

Platform Session: Biological Models for In Vitro-In Vivo Extrapolation

Chair(s): Sherri Bloch, Université de Montréal, Montréal, Canada.

Abstract #

#2958 2:45 PM Updates to the Integrated Chemical Environment: Expanding Tools and Data to Support Toxicity Assessments. A. B. Daniel1, J. Abedini1, S. Bell1, X. Chang1, B. T. Cook1, A. L. Karmaus1, D. E. Hines1, E. McAfee2, J. Phillips2, J. P. Rooney1, D. G. Allen1, and N. C. Kleinstreuer1. 1Integrated Laboratory Systems Inc., Research Triangle Park, NC; 2Sciome LLC, Research Triangle Park, NC; and 3IEHS/NICEATM, Research Triangle Park, NC.

#2959 3:00 PM The Novel Predicting Approach of Hepatic Clearance Based on the Fractional Binding for Drugs That Bind to Two Plasma Proteins. M. Bteich1, P. Poulin1,2, and S. Haddad3. 1Université de Montréal, Montréal, QC, Canada; and 2Consultant Patrick Poulin Inc., Québec City, QC, Canada.

#2960 3:15 PM Integrative Life-Stage Physiologically Based Pharmacokinetic (PBPK) and Thyroid Hormones Kinetics Model for In Vitro to In Vivo (IVIVE) Extrapolation of Thyroid High-Throughput (HPT) Assays. C. Bay, M. Gilbert, and H. El-Masri. US EPA, Research Triangle Park, NC.


#2962 3:45 PM Mass Balance Model for Simulation of In Vitro Dynamic Chemical Distribution with Repeat Dosing. S. Bloch1, J. A. Arnot2, J. M. Armitage2,3, and M. Verner1. 1Université de Montréal, Montréal, QC, Canada; 2University of Toronto, Toronto, ON, Canada; and 3AES Armitage Environmental Sciences Inc., Toronto, ON, Canada.

Volunteer with SOT

A new Volunteer section in ToXchange gives SOT members the opportunity to express their interest in a wide variety of service positions within the Society, including leadership positions. Explore the opportunities today!

www.toxicology.org/volunteer

Up-to-date info at www.toxicology.org/2021 | #2021SOT | #ToExpo
Please note that the listed times for all Platform Sessions reflect US Eastern Daylight Time (UTC -4).

Wednesday, March 24, 11:45 AM to 1:30 PM

Platform Session: Ozone-Induced Pulmonary Toxicity

Chair(s): Sonika Patial, Louisiana State University; and Muthanna Ali Sultan, University of South Carolina School of Medicine.

Abstract #

#3042 11:45 AM  A Novel Two-Hit Mouse Model of Ozone-Induced Allergic Asthma Exacerbation.  K. Ho, D. Weimar, G. S. Torres Mattias, H. Lee, K. Gowdy, J. Englert, and M. Ballinger. Ohio State University, Columbus, OH.

#3043 12:00 PM  Oxidant-Induced Epithelial Alarmin Pathway Mediates Lung Function Decline after Ultrafine Carbon Black and Ozone Inhalation Co-exposure.  N. Majumder1,2, M. Mazumder1,2, V. K. Kodali1,2, G. T. William1,2, M. Velayutham1,2, E. Devallance1,2, K. Garner1,2, J. Griffith1,2, E. Bowdrige1,2, T. Nurkiewicz1,2, A. Erdely1,2, E. Kelley1,2, and S. Hussain1,2. 1West Virginia University, Morgantown, WV; and 2Center for Inhalation Toxicology (iTOX), Morgantown, WV.


#3045 12:30 PM  Postnatal Ozone Exposure Disrupts Alveolar Development, Exaggerates Mucoinflammatory Responses, and Suppresses Bacterial Clearance in Developing Scnn1b-Tg+ Mice Lungs.  I. Choudhary, T. Vo, K. Paudel, R. Yadav, Y. Mao, S. Patial, and Y. Saini. Louisiana State University, Baton Rouge, LA.

#3046 12:45 PM  Ozone Exposure Differentially Affects Inflammatory Response in Primary Human Nasal Epithelial Cells from Males and Females.  E. E. McNell1, A. N. Perryman1, Y. H. Escobar1, H. H. Kim2, N. A. Porter2, I. Jaspers1, and M. E. Rebuli1. 1University of North Carolina at Chapel Hill, Chapel Hill, NC; and 2Vanderbilt University, Nashville, TN.

#3047 1:00 PM  Modelling the Pulmonary Transcriptome in a Dose- and Substrate-Dependent Manner: Carbon Black and Ozone Co-exposure.  Q. A. Hathaway1,2, N. Majumder1,2, A. Kunovac1,2, Z. Xie1, M. V. Pinti1, J. R. Harkema3, T. Nurkiewicz1,2, J. M. Hollander1,2, and S. Hussain1,2. 1West Virginia University, Morgantown, WV; 2Center for Inhalation Toxicology (iTOX), Morgantown, WV; and 3Michigan State University, East Lansing, MI.

#3048 1:15 PM  Absence of ALX/FPR2 Reduces Pulmonary CCL2 during the O3-Induced Pulmonary Inflammatory Response.  M. Yaeger1, S. Varikuti1, K. Dunigan-Russell1, B. Kilburg-Basnyat2, A. Pal3, D. Weimar1, M. Ballinger1, R. M. Tighe1, S. R. Shaikh1, and K. Gowdy1. 1Ohio State University, Columbus, OH; 2East Carolina University, Greenville, NC; 3University of North Carolina at Chapel Hill, Chapel Hill, NC; and 4Duke University Medical Center, Durham, NC.
Occurring March 16–18 and March 22–25, the Poster Sessions will allow attendees to view ePosters and interact directly with the poster authors through online chats.

Poster Sessions are scheduled into one of two time blocks: 11:15 am to 1:00 pm (US EDT, UTC -4) or 1:00 pm to 2:45 pm (US EDT, UTC -4). During the Poster Sessions, presenting authors will be participating in live online chats with attendees. In addition, all posters will be available in the Virtual Poster Gallery beginning March 12, where Annual Meeting participants can view the posters and listen to audio recordings by the poster author(s).

**Poster Session Schedule at a Glance**

**TUESDAY, MARCH 16**

<table>
<thead>
<tr>
<th>Author Attended: 11:15 AM to 1:00 PM (US EDT, UTC -4)</th>
<th>Author Attended: 1:00 PM to 2:45 PM (US EDT, UTC -4)</th>
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<tbody>
<tr>
<td>• Carcinogenicity</td>
<td>• Food Safety/Nutrition</td>
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<tr>
<td>• Epidemiology and Public Health</td>
<td>• Metals</td>
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<td>• Mixtures</td>
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**WEDNESDAY, MARCH 17**

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<tr>
<td>• Biotransformation/Cytochrome P450</td>
<td>• Nanotoxicology: <em>In Vitro</em></td>
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<tr>
<td>• Kidney</td>
<td>• Nanotoxicology: <em>In Vivo</em></td>
</tr>
<tr>
<td>• Liver: <em>In Vitro</em></td>
<td>• Nanotoxicology: Methodologies and Assessments</td>
</tr>
<tr>
<td>• Liver: <em>In Vivo</em></td>
<td>• Systems Biology</td>
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**Annual Meeting Policy**

SOT Annual Meeting registrants are prohibited from capturing, copying, or taking screenshots of any aspect of the Virtual Annual Meeting without the consent of the presenter(s)/author(s)/exhibitor(s)/etc., including but not limited to slide presentations, video presentations, audio presentations, Q&As, chats, exhibits, posters, and abstracts.
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<td>• Cardiovascular Toxicology/Hemodynamics</td>
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<td>• Chemical Threats and Bioterrorism</td>
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<td>• Ocular Toxicology</td>
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<td>Author Attended: 1:00 PM to 2:45 PM (US EDT, UTC -4)</td>
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<td>• Air Pollution Toxicology I</td>
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<td>• Epigenetics</td>
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<td>• Biological Modeling</td>
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<td>• Immunotoxicity</td>
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<td>• Neurotoxicity: Developmental</td>
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<td>• Reproductive and Developmental Toxicology I</td>
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<tr>
<td>• Bioinformatics</td>
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<td>• Computational Toxicology I</td>
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<td>• Risk Assessment</td>
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<td>• Tobacco and ENDS Toxicology</td>
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<th>TUESDAY, MARCH 23</th>
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<td>Author Attended: 11:15 AM to 1:00 PM (US EDT, UTC -4)</td>
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<tr>
<td>• Exposure Assessment/Biomonitoring</td>
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<tr>
<td>• Reproductive and Developmental Toxicology II</td>
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<tr>
<td>• Safety Evaluation of Nonpharmaceutical Products</td>
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<td>Author Attended: 1:00 PM to 2:45 PM (US EDT, UTC -4)</td>
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<tr>
<td>• Alternatives to Mammalian Models I</td>
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<td>• Cell Death Mechanisms</td>
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<td>• Computational Toxicology II</td>
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<td>• Respiratory Toxicology</td>
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<td>• Skin and Dermal Toxicity</td>
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<tr>
<td>• Alternatives to Mammalian Models II</td>
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<td>• Clinical and Translational Toxicology</td>
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<td>• COVID-19 Issues</td>
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<td>• Medical Devices</td>
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<td>• Stem Cell Biology and Toxicology</td>
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<td>Author Attended: 1:00 PM to 2:45 PM (US EDT, UTC -4)</td>
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<tr>
<td>• Disposition/Pharmacokinetics</td>
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<td>• Education, Ethical, Legal, and Social Issues</td>
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<td>• Neurotoxicity: Metals</td>
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<td>• Safety Assessment: Pharmaceutical—Drug Discovery</td>
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<tr>
<td>• Animal Models</td>
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<td>• Autoimmunity/Hypersensitivity</td>
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<td>• Natural Products</td>
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<td>• Oxidative Injury and Redox Biology</td>
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<td>• Receptors</td>
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<tr>
<td>Author Attended: 1:00 PM to 2:45 PM (US EDT, UTC -4)</td>
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<td>• Emerging Technologies</td>
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<td>• Safety Assessment: Pharmaceutical—Drug Development</td>
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Tuesday, March 16, 11:15 AM to 1:00 PM

**Poster Session: Carcinogenicity**

**Chair(s):** Rachel Speer, University of New Mexico.

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**Abstract #**

#2000

**Poster Board Number** ........................................... P101

Chlorpyrifos Induces Cell Proliferation in MCF-7 and MDA-MB-231 Cells, through Cholinergic and Wnt/β-Catenin Signaling Disruption, AChE-R Upregulation, and Oxidative Stress Generation after Single and Repeated Treatment. *P. Moyano*1, J. M. Garcia1, J. Garcia1, A. Pelayo1, P. Muñoz-Calero1, M. T. Frejo1, M. J. Anadon1, M. V. Naval1, A. Flores1, J. Sanjuan1, and J. Del Pino1. 1Universidad Complutense de Madrid, Madrid, Spain; and 2Universidad Alfonso X El Sabio, Madrid, Spain.

#2001

**Poster Board Number** ........................................... P102


#2002

**Poster Board Number** ........................................... P103


#2003

**Poster Board Number** ........................................... P104


#2004

**Poster Board Number** ........................................... P105

Exposure to Polycyclic Aromatic Hydrocarbons (PAHs) and Breast Cancer Incidence: Evaluating the State-of-the-Science. *W. Arroyave*1, A. Wang2, and R. M. Lunn2. 1Integrated Laboratory Systems Inc., Morrisville, NC; and 2NIEHS/NTP, Research Triangle Park, NC.

#2005

**Poster Board Number** ........................................... P106


#2006

**Poster Board Number** ........................................... P107

Whole Exome Sequencing and Transcriptional Analysis of the Rat Liver following AFB1 Exposure. *J. F. Foley*. NIEHS/NTP, Research Triangle Park, NC. Sponsor: B. Merrick

#2007

**Poster Board Number** ........................................... P108

Lack of Transcription Factor EB Inhibits Alcohol-Associated Liver Carcinogenesis. *M. Hlobik*, X. Chao, S. Wang, and W. Ding. University of Kansas Medical Center, Prairie Village, KS. Sponsor: U. Apte

#2008

**Poster Board Number** ........................................... P109


#2009

**Poster Board Number** ........................................... P110

A Novel Anthelminthic Drug Suppresses the Growth of Medulloblastoma Tumors by Inhibiting PKA/Gli1 Signaling Axis. *K. Kaushik*, and S. Srivastava. Texas Tech University, Abilene, TX.
#2010

**Poster Board Number**

1,2-dichloropropane Induces g-H2AX Expression in Human Cholangiocytes Only in the Presence of Macrophages. R. Takizawa¹, C. Zong¹, K. Kinoshita¹, T. Sakurai², S. Ichihara², and G. Ichihara². ¹Jichi Medical University, Shimotuke, Japan; ²Tokyo University of Science, Noda, Japan; and ³Shiga Medical Center Research Institute, Moriyama, Japan.

#2011

**Poster Board Number**


#2012

**Poster Board Number**

Cells Exposed Chronically to Hexavalent Chromium Escape Cell Death and Develop Permanent Chromosome Instability. S. S. Wise, and J. Wise. University of Louisville, Louisville, KY.

#2013

**Poster Board Number**

Short Chain Fatty Acids (SCFAs) Act as Selective Estrogen Receptor Downregulators (SERDs) in Mutant ERα MCF-7 Cells. A. Schoeller, K. Karki, and S. Safe. Texas A&M University, College Station, TX.

#2014

**Poster Board Number**

Ethylene Thiourea (ETU): Liver Mechanistic Study in B6C3F1 Female Mice. S. Ganesan¹, P. Mukerji¹, J. Lagonell¹, A. Venkatraman¹, K. Johnson², J. Domoradzki³, R. Settivari³, M. Aggarwal¹, and C. Terry². ¹Corteva Agriscience, Newark, DE; and ²Corteva Agriscience, Indianapolis, IN.

#2015

**Poster Board Number**


#2016

**Poster Board Number**

Profiling Chemicals as Drivers of Breast Cancer Disparities by Integrating In Silico NHANES Biomarker Data with Chemical Activity Data from ToxCast and In Vitro Dose-Response Assessments. K. M. Polemi, J. Heidt, V. Nguyen, A. Kahana, A. Tapaswi, T. Thong, O. Jolliet, and J. Colacino. University of Michigan School of Public Health, Ann Arbor, MI.

#2017

**Poster Board Number**

Pesticides and Other Chemicals That Increase Estradiol or Progesterone Synthesis May Increase Breast Cancer Risk. R. A. Rudel, and B. Cardona. Silent Spring Institute, Newton, MA.

#2018

**Poster Board Number**


#2019

**Poster Board Number**

Assessment of Mechanistic Data for Hexavalent Chromium–Induced Rodent Intestinal Cancer Using the Key Characteristics of Carcinogens. G. A. Chappell¹, D. S. Wikoff¹, and C. M. Thompson². ¹ToxStrategies Inc., Asheville, NC; and ²ToxStrategies Inc., Katy, TX.

#2020

**Poster Board Number**

The Key Characteristics of Carcinogens. K. Z. Guyton¹, and M. T. Smith². ¹International Agency for Research on Cancer, Lyon, France; and ²University of California Berkeley, Berkeley, CA.

#2021

**Poster Board Number**

Accounting for Multiple Comparisons in Statistical Analysis of the Extensive Bioassay Data on Glyphosate. K. S. Crump¹, E. Crouch², D. Zelterman³, C. Crump⁴, and J. Haseman⁴. ¹Kenny Crump, Ruston, LA; ²Green Toxicology LLC, Brookline, MA; ³Yale School of Public Health, New Haven, CT; ⁴Icahn School of Medicine at Mount Sinai, New York, NY; and ⁵J.K. Haseman Consulting, Raleigh, NC. Sponsor: K. Crump, Society for Risk Analysis
Abstract #

#2022  Poster Board Number ................................................................. P123

Text Fingerprinting and Mining Topics in the Literatures about Prescription Opioid Use.  H. Le1, J. Zhou1,2, W. Ge1, B. Lyn-Cook1, H. Francis1, H. Hong1, W. Tong1, and W. Zou1. 1US FDA/NCTR, Jefferson, AR; 2Northern Kentucky University, Highland Heights, KY; and 3US FDA/CDER, Silver Spring, MD.

#2023  Poster Board Number ................................................................. P124

Chemical Epidemiology at the Crossroads of Toxicology.  J. D. Doherty. Independent Toxicologist, Oakton, VA.

#2024  Poster Board Number ................................................................. P125


#2025  Poster Board Number ................................................................. P126


#2026  Poster Board Number ................................................................. P127

Self-Reported General Health Status among Veterans with Embedded Metal Fragments.  J. Palmer1, S. Hines1,2, M. McDiarmid1,2, C. Brown1,2, and J. Gaitens1,2. 1University of Maryland School of Medicine, Baltimore, MD; and 2Baltimore VA Medical Center, Baltimore, MD.

#2027  Poster Board Number ................................................................. P128


#2028  Poster Board Number ................................................................. P129

Multi-metal Analysis of Private Well Water in North Carolina: Implications for Exposure Assessment and Public Health.  L. A. Eaves1, A. P. Keil1, M. Tomlinson2, and R. C. Fry1. 1University of North Carolina at Chapel Hill, Chapel Hill, NC; and 2Emory University, Atlanta, GA.

#2029  Poster Board Number ................................................................. P130

The Association of Fluoride Exposure with Insulin Resistance and Prediabetes in US Children and Adolescents.  T. Roh, N. T. Hasan, P. Knappett, and D. Han. Texas A&M University, College Station, TX.

#2030  Poster Board Number ................................................................. P131

Electronic Cigarette (E-cig) Vapor Increases Brain Senescence and Mimics Idiopathic Pulmonary Fibrosis (IPF) Responses.  D. Scieszka1, R. Salazar1, D. M. Maes1, R. Gridley1, S. N. Lucas1, G. W. Herbert1, E. Barr1, J. L. Cannon1, F. Kheradmand1, and M. Campen1. 1University of New Mexico, Albuquerque, NM; and 2Baylor College of Medicine, Houston, TX.

#2031  Poster Board Number ................................................................. P132

Individual Chemical Exposure to Environmental Contaminates in Harris County, TX, from Baseline to Post–Hurricane Harvey Flooding.  S. M. Samon1, D. Rohlman1, L. Tidwell1, P. Hoffman1, A. Oluymoti1, C. Walker2, W. Hamilton2, G. Armstrong3, M. Bondy3, and K. Anderson1. 1Oregon State University, Corvallis, OR; 2Baylor College of Medicine, Houston, TX; and 3Stanford University, Stanford, CA.

#2032  Poster Board Number ................................................................. P133

Pesticide Exposure Levels in the US and Their Bioactivity.  C. A. Forte, and J. A. Colacino. University of Michigan, Ann Arbor, MI.
Tuesday, March 16, 11:15 AM to 1:00 PM

Poster Session: Mixtures

Chair(s): David Mattie, Air Force Research Laboratory.

Abstract #

#2033  Poster Board Number ................................................................. P134
Improving the Inhalation Cancer Risk Assessment for Hexavalent Chromium: Lung Cancer Mortality
and Exposure Reconstruction of Aircraft Manufacturing Workers with Long-Term Low-Level Exposures.
L. Lipworth¹, B. C. Allen², M. Suh³, J. Panko⁴, S. Vivanco⁵, W. Blot⁶, M. Mumma⁷, S. Cohen⁸, D. E. Marano⁹,
and D. M. Proctor¹. ¹Vanderbilt University Medical Center, Nashville, TN; ²Bruce Allen, Chapel Hill, NC;
³EpidStrategies, A Division of ToxStrategies, Mission Viejo, CA; ⁴ToxStrategies Inc., Pittsburgh, PA; ⁵ToxStrategies
Inc., Mission Viejo, CA; ⁶EI, Rockville, MD; ⁷Vanderbilt University Medical Center, Nashville, TN; ⁸EpidStrategies, A
Division of ToxStrategies, Cary, NC; and ⁹Marano & Associates, Bokeelia, FL.

#2034  Poster Board Number ................................................................. P135
Maternal Levels of Perfluoroalkyl Substances (PFAS) during Early Pregnancy in Relation to
Preeclampsia Subtypes and Biomarkers of Preeclampsia Risk.  P. Bommarito¹, K. Ferguson¹, J. Meeker²,
T. McElrath³, and D. Cantonwine³. ¹NIEHS, Research Triangle Park, NC; ²University of Michigan School of Public
Health, Ann Arbor, MI; and ³Harvard Medical School, Boston, MA.

#2035  Poster Board Number ................................................................. P136
Addressing the Activity of Binary and Complex Environmental Polychlorinated Biphenyl Mixtures
toward the Dopamine Transporter.  J. A. Griffin, and E. B. Holland. California State University Long Beach,
Long Beach, CA.

#2036  Poster Board Number ................................................................. P137
Variation of Extraction Technique on Fine Particulate Matter (PM₂.₅) Filters: Chemical and Toxicological
Analysis.  A. M. Craze, and C. L. Roper. University of Mississippi, University, MS.

#2037  Poster Board Number ................................................................. P138
Application of the Generalized Concentration Addition Model to Predict In Vitro Responses of Tertiary
Mixtures of Glucocorticoid Ligands.  E. Green, N. Evans, and E. Medlock Kakaley. US EPA, Research Triangle
Park, NC.

#2038  Poster Board Number ................................................................. P139
Endocrine-Disrupting Potential of Complex Pollutant Mixtures in Indoor Dust Samples Assessed
University, Brno, Czech Republic.

#2039  Poster Board Number ................................................................. P140
Testing the Efficacy of Broad-Acting Sorbents for Environmental Mixtures Using Isothermal Analysis,
Station, TX.

#2040  Poster Board Number ................................................................. P141
Predicting the Activation of the Androgen Receptor by Complex Mixtures of Environmental
Antagonists Using Generalized Concentration Addition.  J. J. Schlezinger, W. Heiger-Bernays, and
T. F. Webster. Boston University School of Public Health, Boston, MA.

#2041  Poster Board Number ................................................................. P142
Construction and Application of the GC-MS/MS Database for the Aroma Component Analysis in
Institute of CNTC, Zhengzhou, China. Sponsor: R. Meng
Non-targeted Analysis (NTA) of Flavors in Aged E-liquid Formulations: Case Study. C. Smith¹, T. Hurst¹, S. Chakraborty¹, J. Miller¹, A. Kumar¹, F. Frauendorfer², P. Guy², P. Diana², A. Glabasnia², M. Biasioli², J. Hoeng², D. Sciuscio¹, P. Vanscheeuwijck², and K. M. Lee¹. ¹Altria Client Services LLC, Richmond, VA; and ²PMI R&D, Neuchatel, Switzerland.


Organophosphate Pesticides with Corticosterone Priming Elicit Disparate Phosphoprotein Signaling in a Mouse Cortex. J. A. Penatzer, N. Prince, M. Shaw, M. Newman, and J. W. Boyd. West Virginia University, Morgantown, WV.


Characterizing Environmental Mixtures and Their Contribution to Breast Cancer Risk: State of the Evidence. J. I. Oladosu¹,², G. L. Jackson¹,³, and S. E. Fenton¹. ¹NIEHS, Durham, NC; ²North Carolina Central University, Durham, NC; and ³North Carolina A&T State University, Greensboro, NC.

Flavor Ingredients in E-vapor Products: A Structure-Based Grouping Approach to Predict Their Biological Activity. D. Sciuscio¹, T. B. Langston², K. Ashutosh², D. C. Smith², D. Marescotti¹, F. Martin¹, K. M. Lee², J. Hoeng¹, and P. Vanscheeuwijck². ¹PMI R&D, Philip Morris Products S.A., Neuchâtel, Switzerland; and ²Altria Client Services LLC, Richmond, VA.

Survey of Mycotoxins Found in Florida, US Grass Forages. J. Duringer¹, K. Chen², S. Liao², and A. Blount². ¹Oregon State University, Corvallis, OR; and ²University of Florida, Gainesville, FL.

Safety Assessment of Tris(2,4-di-tert-butylphenyl) Phosphite (Irgafos 168) as an Antioxidant and Stabilizer in Food Contact Applications. L. Markley, A. Ogungbesan, A. Gonzalez-Bonet, O. Bandele, A. Bailey, and G. Patton. US FDA, College Park, MD.

#2051 | Poster Board Number | ................................................................. | P152
Protective Role of Brown Seaweed Cystoseira baccata Extract against an Induced Oxidative Stress in Caco-2 Cells. A. Anadón1, M. Martínez2, M. Martínez-Larrañaga3, I. Ares1, B. Lopez-Torres1, J. Maximiliano1, J. Rodriguez1, M. Martínez2, C. Peteiro1, S. Rubiño1, and M. Hortos1. 1Universidad Complutense de Madrid, Madrid, Spain; 2Instituto Español de Oceanografía, Santander, Spain; and 3Institut de Recerca i Tecnologia Agroalimentaries, Monells, Spain.

#2052 | Poster Board Number | ................................................................. | P153

#2053 | Poster Board Number | ................................................................. | P154
Malignancy-Linked Cell Signaling Network in Deoxynivalenol-Exposed Mucosal Niche. K. Kim1, and Y. Moon2. 1Pusan National University Hospital, Busan, Korea, Republic of; and 2Pusan National University, Yangsan, Korea, Republic of.

#2054 | Poster Board Number | ................................................................. | P155

#2055 | Poster Board Number | ................................................................. | P156
Functional Comparison of Dietary Early Glycation Products Produced through Spray-Drying and Freeze-Drying Methods. J. Siracusa1, Y. Chen2, and T. Guo. University of Georgia, Athens, GA.

#2056 | Poster Board Number | ................................................................. | P157
Active Pharmaceutical Contaminants in Dietary Supplements: A Tier-Based Risk Assessment. S. B. Bandara1, L. G. Liang1, J. Parker2, E. Fung3, A. Urban1, and A. M. Maier3. 1Cardno ChemRisk, San Francisco, CA; 2Cardno ChemRisk, Orange County, CA; and 3Cardno ChemRisk, Cincinnati, CA.

#2057 | Poster Board Number | ................................................................. | P158
Evaluation of Mycotoxins in Florida Forages. F. K. Rossi1, K. Chen2, S. Liao3, J. A. Emerson1, A. Blount2, and J. Duringer1. 1Oregon State University, Corvallis, OR; 2University of Florida, Institute of Food and Agricultural Sciences, Gainesville, FL; and 3White Oak Conservation, Yulee, FL.

#2058 | Poster Board Number | ................................................................. | P159

#2059 | Poster Board Number | ................................................................. | P160
High-Fat Diet Incorporated with Thermally Oxidized Coconut Oil Is More Detrimental Than Unoxidized Oil in Developing Steatohepatitis in Wistar Rats. V. Gopinath1, M. A. Shamsita1, P. Vaishak Nair1, R. M. Uppu2, and A. C. Raghavamenon1. 1Amala Cancer Research Centre, Kerala, India; and 2Southern University and A&M College, Baton Rouge, LA.

#2060 | Poster Board Number | ................................................................. | P161

#2061 | Poster Board Number | ................................................................. | P162
N-acetyl-l-aspartate (NAA): Comparative PK Evaluation in Rat, Swine, and Goat following Single and Repeated Oral Dosing. M. W. Himmelstein1, M. Bartels2, C. A. Mathesius3, B. L. Smith1, A. B. Carlson4, and J. M. Roper1. 1Corteva Agriscience, Newark, DE; 2ToxMetrics LLC, Midland, MI; and 3Corteva Agriscience, Johnston, IA.

#2062 | Poster Board Number | ................................................................. | P163

Long-Term Dietary Consumption of Thermally Oxidized Oils Modulates Carbohydrate and Lipid Metabolism and Promotes Inflammatory Environment in Wistar Rats. S. P. Kandiyil, S. P. Illam, A. Narayankutty, R. M. Uppu, and A. C. Raghavamenon. Amala Cancer Research Centre, Kerala, India; and Southern University and A&M College, Baton Rouge, LA.
#2073 Poster Board Number ................................................................. P174
**Particulate Hexavalent Chromium Alters microRNAs Involved in Carcinogenesis.**  I. Meaza1, R. M. Speer1, J. H. Toyoda1, Y. Lu1, Q. Xu1, R. Walter2, M. Kong1, and J. P. Wise, Sr.1. 1University of Louisville, Louisville, KY; and 2Texas Tech University, San Marcos, TX.

#2074 Poster Board Number ................................................................. P175

#2075 Poster Board Number ................................................................. P176

#2076 Poster Board Number ................................................................. P177
**Arsenic-Induced Alterations in Glucocorticoid Receptor Regulated Gene Expression in Full-Term Placental Explants.**  C. J. Meakin, J. T. Szilagyi, and R. C. Fry. University of North Carolina at Chapel Hill, Chapel Hill, NC.

#2077 Poster Board Number ................................................................. P178
**Developmental Behavioral Alterations following Lead (Pb) Exposure in the Zebrafish Model System.**  J. Chen, K. Kiper, and J. L. Freeman. Purdue University, West Lafayette, IN.

#2078 Poster Board Number ................................................................. P179

#2079 Poster Board Number ................................................................. P180
**Interactive Effects of Whole-Life Exposure to Low-Dose Cadmium with Post-Weaning High-Fat Diet on Offspring Male Testis.**  L. J. Xiong1,2, B. Zhou2, J. L. Young1, W. Q. Zhou1,3, H. B. Men1,3, J. X. Xu1, and L. Cai1. 1University of Louisville, Louisville, KY; 2Jiangxi Provincial Children's Hospital, Nanchang, China; and 3First Hospital of Jilin University, Changchun, China.

#2080 Poster Board Number ................................................................. P181
**Characterization of Developmental Toxicity of Arsenic and Lead Mixture: Additive and Potential Synergistic Interaction of Metal Mixture.**  K. G. Kiper, and J. L. Freeman. Purdue University, West Lafayette, IN.

#2081 Poster Board Number ................................................................. P182
**Particulate Hexavalent Chromium Inhibits DNA Repair by Targeting RAD51 Paralogs.**  A. R. Williams, R. M. Speer, C. Browning, I. Meaza, J. Toyoda, and J. P. Wise. University of Louisville, Louisville, KY.

#2082 Poster Board Number ................................................................. P183
**Association of Arsenic Exposure and Metabolism with Body Composition: The Multi-ethnic Study of Atherosclerosis (MESA).**  H. Bai1, I. Miljkovic1, A. Navas-Acien2, T. R. Sanchez2, M. Allison3, R. K. Cvejkus1, and A. Barchowsky1. 1University of Pittsburgh, Pittsburgh, PA; 2Columbia University, New York, NY; and 3University of California San Diego, San Diego, CA.

#2083 Poster Board Number ................................................................. P184
**Chronic Exposure to Methylmercury Alters Lipid and Carbohydrate Metabolism in Caenorhabditis elegans.**  T. Nielsen, C. Brown, D. Johnston, and S. W. Caiuo. Husson University, Bangor, ME.

#2084 Poster Board Number ................................................................. P185

#2085 Poster Board Number ................................................................. P186
**Expression Profiling of Adipogenic and Anti-Adipogenic MicroRNA Sequences following Methylmercury Exposure in Caenorhabditis elegans.**  G. Garofalo, T. Nielsen, and S. W. Caiuo. Husson University, Bangor, ME.
**#2086**

**Poster Board Number** ................................................................. P187

*In Vitro Transport of Toxicants by MDR1 (ABCB1) Polymorphic Variants.*
X. Wen1, R. Ritzau1, J. R. Richardson2, and L. M. Aleksunes1. 1Rutgers, The State University of New Jersey, Piscataway, NJ; and 2Florida International University, Miami, FL.

**#2087**

**Poster Board Number** ................................................................. P188

*Whale Cells Resist Cr(VI)-Induced Loss of Homologous Recombination Repair.*
H. Lu1, W. S. Sandra1, T. H. Jennifer1, R. M. Speer1, A. Bolt2, and J. P. Wise, Sr1. 1University of Louisville, Louisville, KY; and 2University of New Mexico, Albuquerque, NM.

**#2088**

**Poster Board Number** ................................................................. P189

*Arsenite Displaces Zinc from ZRANB2 Zinc Finger Motifs and Leads to Altered Splicing.*

**#2089**

**Poster Board Number** ................................................................. P190

*Heavy Metal Contamination and Its Impact on a Native American Community: The Toxic Legacy Continues.*
O. N. Avenbuan1, D. DeFreese2, C. Vincent Mann3, T. McKeon1, M. Zhong1, T. Dokuchayeva1, and J. T. Zelikoff1. 1New York University Grossman School of Medicine, New York, NY; 2Ramapough Lenuape Nation, Ringwood, NJ; 3University of Pennsylvania Perelman School of Medicine, Philadelphia, PA; and Cornell University, Ithaca, NY.

**#2090**

**Poster Board Number** ................................................................. P191

*Inhibition of Rad18 by Arsenic.*
L. B. Volk1, K. L. Cooper1, X. Dong2, Y. Wang3, and L. G. Hudson1. 1University of New Mexico, Albuquerque, NM; and 2University of California Riverside, Riverside, CA.

**#2091**

**Poster Board Number** ................................................................. P192

*Arsenite Binds and Impedes ZNF598-Mediated Ribosome-Associated Protein Quality Control in Human Cells: Implication in Proteotoxic Stress.*
L. Tam, and Y. Wang. University of California Riverside, Riverside, CA.

**#2092**

**Poster Board Number** ................................................................. P193

*Shared Genetic Pathways between Metformin and Arsenic.*
A. Umerani, M. Mortillo, J. Mulle, and M. Gribble. Emory University, Atlanta, GA.

**#2093**

**Poster Board Number** ................................................................. P194

*Environmental Lead Exposure and Functional Status in US Adults: An NHANES Study.*
B. T. Sullivan1, S. Eggers2, and K. Malecki3. 1Hofstra University, Hempstead, NY; 2Icahn School of Medicine at Mount Sinai, New York, NY; and 3University of Wisconsin--Madison, Madison, WI.

**#2094**

**Poster Board Number** ................................................................. P195

*Impact of Platinum(II) Compound Structure on Tissue-Specific Cell Survival in Models of Human Cancer.*
S. Olajuwon, V. Veletanlic, J. Schlabach, M. Hall, and B. B. Williams. Western Kentucky University, Bowling Green, KY.

**#2095**

**Poster Board Number** ................................................................. P196

*Impact of Metals on Aromatic Amine N-Acetyltransferase Metabolism in Human Lung Cells.*

**#2096**

**Poster Board Number** ................................................................. P197

*Chronic Arsenic Exposure Induces Unique Alternative Splicing Landscapes in Human Keratinocytes.*

**#2097**

**Poster Board Number** ................................................................. P198

*Corn as a Relevant Source of Dietary Nickel.*
M. C. Rubio-Armendariz1, S. Paz1, A. J. Gutiérrez1, J. Guerraga-García2, D. González-Weller4, and A. Hardisson1. 1Universidad de La Laguna, La Laguna, Spain; 2Área de Agricultura, GMR Canarias, Santa Cruz de Tenerife, Spain; and 4Servicio de Inspección Sanitaria y Laboratorio, Servicio Canario de la Salud, Santa Cruz de Tenerife, Spain.
#2098  Poster Board Number ................................................................. P199  Methylmercury Alters Carbohydrate Metabolism in Caenorhabditis elegans: Implications for Glucose Homeostasis.  N. Crawford, M. Martell, S. Winings, R. Averill, K. Lewis, and S. W. Caito. Husson University, Bangor, ME.

#2099  Poster Board Number ................................................................. P200  Role of Non-leaving Ligands in Cell Type-Specific Toxicity of Platinum(II) Compounds.  M. Hall, L. Freeman, J. Schlabach, B. Duke, and B. B. Williams. Western Kentucky University, Bowling Green, KY.


#2101 Poster Board Number ................................................................. P202  Tungsten Exposure Enhances Bone Osteolysis in 4T1 Breast Cancer Mice.  C. Chock, C. McVeigh, and A. Bolt. University of New Mexico, Albuquerque, NM.

#2102 Poster Board Number ................................................................. P203  Micronutrients Promoting Inorganic Arsenic (iAs) Methylation Efficiency Modify the Negative Association between iAs Exposure and Lower Birth Weight.  J. Clark¹, P. Bommarito², J. Laine³, M. Styblo³, G. García-Vargas³, G. Gamble³, and R. Fry¹. ¹University of North Carolina at Chapel Hill, Chapel Hill, NC; ²NIEHS, Durham, NC; ³Imperial College London, London, United Kingdom; ⁴Universidad Juárez del Estado de Durango, Gómez Palacio, Mexico; and ⁵Columbia University, New York, NY.

#2103 Poster Board Number ................................................................. P204  Spectroscopic and Spectrometric Approaches for Assessing the Composition of Embedded Metals in Tissues.  D. E. Smith¹, T. Todorov², A. P. Defante³, J. F. Hoffman⁴, J. F. Kalinch³, and J. A. Centeno⁴. ¹US FDA, Silver Spring, MD; ²US FDA/CFSAN, College Park, MD; ³National Institute of Standards and Technology, Gaithersburg, MD; ⁴Armed Forces Radiobiology Research Institute, Uniformed Services University, Bethesda, MD; and ⁵University of Maryland School of Medicine, Baltimore, MD.

#2104 Poster Board Number ................................................................. P205  Variation in Blood Lead Accumulation Is Strongly Influenced by Genetics.  D. Cuomo¹, D. Arends², G. Brockmann³, and D. Threadgill¹. ¹Texas A&M University, College Station, TX; and ²Albrecht Daniel Thaer-Institut, Humboldt-Universität zu Berlin, Berlin, Germany.

#2105 Poster Board Number ................................................................. P206  Cadmium Causes a Decrease in Pancreatic Beta Cells.  J. Edwards, N. Koziol, C. Swift, M. Khalid, and P. Lamar. Midwestern University, Downers Grove, IL.

#2106 Poster Board Number ................................................................. P207  Sex-Dependent Effects of Preconception Exposure to Arsenite on Gene Transcription in Parental Germ Cells and on Transcriptomic Profiles and Diabetic Phenotype of Offspring.  A. Venkatratnam, R. Fry, M. Styblo, and M. Styblo. University of North Carolina at Chapel Hill, Chapel Hill, NC.

#2107 Poster Board Number ................................................................. P208  Rodent Hair Is a Poor Biomarker for Internal Manganese Exposure.  R. C. Balachandran¹, F. M. Yanko¹, P. Cheng², P. Morcillo², S. Tabassum², C. Rivers², M. G. Thomas¹, A. Akinyemi², A. C. Pfalzer², L. Nie¹, M. Aschner², and A. B. Bowman¹. ¹Purdue University, West Lafayette, IN; ²University of South China, Hunana, China; ³Albert Einstein College of Medicine, Bronx, NY; and ⁴Vanderbilt University Medical Center, Nashville, TN.
Please note that the listed times for all Poster Sessions reflect US Eastern Daylight Time (UTC -4).

Wednesday, March 17, 11:15 AM to 1:00 PM

Poster Session: Biotransformation/Cytochrome P450

Chair(s): Jia-Long Fang, US FDA/NCTR.

Abstract #

#2108

Poster Board Number ................................................................. P101

Alterations of Cytochrome P450-Mediated Drug Metabolism and Therapeutic Efficacy during Liver Recovery and Regeneration after Acetaminophen-Induced Liver Injury. Y. Bao1, J. Junjie Zhu2, X. Ma2, J. Manautou1, and X. Zhong1. 1University of Connecticut, Storrs, CT, and 2University of Pittsburgh, Pittsburgh, PA.

#2109

Poster Board Number ................................................................. P102

The Natural Product Artocarpin Interacts with the Ahr-CYP1A Pathway. I. Morrison1, M. A. Roy2, W. Irvine1, S. Wauchope1, J. Watson1, R. Porter1, A. Timme-Laragy2, and R. Delgoda1. 1University of the West Indies, Mona, Jamaica; and 2University of Massachusetts, Amherst, MA.

#2110

Poster Board Number ................................................................. P103

Liver Toxicity Observed with Lorlatinib When Combined with Strong CYP3A Inducers: Evaluation of Cynomolgus Monkey as a Nonclinical Model for Assessing the Mechanism of Combinational Toxicity. W. Hu1, D. Lettierie1, T. Johnson1, S. Tse1, K. Biddle1, S. Thibault1, J. Chen1, Y. Pithavala1, and M. Finkelstein1. 1Pfizer Inc., San Diego, CA; and 2Pfizer Inc., Groton, CT.

#2111

Poster Board Number ................................................................. P104

In Vitro Metabolism of Naked versus Alkylated Polycyclic Aromatic Hydrocarbons (PAHs) That May Be Present in the Mineral Oils. D. Wang1, I. M. Rietjens1, and P. J. Boogaard1,2. 1Wageningen University, Wageningen, Netherlands; and 2Shell International B.V., The Hague, Netherlands.

#2112

Poster Board Number ................................................................. P105


#2113

Poster Board Number ................................................................. P106

CYP Machine-Learning Models for Predicting Metabolism and Drug-Drug Interactions of Xenobiotics. T. Lane1, D. Foil1, K. Zorn1, G. Agarwal2, C. McElroy2, and S. Ekins1. 1Collaborations Pharmaceuticals Inc., Raleigh, NC; and 2Ohio State University, Columbus, OH.

#2114

Poster Board Number ................................................................. P107

Identifying Arachidonic Acid as a Candidate Orphan Substrate of CYP1B1 in the Eye Using Untargeted Metabolomics and an Improved Capillary Morphogenesis Assay. A. Jozic1, A. J. Annalora1, P. L. Iversen1, N. Sheibani2, A. D. Patterson3, and C. B. Marcus1. 1Oregon State University, Corvallis, OR; 2University of Wisconsin–Madison School of Medicine and Public Health, Madison, WI; and 3Pennsylvania State University, University Park, PA.

#2115

Poster Board Number ................................................................. P108

Metabolism of Naphthalene by Mouse Liver and Lung Microsomes: Glutathione Does Not Affect 1,2-Dihydrodiol Formation. E. Uwimana1, N. Kovalchuck1, L. S. Van Winkle2, and X. Ding1. 1University of Arizona, Tucson, AZ; and 2University of California Davis, Davis, CA.

#2116

Poster Board Number ................................................................. P109

The Dichloroacetamide Safener Benoxacor Is Enantioselectively Metabolized in Monkey Liver Microsomes and Cytosol. D. Simonsen, D. Cwiertny, J. Heffelfinger, and H. Lehmler. University of Iowa, Iowa City, IA.
Development and Validation of Two CRISPR/Cas9-Generated Cytochrome P4501A (CYP1A) Zebrafish Lines. L. B. Wilson, J. La Du, C. Barton, and R. L. Tanguay. Oregon State University, Corvallis, OR.

Identifying Key Active P450 Enzymes in Human PAH Metabolism. K. A. Gaither, W. Garcia, K. Tyrrell, A. T. Wright, J. Teeguarden, and J. N. Smith. 1Pacific Northwest National Laboratory, Richland, WA; 2Washington State University, Pullman, WA; and 3Oregon State University, Corvallis, OR.


Effects of Whole Life Exposure to Low-Dose Cadmium on Postweaning High Fat Diet–Induced Pathogeneses in the Kidney. Z. Li, J. Li, J. Young, M. Rane, L. Miao, and L. Cai. 1University of Louisville, Louisville, KY; 2First Hospital of the Jilin University, Changchun, China; and 3Second Hospital of the Jilin University, Changchun, China.

HDAC Inhibition, p38, and ERK MAPKs Control NF-E2 Degradation and Profibrotic Signaling in RPTCs. J. Li, S. Jin, M. Barati, S. Rane, L. Cai, and M. Rane. University of Louisville, Louisville, KY.

The HRTPT Cells as a Model System of Progenitor/Stem Cells Involved in Renal Tubular Regeneration after a Toxic Insult. M. Kalonick, S. Shrestha, D. Sens, S. Somji, and S. H. Garrett. University of North Dakota School of Medicine and Health Sciences, Grand Forks, ND.

Desorption Electrospray Ionization Mass Spectrometry Imaging (DESI-MSI) of Acetaminophen and Its Metabolites in the Kidney. J. Akakpo, M. W. Jaeschke, A. Ramachandran, A. Midey, S. Toeber, and H. Jaeschke. 1University of Kansas Medical Center, Kansas City, KS; and 2Waters, Milford, MA.


Downregulation of Lysosomal and mTOR-Related Genes in Human Renal Tubular Epithelial Cells Composed of the Progenitor CD133+/CD24+ Cells and CD24+ Cells by Elevated Glucose. S. Shrestha, S. Singhal, D. A. Sens, S. Somji, B. A. Davis, R. Guyer, S. Breen, M. Kalonick, and S. H. Garrett. 1University of North Dakota, Grand Forks, ND; and 2Translational Genomics Research Institute, Phoenix, AZ.

A Novel Ex Vivo and In Vivo Hybrid IVIS Imaging of GFR-Vivo 680 Provides a Convenient and Precise Technique for Measurement of Glomerular Filtration Rate in Conscious Mice. S. Hwang, C. Tyszkievicz, J. Morin, G. Point, and C. Liu. 1Pfizer Inc., Groton, CT; and 2Pfizer Inc., Cambridge, MA.
#2127 Poster Board Number ................................................................. P120

#2128 Poster Board Number ................................................................. P121
Characterizing the Differential Nephrotoxicity of Brominated Flame Retardants in Rat and Human Renal Cells: A Transcriptomics Approach. L. M. Barnett1, J. H. Bisesi2, and B. S. Cummings1. 1University of Georgia, Athens, GA; and 2University of Florida, Gainesville, FL.

#2129 Poster Board Number ................................................................. P122
Development of a 3D In Vitro Screening Model to Monitor Kidney Proximal Tubule Toxicity. M. Dorau1, S. Kaiser1, S. Könen1, A. Thierjung1, M. Orth1, P. Bajaj2, and K. Adkins1. 1Sanofi, Frankfurt, Germany; and 2Sanofi, Framingham, MA.

#2130 Poster Board Number ................................................................. P123
Cisplatin Renal Cytotoxicity and Mitochondrial Alterations Are Modified by Resveratrol in Human Proximal Tubular Epithelial Cells. M. Valentovic, K. C. Brown, M. E. Dial, and R. McGuffey. Marshall University School of Medicine, Huntington, WV.

#2131 Poster Board Number ................................................................. P124
Establishing an In Vitro Model for Screening Transporter-Mediated Cisplatin Drug Interactions. M. Abustan1, Y. Chen2, C. Doherty1, X. Wen1, B. Buckley1, M. S. Joy1, and L. M. Aleksunes1. 1Rutgers, The State University of New Jersey, Piscataway, NJ; 2China Pharmaceutical University, Nanjing, China; and 3University of Colorado, Aurora, CO.

#2132 Poster Board Number ................................................................. P125

**Wednesday, March 17, 11:15 AM to 1:00 PM**

**PS Poster Session: Liver: In Vitro**

**Chair(s):** Dongying Li, US FDA/NCTR.

**Abstract #**

#2133 Poster Board Number ................................................................. P126
Construction of Hepatic Vascular Model and Toxicity Assessment System That Can Predict DILI Compounds. Y. Naito1,2, Y. Yoshinouchi1,2, Y. Sorayama3, H. Kohara3, S. Kitano1,2, S. Irie3, and M. Matsusaki2. 1Toppan Printing Co. Ltd., Saitama, Japan; 2Osaka University, Osaka, Japan; and 3Takeda Pharmaceutical Company Limited, Kanagawa, Japan. Sponsor: T. Yokoi

#2134 Poster Board Number ................................................................. P127
Evaluation of the Utility of the Beta Human Liver Emulation System (BHLES) for Toxicity Testing in a Regulatory Setting Using Model Compounds. K. Eckstrum1, A. Striz2, M. Ferguson2, Y. Zhao1, and R. Sprando1. 1US FDA/CFSAN, Laurel, MD; and 2US FDA/CFSAN, College Park, MD.

#2135 Poster Board Number ................................................................. P128
Exploring Pexidartinib-Induced Bioenergetic Alteration in Hepatic and Cardiac Cells Using the Seahorse Extracellular Flux Analyzer. L. Ren1, X. Yang1, L. Pang1, K. Papineau1, L. K. Schnackenberg1, J. J. Hawes1, and W. B. Mattes1. 1US FDA/NCTR, Jefferson, AR; and 2US FDA/CDER, Silver Spring, MD.

#2136 Poster Board Number ................................................................. P129
Macrophage-Derived Extracellular Vesicles Regulate Concanavalin A-Induced Hepatitis by Suppressing Macrophage Cytokine Production. R. Kawata, S. Oda, Y. Koya, H. Kajiyama, and T. Yokoi. Nagoya University Graduate School of Medicine, Nagoya, Japan.
High-Throughput Assessment of Increased Chemical Toxicity Due to Hepatic Steatosis. N. N. Tucker\textsuperscript{1,2}, G. M. Nelson\textsuperscript{2}, J. A. Harrill\textsuperscript{2}, and B. N. Chorley\textsuperscript{2}. \textsuperscript{1}Oak Ridge Institute for Science and Education, Oak Ridge, TN; and \textsuperscript{2}US EPA, Research Triangle Park, NC.

Automation and Validation of the OrganoPlate LiverTox for Hepatotoxicity Detection. K. M. Bircsak\textsuperscript{1}, R. DeBiasio\textsuperscript{2}, M. Miedel\textsuperscript{2}, A. Alsebahi\textsuperscript{1}, R. Reddinger\textsuperscript{1}, A. Saleh\textsuperscript{1}, T. Shun\textsuperscript{1}, L. Vernetti\textsuperscript{2}, and A. Gough\textsuperscript{1}. \textsuperscript{1}MIMETAS, Gaithersburg, MD; and \textsuperscript{2}University of Pittsburgh, Pittsburgh, PA.

Transcriptomics Analysis in Rat 2D and 3D Hepatic Co-culture Models as an Alternative to Traditional Hepatotoxicity Testing. A. Stern, M. Black, T. Beames, P. McMullen, S. Slattery, and A. Ranade. ScitoVation, Durham, NC.

Identification of Exosomal ITIH1 Protein as a Potential \textit{In Vitro} Biomarker of IDILI. N. Vachharajani\textsuperscript{1}, R. J. Church\textsuperscript{1}, S. E. Thacker\textsuperscript{1}, K. A. Rose\textsuperscript{1}, M. Otieno\textsuperscript{2}, O. Ofoma\textsuperscript{2}, and M. Mosedale\textsuperscript{1}. \textsuperscript{1}University of North Carolina at Chapel Hill, Chapel Hill, NC; and \textsuperscript{2}Janssen Research & Development, Spring House, PA.

In \textit{Vitro} and \textit{In Silico} Testing Strategies for Predicting Human Liver Toxicity from Foodborne Chemicals. F. A. Müller, M. Stamou, S. Diedrich, and S. J. Sturla. ETH Zurich, Zurich, Switzerland.

Late Treatment of Acetaminophen Toxicity with N-Acetylcysteine Inhibits Liver Regeneration. M. W. Jaeschke, J. Y. Akakpo, A. Ramachandran, and H. Jaeschke. University of Kansas Medical Center, Kansas City, KS.


Single Cell RNA Sequencing Reveals Downregulation of lncRNA Gm42031 Expression after Treatment with AhR Ligands in Concanavalin-Induced T Cell–Mediated Liver Injury. A. Cannon, K. Wilson, K. Miranda, P. Nagarkatti, and M. Nagarkatti. University of South Carolina School of Medicine, Columbia, SC.

Pharmacological Evidence for the Involvement of Ryanodine Receptors in Halothane-Induced Liver Injury in Mice. R. Jia, S. Oda, and T. Yokoi. Nagoya University Graduate School of Medicine, Nagoya, Japan.

Kupffer Cells Regulate Liver Recovery through Induction of Chemokine Receptor CXCR2 on Hepatocytes after Acetaminophen Overdose in Mice. N. T. Nguyen, G. Sanchez-Guerrero, D. S. Umbaugh, A. Ramachandran, and H. Jaeschke. University of Kansas Medical Center, Kansas City, KS.
#2148
Poster Board Number .................................................. P141
Spatial Reconstruction of the Early Hepatic Transcriptomic Landscape after an Acetaminophen

#2149
Poster Board Number .................................................. P142

#2150
Poster Board Number .................................................. P143
A Novel Gene Expression Profiling Approach in Collaborative Cross Mice Identifies Mechanisms and Risk Factors Contributing to TAK-875-Induced Liver Injury.  M. Mosedale¹, Y. Cai¹, J. S. Eaddy¹, P. J. Kirby², F. S. Wolenski², Y. Dragan², and W. Valdar¹. ¹University of North Carolina at Chapel Hill, Chapel Hill, NC; and ²Takeda Pharmaceuticals International Inc., Cambridge, MA.

#2151
Poster Board Number .................................................. P144
Profound Dose-Dependent Effects of Acetaminophen-Induced Acute Liver Injury/Failure on the Coagulation System.  D. Groeneveld¹, E. Bouck², L. Poole¹, H. Cline-Fedewa¹, K. Williams¹, A. Wolberg², and J. Luyendyk¹. ¹Michigan State University, East Lansing, MI; and ²University of North Carolina at Chapel Hill, Chapel Hill, NC.

#2152
Poster Board Number .................................................. P145
Fibrinogen-Integrin alpha(IIb)beta(3) Engagement Does Not Promote Hepatic Platelet Accumulation in the Acetaminophen-Injured Liver.  L. G. Poole¹, D. J. Groeneveld¹, H. M. Cline-Fedewa¹, M. J. Flick², and J. P. Luyendyk¹. ¹Michigan State University, East Lansing, MI; and ²University of North Carolina at Chapel Hill, Chapel Hill, NC.

#2153
Poster Board Number .................................................. P146

#2154
Poster Board Number .................................................. P147
Ferroptosis in Acetaminophen-Induced Hepatotoxicity.  O. B. Adelusi, A. Ramachandran, and H. Jaeschke. University of Kansas Medical Center, Kansas City, KS.

#2155
Poster Board Number .................................................. P148
Renal Transporter Expression Changes in Rodent Models of Nonalcoholic Steatohepatitis.  K. L. Frost¹, J. L. Jilek¹, E. L. Toth¹, M. J. Goedken², and N. J. Cherrington¹. ¹University of Arizona, Tucson, AZ; and ²Rutgers Institute for Translational Medicine and Science, Piscataway, NJ.

#2156
Poster Board Number .................................................. P149
Late Protective Effects of Adenosine A2B Receptor Activation in Acetaminophen Hepatotoxicity.  G. Sanchez-Guerrero, L. Duan, H. Jaeschke, and A. Ramachandran. University of Kansas Medical Center, Kansas City, KS.

#2157
Poster Board Number .................................................. P150
Evaluation of Hepatoprotective Action of Solanum melongena L. Aqueous Peel Extract against Carbon-Tetrachloride and Paracetamol induced Liver Damage in Albino Rats.  J. Sarkar¹, and K. Rao². ¹K. R. Mangalam University, Gurugram, India; and ²Eurofins, Bangalore, India.

#2158
Poster Board Number .................................................. P151
Hyaluronan Synthesis Inhibition Normalizes Hepatic Fibrogenic Features by Reducing Hepatic Stellate Cell Activation in Alcohol-Associated Liver Disease Models.  M. Kotulkar¹, K. Lin-Rahardja¹, D. R. Robarts¹, J. Surgnier¹, S. E. Tague¹, M. Czerwinski², and M. T. Pritchard¹. ¹University of Kansas Medical Center, Kansas City, KS; and ²Sekisui XenoTech LLC, Kansas City, KS.
#2159
Poster Board Number P152
A Non-Mitogenic FGFR10HS Variant Protects from Nonalcoholic Fatty Liver Disease via Activating AMPK-Mediated Pathways. Q. Lin1, Z. Huang2, G. Cai3, M. Kong1, D. Conklin1, P. Epstein1, K. Wintergerst1, M. Mohammadi4, L. Cai5, X. Li6, Y. Li7, and Y. Tan1. 1University of Louisville, Louisville, KY; 2Wenzhou Medical University, Wenzhou, China; 3Chinese Academy of Sciences, Shanghai, China; and 4New York University School of Medicine, New York, NY.

#2160
Poster Board Number P153
Interaction of Environmental Vinyl Chloride Exposure and Diet: Potential Role of the Epitranscriptome. L. He1, X. Ma1, X. Zhang1, G. E. Arteel2, and J. I. Beier2. 1University of Louisville, Louisville, KY; and 2University of Pittsburgh, Pittsburgh, PA.

#2161
Poster Board Number P154

#2162
Poster Board Number P155

#2163
Poster Board Number P156
Exaggerated Interleukin-10 Expression Inhibits Macrophage-Dependent Liver Repair in Acetaminophen-Induced Acute Liver Failure. J. Strickland, K. Roth, A. Pant, R. Freeborn, R. Kennedy, C. Rockwell, J. Luyendyk, and B. Copple. Michigan State University, East Lansing, MI.

#2164
Poster Board Number P157
Diet-Induced Nonalcoholic Fatty Liver Disease Slowed Recovery of Hepatic Fibrosis and Carcinogenic Reprogramming after Microcystin-LR Toxicity in Rats. T. Arman, J. A. Baron, K. D. Lynch, J. Aldan, and J. D. Clarke. Washington State University, Spokane, WA.

#2165
Poster Board Number P158
2,3,7,8-tetrachlorodibenzo-P-dioxin (TCDD) Elicits Changes in Gut Microbiome Consistent with Progression of Steatosis to Steatohepatitis with Fibrosis in Mice. R. R. Fling, R. Nault, and T. R. Zacharewski. Michigan State University, East Lansing, MI.

#2166
Poster Board Number P159
Metabolic Reprogramming following Transsulfuration Pathway Inhibition by 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) to Support Glutathione Biosynthesis in Mice. K. Orlowska, R. R. Fling, R. Nault, and T. Zacharewski. Michigan State University, East Lansing, MI.

#2167
Poster Board Number P160

#2168
Poster Board Number P161

#2169
Poster Board Number P162
Inhibition of Mitochondrial Fatty Acid Oxidation Reduces Liver Injury but Increases Mortality in a Standard Mouse Model of Acetaminophen Overdose. J. H. Vazquez1, S. Kennon-McGill1, R. S. Lan1, K. E. Mercer1, S. H. Adams2, and M. R. McGill. 1University of Arkansas for Medical Sciences, Little Rock, AR; 2US FDA/NCTR, Jefferson, AR; and 3University of California Davis, Sacramento, CA.

#2170
Poster Board Number P163
The Effects of Endurance Training on High Fat Diet–Induced Nonalcoholic Fatty Liver Disease in Male Mice. L. Melo, and J. Klaunig. Indiana University Bloomington, Bloomington, IN.
**Poster Board Number** .................................................. P164


**Poster Board Number** .................................................. P165

**TCDD-Inducible Poly-ADP-Ribose Polymerase (TIPARP) Regulates AhR Biology and Dioxin Toxicity in Rat.** A. S. Long1, D. Hutin1, P. N. Norell2, P. Shao1, K. S. Sugamori1, D. M. Grant1, and J. Matthews3,4. 1University of Toronto, Toronto, ON, Canada; 2Karolinska Institutet, Stockholm, Sweden; and 3Universitetet i Oslo, Oslo, Norway.

**Poster Board Number** .................................................. P166

**Human Liver Microphysiological System for Studying Acute and Chronic Drug-Induced Liver Toxicity In Vitro.** O. Novac, K. Lachani, L. Young, T. Kostrzewski, and D. Hughes. CN Bio Innovations, Cambridge, United Kingdom. Sponsor: P. Newham

**Poster Board Number** .................................................. P167

**Lipid Loading in Micropatterned Primary Hepatocyte and Kupffer Cell Co-culture: NAFLD Disease Modeling for Drug Toxicity Screening.** K. E. Cottier1, J. Gaffney2, C. Lewis1, and S. Heyward1. 1BioIVT, Baltimore, MD; and 2BioIVT, Medford, MA. Sponsor: T. Moeller

**Poster Board Number** .................................................. P168


**Poster Board Number** .................................................. P169

**Analyses of the Effects of an Environmentally Relevant Organophosphate Ester Mixture in the HepG2 Cell Line Using High Content Imaging.** D. Yu, B. Hales, and B. Robaire. McGill University, Montreal, QC, Canada.

**Wednesday, March 17, 1:00 PM to 2:45 PM**

**Poster Session: Nanotoxicology: In Vitro**

**Chair(s):** Yizhong Liu, US FDA.

**Abstract #**

**Poster Board Number** .................................................. P170

**Lack of Direct Detectable Facts of Silver and Silver Nanoparticles on Mitochondria in Mouse Hepatocytes.** L. Wang1, D. F. Mello1, R. M. Zucker2, N. Rivera1, W. K. Boyes2, and J. N. Meyer1. 1Duke University, Durham, NC; and 2US EPA, Research Triangle Park, NC.

**Poster Board Number** .................................................. P171

**In Vitro Antimicrobial and Cytotoxic Investigation of Chitosan Nanoparticles Extracted from Black Soldier Fly (Hermetia illucens) Waste Material.** C. C. Uche1,2, C. T. Onwordi3, A. I. Omer1, C. O. Cosmas-Uche2, A. Olivier1, and L. F. Petrik1. 1University of the Western Cape, Bellville, South Africa; 2Federal University of Technology, Owerri, Nigeria; and 3Lagos State University, Lagos, Nigeria.

**Poster Board Number** .................................................. P172

**Effects of Carbon Nanodots Derived from Ethylenediamine and Citric Acid on Oxidized-LDL-Induced Inflammation in Human Endothelial Cells.** S. Khan, J. Chavez, M. Anike, N. Chiu, and Z. Jia. University of North Carolina at Greensboro, Greensboro, NC.

**Poster Board Number** .................................................. P173

#2181
**Poster Board Number** ....................................................... P174

#2182
**Poster Board Number** ....................................................... P175
**Surface Chemistry Impact of Ultra-Small Superparamagnetic Iron Oxide Nanoparticles on Protein Corona Formation and Endothelial Cellular Responses.** D. Díaz-Diestra1, T. Palacios-Hernandez1, Y. Liu1, D. Smith1,2, X. Tang1, A. K. Nguyen1, Y. Wu1, J. Zheng1, S. A. Skoog1, and P. L. Goering1. US FDA/CDRH, Silver Spring, MD; and 2Henry M. Jackson Foundation for the Advancement of Military Medicine, Bethesda, MD.

#2183
**Poster Board Number** ....................................................... P176
**The Toxicity of Titanate Nanosheets Attributed to Out-of-Control Function of Lysosomes Caused by Increase in Intracellular Calcium Ions.** Y. Nishimura, D. Yoshioka, N. Kumagai-Takei, S. Lee, T. Ito, and T. Otsuki. Kawasaki Medical School, Kurashiki, Japan.

#2184
**Poster Board Number** ....................................................... P177
**Oxidative Stress–Induced Junction Complex Changes in Human Intestinal Epithelial Cells after Dietary Nanoparticles Exposure.** K. Xu, N. Basu, and S. George. McGill University, Sainte-Anne-de-Bellevue, QC, Canada.

#2185
**Poster Board Number** ....................................................... P178
**Effects of Multiwalled Carbon Nanotubes on Immune Cells in a Hepatocyte Co-culture Setup In Vitro.** P. Recalt1, D. Alfano1, R. Bordett2, S. Kumbar2, and S. Rudraiah3. 1University of Saint Joseph School of Pharmacy, Hartford, CT; and 3University of Connecticut, Farmington, CT.

#2186
**Poster Board Number** ....................................................... P179
**A Study of Renewable Nanomaterials: Cellulose Nanocrystals Are Not Found to Have Endocrine-Disrupting Potential.** M. R. Mulenos, H. Lujan, and C. M. Sayes. Baylor University, Waco, TX.

#2187
**Poster Board Number** ....................................................... P180

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**Wednesday, March 17, 1:00 PM to 2:45 PM**

**PS Poster Session: Nanotoxicology: In Vivo**

Chair(s): Todd Stueckle, NIOSH.

**Abstract #**

#2188
**Poster Board Number** ....................................................... P181
**Declines in Serum Levels of Apolipoproteins during the Development of Peritoneal Mesothelioma by Multiwalled Carbon Nanotube in Rats.** M. Hojo1, Y. Yamamoto1, Y. Sakamoto1, A. Ohnuki1, A. Maeno1, T. Moriyasu1, Y. Taquahashi1, J. Kanno2, A. Hirose2, and D. Nakae3. 1Tokyo Metropolitan Institute of Public Health, Tokyo, Japan; 2National Institute of Health Sciences, Kanagawa, Japan; and 3Tokyo University of Agriculture, Tokyo, Japan. Sponsor: M. Hojo, Japanese Society of Toxicology

#2189
**Poster Board Number** ....................................................... P182
**Pulmonary Effects of Fe3O4-PEG-PLGA Nanoparticles in Human Bronchial Epithelial Cells and in Wild-Type and Nrf2 Knockout Mice following Pharyngeal Aspiration.** H. Sato1, C. Zong2, C. McCord2, S. Ichihara1, O. Brookes2, K. Itoh3, M. Yamamoto2, S. Boland3, A. Baeza-Squiban3, and G. Ichihara1. 1Tokyo University of Science, Noda, Japan; 2Université de Paris, Paris, France; 3Jichi Medical University, Shimotsuke, Japan; and 4Tohoku University, Sendai, Japan.
#2190
**Poster Board Number**


#2191
**Poster Board Number**

**Toxicokinetics of a Be-7 Tagged Carbon Black Sample following Intratracheal Instillation into Rat Lungs.** O. H. Creutzenberg, V. Hammann, and S. Wolf. Fraunhofer Institute for Toxicology and Experimental Medicine, Hannover, Germany. Sponsor: A. Bitsch

#2192
**Poster Board Number**

**Pulmonary Response in Sprague Dawley Rats following Single Exposure to Aerosolized Graphene Oxide.** P. Upadhyay, L. S. VanWinkle, S. M. Thomasy, D. Bitounis, P. Demokritou, and K. E. Pinkerton. 1University of California, Davis, Davis, CA; and 2Harvard T.H. Chan School of Public Health, Boston, MA.

#2193
**Poster Board Number**

**Differentiating Exogenous versus Endogenous Iron Nanoparticle Types in Human Olfactory Bulb with Neurodegeneration: Pollution Particles against Biomineralized Iron.** U. M. Graham, G. Oberdorster, J. Weuve, J. Pinto, J. Schneider, and D. Bennett. 1University of Kentucky, Lexington, KY; 2University of Rochester, Rochester, NY; 3Boston University, Boston, MA; 4University of Chicago, Chicago, IL; and 5Rush University, Chicago, IL.

#2194
**Poster Board Number**

**Interim Report of the 4-Week Interval Intermittent Whole Body Inhalation Study on Multiwalled Carbon Nanotube in Mice.** Y. Taquahashi, S. Yokota, M. Hoijo, K. Morita, M. Tsujii, K. Suga, M. Kuwagata, A. Hirose, and J. Kanno. 1National Institute of Health Sciences, Kawasaki, Japan; 2Tokyo Metropolitan Institute of Public Health, Tokyo, Japan; and 3Environmental Biology Laboratory, Ibaraki, Japan.

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**Wednesday, March 17, 1:00 PM to 2:45 PM**

**Poster Session: Nanotoxicology: Methodologies and Assessments**

**Chair(s):** Antonella Marrocco, Harvard T.H. Chan School of Public Health.

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**Abstract #**

#2195
**Poster Board Number**

**Thin-Tangled Multiwalled Carbon Nanotubes Are Carcinogenic to the Rat Lung after Administration by Intra-tracheal Instillation.** D. M. Saleh, W. T. Alexander, T. Numano, O. H. Ahmed, S. Gunasekaran, D. B. Alexander, M. Abdelgied, A. El-Gazzar, H. Takase, A. N. Ito, S. Takahashi, A. Hirose, M. Onishii, J. Kanno, and H. Tsuda. 1Nagoya City University, Nagoya, Japan; 2Assiut University, Assiut, Egypt; 3Aswan University, Aswan, Egypt; 4Beni-Suef University, Beni-Suef, Egypt; 5Alexandria University, Alexandria, Egypt; 6National Institute of Health Sciences, Kawasaki, Japan; and 7Japan Bioassay Research Center, Hadano, Japan.

#2196
**Poster Board Number**

**Exacerbated mTOR Complex 1 Signaling in Metabolic Syndrome Due to the Nanoparticle Bioconora.** L. Xia, S. Adamson, S. Alqahtani, and J. Shannahan. Purdue University, West Lafayette, IN.

#2197
**Poster Board Number**

**Exacerbated Acute Inflammatory Response by Nanoparticle Exposures in a Metabolic Syndrome Mouse Model.** S. Alqahtani, L. Via, and J. Shannahan. Purdue University, West Lafayette, IN.
Unified Transcriptomics Data Collection for Toxicogenomic Approaches to Nanosafety. L. A. Saarimäki¹, A. Federico¹, I. Lynch², A. G. Papadiamantis², A. Tsoumanis², G. Melagraki², A. Afantitis³, A. Serra³, and D. Greco⁴. ¹Tampere University, Tampere, Finland; ²University of Birmingham, Birmingham, United Kingdom; and ³NovaMechanics Ltd., Nicosia, Cyprus. Sponsor: I. Lynch, Society of Environmental Toxicology and Chemistry

Effects of Carbon Nanodots on Cytotoxicity and Tumor Necrosis Factor-Alpha-Induced Pro-Inflammatory Cytokine Expression In Vitro (Endothelial Cells) and In Vivo (C57BL/6). Z. Kang, S. Belperain, N. Chiu, and Z. Jia. University of North Carolina at Greensboro, Greensboro, NC.


Comprehensive Meta-Analysis of Toxicogenomics Datasets Reveals Engineered Nanomaterials Mechanism of Action. G. del Giudice¹, L. A. Saarimäki¹, A. Serra¹, P. A. Kinaret¹², and D. Greco¹². ¹Tampere University, Tampere, Finland; and ²University of Helsinki, Helsinki, Finland.

Occupational Health and Safety Implications of Nano-Enabled Building Materials during Sanding and Incineration. A. Marrocco¹, D. Singh¹, W. Wohlleben², D. C. Christiani¹, Q. Lu¹, and P. Demokritou¹. ¹Harvard T.H. Chan School of Public Health, Boston, MA; and ²BASF, Ludwigshafen am Rhein, Germany.


Simulated Gastric Digestion and In Vivo Intestinal Uptake of Orally Administered CuO Nanoparticles and TiO$_2$, E171 in Male and Female Rat Pups. N. P. Mortensen¹, M. M. Moreno Caffaro¹, S. Aravamudhan², R. W. Snyder¹, S. L. Watson¹, P. R. Patel¹, S. J. Sumner¹, and T. R. Fennell¹. ¹RTI International, Research Triangle Park, NC; ²North Carolina A&T State University, Greensboro, NC; and ³UNC Nutrition Research Institute, University of North Carolina at Chapel Hill, Kannapolis, NC.


Cytotoxicity of Display-Inspired Quantum Dot Is Higher Than the Additive Effect of Its Components. K. Xu¹, A. Bechu², S. Ghoshal², A. Moores², N. Basu¹, and S. George¹. ¹McGill University, Sainte-Anne-de-Bellevue, QC, Canada; and ²McGill University, Montreal, QC, Canada.

Multi-tissue Transcriptomic Analysis of Diversity Outbred Mice Fed a High-Fat Diet. M. Huang\(^1\), Y. Li\(^1\), D. Phadke\(^2\), M. Balik-Meisner\(^3\), D. You\(^4\), R. Shah\(^1\), L. Li\(^1\), and A. Harrill\(^1\). \(^1\)NIH, Research Triangle Park, NC; \(^2\)NIH, Research Triangle Park, NC; \(^3\)Sciome LLC, Research Triangle Park, NC; and \(^4\)NIH, Research Triangle Park, NC.

Thirdhand Smoke: Effects on Oxidation and the Plasma Proteome. S. Sakamaki-Ching\(^1\), P. Talbot\(^1\), and S. Schick\(^2\). \(^1\)University of California Riverside, Riverside, CA; and \(^2\)University of California San Francisco, San Francisco, CA.


Spatial Temporal Online In Vitro Toxicity Testing Employing a Novel Nuclear Magnetic Resonance Technique Using Thymic Carcinoma 3D Models. M. AlWahsh\(^1,2\), R. Marchan\(^1\), J. Lambert\(^1\), R. Knitsch\(^1\), D. Belharazem\(^2\), E. Tolstik\(^1\), A. Marx\(^2\), and R. Hergenröder\(^1\). \(^1\)Leibniz-Institut für Analytische Wissenschaften, Dortmund, Germany; \(^2\)Heidelberg University, Mannheim, Germany; and \(^3\)Leibniz Institut für Arbeitsforschung an der TU Dortmund, Dortmund, Germany.

Capillary Aerosol Generator for Continuous Production of Controlled Aerosol. D. Goedertier\(^1\), F. Lucci\(^1\), F. Radtke\(^1\), P. Vanscheeuwijck\(^1\), J. Hoeng\(^1\), A. Kuczaj\(^1\), T. Lee\(^2\), W. Tan\(^2\), and S. Krishnan\(^2\). \(^1\)Philip Morris International, Neuchâtel, Switzerland; and \(^2\)Philip Morris International, Singapore, Singapore.

Thioesterase Induction by 2,3,7,8-Tetrachlorodibenzo-p-dioxin Elicits a Futile Cycle That Inhibits Hepatic β-oxidation. N. A. Zacharewski\(^1,2\), G. N. Cholico\(^2\), R. R. Fling\(^2\), K. A. Fader\(^2\), R. Nault\(^2\), and T. Zacharewski\(^2\). \(^1\)Trinity College, Hartford, CT; and \(^2\)Michigan State University, East Lansing, MI.


Genome-Wide ChIPseq Analysis of AhR, COUP-TF, and HNF4 Enrichment in TCDD-Treated Mouse Liver. G. N. Cholico, R. Nault, and T. Zacharewski. Michigan State University, East Lansing, MI.

Predicting Flame Retardant Bioactivity Using the Embryonic Zebrafish Platform. L. Truong\(^1\), S. Marvel\(^2\), D. M. Reif\(^2\), D. Thomas\(^3\), P. Pande\(^1\), S. Dasgupta\(^1\), M. T. Simonich\(^1\), K. M. Waters\(^1\), and R. L. Tanguay\(^1\). \(^1\)Oregon State University, Corvallis, OR; \(^2\)North Carolina State University, Raleigh, NC; and \(^3\)Pacific Northwest National Laboratory, Richland, WA.

#2220

**Poster Board Number** ............................................................... P213

_Crassocephalum rubens_ Extract Suppresses Lead Acetate-Induced Inflammation and Oxidative Stress in the Liver of Wistar Rat Models. O. A. Akinbode, A. Abolaji, and O. A. Odunola. University of Ibadan, Ibadan, Nigeria.

#2221

**Poster Board Number** ............................................................... P214

Transcriptomic Analysis in Smoke-Treated Vascular Endothelial Cells Reveals Transcription Factors Invoking Stress Response Pathways. D. Gerhold1, D. Kuo1, J. Clabaugh1, J. Braisted1, P. Chu1, G. Chen1, Y. Wang1, A. Simeonov1, M. Boehm1, and R. Huang1. 1NIH/NCATS, Rockville, MD; and 2NIH/NHLBI, Bethesda, MD.

#2222

**Poster Board Number** ............................................................... P215

Systems Toxicology Assessment of Biological Changes Induced by Cigarette Smoke Condensate in A549 Human Alveolar Epithelial Cells. A. Kumar1, U. Doshi1, A. Karmaus1, S. Bell1, J. Abedini1, N. Christy1, M. Rivas1, J. Fowler1, and K. M. Lee1. 1Altria Client Services LLC, Richmond, VA; and 2Integrated Laboratory Systems Inc., Research Triangle Park, NC.

#2223

**Poster Board Number** ............................................................... P216

Investigating Proteomic and Epigenetic Changes in Alcohol-Associated Hepatitis. P. S. Harris1, S. K. Schwab1, H. R. Ali1, C. R. Michel1, Y. Yun1, T. Zhang2, D. J. Orlicky1, M. A. Assiri1, R. L. McCullough1, J. R. Roede1, K. Uppal1, and K. S. Fritz1. 1University of Colorado Anschutz Medical Campus, Aurora, CO; and 2Emory University, Atlanta, GA.

#2224

**Poster Board Number** ............................................................... P217

Comprehensive Histone, DNA Methylation, and mRNA Expression Analysis of Murine Liver Repeatedly Exposure to Chemicals—PerCellome Project 2021 Update. J. Kanno1,2, K. Aisaki1, R. Ono1, and S. Kitajima1. 1National Institute of Health Sciences, Kanagawa, Japan; and 2Environmental Biology Laboratory, University of Tsukuba, Ibaraki, Japan.

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Please note that the listed times for all Poster Sessions reflect US Eastern Daylight Time (UTC -4).

Thursday, March 18, 11:15 AM to 1:00 PM

Poster Session: Cardiovascular Toxicology/Hemodynamics
Chair(s): Laura Armstrong, Bristol-Myers Squibb Company.

Abstract #

#2225
Poster Board Number .......................................................... P101
Alarmin IL33 Is Vasoconstrictive and Acutely Disrupts Endothelial-Dependent Dilation.
E. R. DeVallance1,2, E. C. Bowdridge1,2, K. L. Garner1,2, J. A. Griffith1,2, T. P. Batchelor1,2, S. Hussain1,2, E. E. Kelley1, and T. R. Nurkiewicz1,2. 1West Virginia University, Morgantown, WV; and 2Center for Inhalation Toxicology, Morgantown, WV.

#2226
Poster Board Number .......................................................... P102
Nanomaterial Inhalation during Gestational Windows Alters Maternal Angiotensin II Microvascular Sensitivity and Fetal Outcomes. K. L. Garner1,2, E. C. Bowdridge1,2, J. A. Griffith1,2, E. DeVallance1,2, K. J. Engels1,2, K. Wix1,2, W. T. Goldsmith1,2, S. Hussain1,2, T. P. Batchelor1,2, and T. R. Nurkiewicz1,2. 1West Virginia University, Morgantown, WV; and 2Center for Inhalation Toxicology, Morgantown, WV.

#2227
Poster Board Number .......................................................... P103
High-Fructose Diet Increases Cardiac Work Rate and Arterial Stiffness after a Single Wood Smoke Exposure in Wistar-Kyoto Rats. M. S. Hazari1, G. Little2, B. Martin2, M. Harmon3, Y. Kim4, C. King1, M. I. Gilmour1, and A. Farray1. 1US EPA, Research Triangle Park, NC; 2Oak Ridge Institute for Science and Education, Oak Ridge, TN; and 3University of North Carolina at Chapel Hill, Chapel Hill, NC.

#2228
Poster Board Number .......................................................... P104
Sex-Based Differences in Doxorubicin-Induced Cardiotoxicity: The Role of Apelin-APJ Pathway. V. G. Desai, A. Azvedo-Pouly, V. Vijay, C. Moland, B. Phanavanth, J. Revollo, and T. Han. US FDA/NCTR, Jefferson, AR.

#2229
Poster Board Number .......................................................... P105
Aged Neutrophils Contribute to Late Remodeling Post-Myocardial Infarction. Y. Zhong1, H. Zhou2, and X. Yu3. 1Emory University, Atlanta, GA; 2University of Alabama at Birmingham, Birmingham, AL; and 3Jilin University, Changchun, China. Sponsor: Y. Zhong, American Association for the Advancement of Science

#2230
Poster Board Number .......................................................... P106
Effects on the Cardiovascular System of Ex Ovo Chicken Embryos Exposed to Tris (2-chloroethyl) Phosphate (TCP). K. Kanda1, S. Itota1, D. Kohi1, E. Kim1, and H. Iwata1. 1Ehime University, Matsuyama, Japan; and 2Kyung Hee University, Seoul, Republic of.

#2231
Poster Board Number .......................................................... P107

#2232
Poster Board Number .......................................................... P108
Mechanisms of Cadmium-Induced Aberrant Differentiation of Human Embryonic Stem Cells to Cardiomyocytes and Cardiac Organoid Formation Mimicking Heart Development. X. Wu1, G. Hu2, and E. J. Tokar1. 1NIEHS/NTP, Research Triangle Park, NC; and 2NIEHS, Research Triangle Park, NC.

#2233
Poster Board Number .......................................................... P109
Potential Cardioprotective Effects of Psilocybe natalensis Magic Mushroom Extracts on Angiotensin II-Induced Hypertrophy and Oxidative Stress in H9C2 Cardiomyocytes. S. M. Nkadimeng1, C. M. Steinmann2, and J. N. Eloff1. 1University of Pretoria, Pretoria, South Africa; and 2Sefako Makgatho Health Sciences University, Pretoria, South Africa.
#2234  
Poster Board Number .................................................. P110  
**Metallothionein Rescues Diabetic Cardiomyopathy in Akt2-Knockout Mice Probably via Activating ERK-Mediated Pathways.**  
S. Huang, J. Wang, H. Men, Y. Tan, Q. Lin, Y. Zheng, and L. Cai. University of Louisville School of Medicine, Louisville, KY.

#2235  
Poster Board Number .................................................. P111  
**Chronic Cardiotoxic Effects of Kinase Inhibitors and Anthracyclines on Human iPSC-Derived Cardiomyocytes.**  
M. Gossmann¹, M. Lemme², P. Linder¹, U. Thomas², E. Dragicevic³, M. George⁴, N. Fertig⁵, B. Lickiss¹, and S. Stoelzl-Feix². ¹innoVitro, Juelich, Germany; and ²Nanion Technologies, Munich, Germany.  
Sponsor: M. Gossmann, Safety Pharmacology Society

#2236  
Poster Board Number .................................................. P112  
**Vascular Transient Receptor Potential Ankyrin-1 (TRPA1) and Acrolein: A Potent Agonist with Physiological and Toxicological Actions.**  
L. Jin, and D. J. Conklin. University of Louisville, Louisville, KY.

#2237  
Poster Board Number .................................................. P113  
**Zinc Supplementation Attenuates Cardiac Hypertrophy in High Fat Diet–Induced Obese Mice via Metallothionein.**  
H. Zhang¹, S. Wang¹, J. Wang², W. Zhou², X. Wang², H. Men², T. Bao², J. Li², Q. Liu², and L. Cai¹. ¹Pediatric Research Institute, Louisville, KY; and ²First Hospital of Jilin University, Changchun, China.

#2238  
Poster Board Number .................................................. P114  
**The Effects of Whole-Life, Low-Dose Cadmium Exposure on High Fat Diet–Induced Cardiac Pathologies in Female Mice.**  
W. Zhou¹, J. L. Young¹, H. Men¹, L. Xiong¹, B. Zhou¹, J. Xu¹, and L. Cai¹. ¹University of Louisville, Louisville, KY; ²First Hospital of Jilin University, Changchun, China; and ³Jiangxi Provincial Children's Hospital, Nanchang, China.

#2239  
Poster Board Number .................................................. P115  
**Cardiovascular Toxicity of Trichloroethylene.**  

#2240  
Poster Board Number .................................................. P116  
**Preclinical Assessment of Antiviral Drugs Using Human iPSC-Derived Cardiomyocytes.**  
Sponsor: L. Zhao

#2241  
Poster Board Number .................................................. P117  
**Mechanistic Investigation of Delayed Cardiovascular Effects of an IRAK4 Inhibitor in Monkeys.**  
K. Price¹, H. Shi², M. Huang³, J. Hynes³, W. Warner³, H. Haggerty¹, M. Gill³, and P. Levesque³. ¹Bristol-Myers Squibb Company, New Brunswick, NJ; and ²Bristol-Myers Squibb Company, Lawrenceville, NJ.

#2242  
Poster Board Number .................................................. P118  
**Inhalation of Benzene Exacerbates Pressure Overload–Induced Heart Failure.**  

#2243  
Poster Board Number .................................................. P119  
**Sex-Dependent Effects of Long-Term Waterpipe Smoke Exposure on Atherosclerosis Development in ApoE Knockout Mice.**  

#2244  
Poster Board Number .................................................. P120  
**Multi-modal Cardiac Safety Assessment of Remdesivir Using hiPSC-Derived Cardiomyocytes.**  
Sponsor: L. Zhao

#2245  
Poster Board Number .................................................. P121  
**Vascular Endothelial Injury after Inhalation of Combustion-Derived Environmentally Persistent Free Radicals Is Mediated via AhR Activation.**  
A. Aryal, and T. Dugas. Louisiana State University, Baton Rouge, LA.

#2246  
Poster Board Number .................................................. P122  
**Nutritional Factors Interacting with AhR Signaling to Regulate Markers of Atherogenesis.**  
C. Dahlem¹, S. Y. Kado², Y. He², K. Bein², D. Wu², T. Haarmann-Stemmann³, N. Y. Kado², and C. F. Vogel³. ¹Universität Konstanz, Konstanz, Germany; ²University of California Davis, Davis, CA; and ³Thomas Haarmann-Stemmann, Düsseldorf, Germany.
Thursday, March 18, 11:15 AM to 1:00 PM

Poster Session: Chemical Threats and Bioterrorism

Chair(s): Neera Tewari-Singh, Michigan State University.

Abstract #

#2247

Investigation of the Intravascular Behavior of the Formulated Cyanide Antidote Candidate Dimethyl Trisulfide. K. D. Kelley¹, C. T. Rios¹, M. C. Mann¹, I. K. Warnakula¹, T. De Silva¹, A. C. Whiteman¹, A. Ebrahimpour¹, L. Kiss¹, D. E. Thompson¹, G. A. Rockwood¹, and I. Petrikovics¹. ¹Sam Houston State University, Huntsville, TX; and ²US Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, MD.

#2248

In Vivo Brain Imaging of Microglia following Nerve Agent Exposure Utilizing Two-Photon Microscopy in Mice. M. B. Anderson, and J. Skovira. US Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, MD.

#2249

Delayed Treatment with the Cyclin-Dependent Kinase Inhibitor CR8 Provides Neuroprotection following Nerve Agent-Induced Seizures. A. Methvin, E. Johnson, and J. Skovira. US Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, MD.

#2250

Immediate-Early Gene Expression May Help Explain Hippocampal Neuroprotection of a Novel Phenoxyalkyl Pyridinium Oxime Antidote to Organophosphates. M. Dail, M. L. Brino, and J. E. Chambers. Mississippi State University, Mississippi State, MS.

#2251

A Comparison of In Vitro Reactivation Efficacy of Novel Substituted Phenoxyalkyl Pyridinium Oximes for Organophosphate-Inhibited Human and Rat Acetylcholinesterase. D. Stanford, E. Meek, and J. Chambers. Mississippi State University, Mississippi State, MS.

#2252

Pharmacokinetics of Three Novel Pyridinium Aldoxime Acetylcholinesterase Reactivators in Female Rats. B. S. Backer, E. C. Meek, M. K. Ross, and J. E. Chambers. Mississippi State University, Mississippi State, MS.

#2253

Novel Pyridinium Oximes in Combination with 2-PAM or Another Novel Oxime Potentiate Survival following Organophosphate (OP) Exposure in Rats. E. Meek, and J. Chambers. Mississippi State University, Mississippi State, MS.

#2254


#2255

Predicting Alterations in Lung Function Based on Structural Changes Identified in Live-Animal Imaging following Exposure of Rats to Nitrogen Mustard. A. Murray, J. Andres, A. J. Gow, L. Chao, P. Georgopoulos, J. D. Laskin, and D. L. Laskin. Rutgers, The State University of New Jersey, Piscataway, NJ.

#2256

Oxidative Stress, Metabolic Dysfunction, and Apoptosis in Alveolar Epithelial Type II Cells following Exposure of Rats to Nitrogen Mustard. V. Sunil, K. Vayas, J. Lee, E. Abramova, R. Malaviya, C. Guo, J. Laskin, and D. Laskin. Rutgers, The State University of New Jersey, Piscataway, NJ.
Farnesoid X Receptor Regulates Immune Cell Activation and Recruitment to the Lung following Exposure of Mice to Nitrogen Mustard. T. Banota, A. Murray, A. Sowinski, B. Kong, G. L. Guo, J. D. Laskin, and D. L. Laskin. Rutgers, The State University of New Jersey, Piscataway, NJ.


Analysis of Acute Lung Injury following Nitrogen Mustard Exposure in Mouse Precision-Cut Lung Slices. A. Bellomo, J. Herbert, V. Basaly, A. J. Gow, J. D. Laskin, and D. L. Laskin. Rutgers, The State University of New Jersey, Piscataway, NJ.


Effects of Hydrogen Sulfide on Brain-Lung-Heart Axis. D. Kim, C. Santana, R. Raineri, B. S. Purnell, R. Li, G. F. Buchanan, A. L. Mora, S. Ahmad, and W. K. Rumbeha. University of California Davis, Davis, CA; Iowa State University, Ames, IA; University of Iowa, Iowa City, IA; and University of Alabama, Birmingham, AL.


Chlorinated Tyrosine Adducts as Biomarkers of Chlorine Gas Exposure in a Swine Model. S. Achanta, B. G. Pantazides, B. S. Crow, J. W. Perez, T. A. Blake, and S. E. Jordt. Duke University School of Medicine, Durham, NC; and CDC, Atlanta, GA.

Organophosphate Pesticides as Potent CYP2C19 Inhibitors In Vitro. P. Vignaux, T. Lane, and S. Ekins. Collaborations Pharmaceuticals Inc., Raleigh, NC. Sponsor: R. Moyer
Thursday, March 18, 11:15 AM to 1:00 PM

**Poster Session: Ocular Toxicology**

Chair(s): Mercedes Salvador-Silva, Alcon.

### Abstract #

**#2268**

**Poster Board Number**

Assessment of Corneal Alkali Injury in a Murine Model with Anterior Segment Optical Coherence Tomography (AS-OCT).

J. Lin, J. Luisi, E. R. Kraft, S. A. Giannos, M. E. Schmitz-Brown, M. Motamedi, and P. Gupta. University of Texas Medical Branch at Galveston, Galveston, TX.

**#2269**

**Poster Board Number**

Evaluation of Drug Displacement from Melanin as a Screening Method for Retinal Toxicity.

V. Kostrobzky¹, A. Sheldon², P. Walton³, S. Meloche⁴, K. Stams⁵, and C. Choi⁶. ¹Biogen, Cambridge, MA; and ²Charles River, Worcester, MA.

**#2270**

**Poster Board Number**

Mechanism of Uptake and Cytotoxicity of Belantamab Mafodotin (Belama), an Anti-B Cell Maturation Antigen (BCMA) Antibody Drug Conjugate (ADC), in Primary Human Corneal Epithelial Cells.

C. Taylor¹, C. Newman², P. Riester², M. Burman¹, T. Hoegg², H. Hong¹, J. Parry¹, A. West², and L. Weir¹. ¹GlaxoSmithKline plc, Ware, United Kingdom; ²GlaxoSmithKline plc, Stevenage, United Kingdom; and ³GlaxoSmithKline plc, Upper Providence, PA. Sponsor: L. Weir, EUROTOX

**#2271**

**Poster Board Number**

A 1-Month Toxicology and Biodistribution NHP Pilot Study Evaluating a Single Subretinal Bilateral Administration of SP VN06—A Novel AAV-Based Gene Therapy for the Treatment of Rod-Cone Dystrophies Agnostic of the Causative Mutation.

F. Lorget¹, M. Marie¹, P. Vinot¹, T. Vihletic², R. Boyd³, L. Knupp¹, J. Lamoureux², T. Léveillard³, J. Sahel⁴, and M. Marussig⁴. ¹SparingVision, Paris, France; ²Charles River, Mattawan, MI; ³Institut de la Vision, Paris, France; and ⁴University of Pittsburgh, Pittsburgh, PA.

**#2272**

**Poster Board Number**

Multifocal Electroretinographical Change of Laser-Induced Choroidal Neovascularization Model in Nonhuman Primates.


**#2273**

**Poster Board Number**

Further Optimization of the OptiSafe Nonanimal Test Method.

S. Chavez, and S. Lebrun. Lebrun Labs LLC, Anaheim, CA. Sponsor: G. DeGeorge

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**Thursday, March 18, 1:00 PM to 2:45 PM**

**Poster Session: Air Pollution Toxicology I**

Chair(s): Petra Haberzettl, University of Louisville.

### Abstract #

**#2274**

**Poster Board Number**

Role of Aldo-Keto Reductases in the Nitroreduction of 1-Nitropyrene and 1,8-dinitropyrene.

#2275
Poster Board Number ................................................................. P151
Dose-Dependent Respiratory Impacts of Acrolein and TCE in Allergic Mice and Validation of In Vitro Effects. S. H. Gavett1, S. A. Vance2, P. A. Evansky1, L. B. Copeland1, R. D. Grindstaff1, J. A. Dye1, M. A. Higuchi1, and M. I. Gilmour1. 1US EPA, Research Triangle Park, NC; and 2Oak Ridge Institute for Science and Education, Research Triangle Park, NC.

#2276
Poster Board Number ................................................................. P152
Fine Particulate Matter Comparisons from Households Using Different Fuel Sources. C. Roper1, L. Trine2, D. Barrett1, O. Black1, P. Hystad2, S. Simonich2, and R. Tanguay2. 1University of Mississippi, University, MS; and 2Oregon State University, Corvallis, OR.

#2277
Poster Board Number ................................................................. P153

#2278
Poster Board Number ................................................................. P154
Lung Toxicity Testing of Simulated Military Waste Smoke from Smoldering and Flaming Combustions. Y. Kim1,2, C. King1, I. George1, S. A. Vance1, J. McGee1, M. D. Hays1, M. Higuchi1, S. Gavett1, I. Jaspers1, and I. Gilmour2. 1University of North Carolina at Chapel Hill, Chapel Hill, NC; 2US EPA, Research Triangle Park, NC; and 3Oak Ridge Institute for Science and Education, Research Triangle Park, NC.

#2279
Poster Board Number ................................................................. P155

#2280
Poster Board Number ................................................................. P156
Burn Pit Emissions Generated from Flaming and Smoldering Temperatures Induce Variable Toxicity on Human Respiratory Cells. K. L. Rogers1, T. Mascenik1, Y. Kim2, I. Gilmour2, S. Randell1, and I. Jaspers1. 1University of North Carolina at Chapel Hill, Chapel Hill, NC; and 2US EPA, Research Triangle Park, NC.

#2281
Poster Board Number ................................................................. P157
Mechanisms Underlying Wood Smoke Particulate Matter Induced MUC5AC Overproduction, and a Novel Mucosuppressing Agent. T. A. Memon, N. D. Nguyen, and C. A. Reilly. University of Utah, Salt Lake City, UT.

#2282
Poster Board Number ................................................................. P158
Wood Smoke Exposure Effects in Trans-Epithelial Exposed Fibroblasts. N. Mallek1, and S. McCullough2. 1University of North Carolina at Chapel Hill, Chapel Hill, NC; and 2US EPA, Research Triangle Park, NC.

#2283
Poster Board Number ................................................................. P159
Daily Variation of Air Pollutants Near an Elevated Highway System in Syracuse, NY. S. Zangari1, M. Kong2, J. Zhang2, and J. E. Mirowsky. 1SUNY College of Environmental Science and Forestry, Syracuse, NY; and 2Syracuse University, Syracuse, NY.

#2284
Poster Board Number ................................................................. P160
An Integrated Strategy for Identifying Volatile Organic Compounds of High Concern Near Petrochemical Industrial Parks in Taiwan. C. Hsu1, P. Wu1, Y. Chen1, Y. Lin1, and P. Lin1. 1Ming Chi University of Technology, New Taipei City, Taiwan; 2National Health Research Institutes, Zhunan, Taiwan; and 3National Yang-Ming University, Taipei, Taiwan.

#2285
Poster Board Number ................................................................. P161
#2286 Poster Board Number ................................. P162
Splitting Fine Particulate Matter (PM$_{2.5}$) Filters: Comparison of Chemical Composition and Oxidative Potential between Filter Pieces.  A. M. Sidwell, and C. Roper. University of Mississippi, University, MS.

#2287 Poster Board Number ................................. P163

#2288 Poster Board Number ................................. P164

#2289 Poster Board Number ................................. P165
Gunshot Residue Collection and Analysis Methods for Airborne and Direct Contact Samples.  S. C. Smith, O. Black, and C. Roper. University of Mississippi, University, MS.

#2290 Poster Board Number ................................. P166
Pulmonary Exposure of Mice to Perfluoro-2-Propoxy Propanoic Acid (GenX) Transforms Alveolar Macrophages from a Pro-Inflammatory Phenotype to a Proliferative Phenotype.  H. Lee, D. You, A. Taylor-Just, D. Sheinhains, K. Linder, and J. Bonner. North Carolina State University, Raleigh, NC.

#2291 Poster Board Number ................................. P167
The Effect of Particulate Uranium on the Reactivity and Cellular Toxicity of Uranium (VI) in A549 Lung Epithelial Cells.  E. El Hayek, S. Medina, J. Guo, A. Noureddine, K. Zychowski, R. Hunter, C. Velasco, A. Brearley, M. Spilde, T. Howard, F. Lau, G. Herbert, M. Wiesse, S. Burchiel, M. Campen, and J. Cerrato. 1 University of New Mexico College of Pharmacy, Albuquerque, NM; 2 University of New Mexico, Albuquerque, NM; and 3 University of New Mexico College of Nursing, Albuquerque, NM.

#2292 Poster Board Number ................................. P168
Exposure to Traffic-Generated Air Pollution Increases Angiotensin II Pathway Signaling, Lipid Accumulation, and Inflammation in C57Bl/6 Mice and 3T3-L1 Adipocytes, Which Is Exacerbated by Consumption of a High-Fat Diet.  A. K. Lund and U. Suwannasual. University of North Texas, Denton, TX.

#2293 Poster Board Number ................................. P169

#2294 Poster Board Number ................................. P170
Exposure to Traffic-Generated Pollutants Exacerbates the Expression of Factors Associated with the Pathophysiology of Alzheimer's Disease in Aged C57BL/6 Wild-Type Mice.  T. Armstrong, U. Suwannasual, and A. K. Lund. University of North Texas, Denton, TX.

#2295 Poster Board Number ................................. P171
Toxicity Induced by 9,10-phenanthrenequinone in Human Lung Epithelial Calu-1 Cells via Mitochondrial Dysfunction and Oxidative/ER Stress Pathways.  Y. An, Y. Jan, D. E. Beck, D. L. Laskin, and J. D. Laskin. 1 Rutgers, The State University of New Jersey, Piscataway, NJ; and 2 New York Medical College, Valhalla, NY.

#2296 Poster Board Number ................................. P172
 Omega-3 Fatty Acids Modify the Ambient PM\textsubscript{2.5} and Ozone-Induced Inflammation and Fibrinolysis in Young Healthy Adults. H. Tong\textsuperscript{1}, S. Zhang\textsuperscript{1}, W. Shen\textsuperscript{1}, H. Chen\textsuperscript{1}, and J. M. Samet\textsuperscript{1}. \textsuperscript{1}US EPA, Research Triangle Park, NC; \textsuperscript{2}Helmholtz Zentrum München, Neuherberg, Germany; and \textsuperscript{3}Oak Ridge Institute for Science and Education, Oak Ridge, TN.

 Oxidative Stress or Inflammatory Reaction in a Human Colorectal Cell Line or a Human Keratinocyte Cell Line Treated \textit{In Vitro} with 5- or 50 mm Diameter Polyethylene. J. Jo\textsuperscript{1}, R. Gautam\textsuperscript{1}, A. Maharjan\textsuperscript{1}, M. Acharya\textsuperscript{1}, D. Lee\textsuperscript{1}, C. Kim\textsuperscript{1}, H. Kim\textsuperscript{1}, and Y. Heo\textsuperscript{1}. \textsuperscript{1}Daegu Catholic University, Gyeongsan, Korea, Republic of; and \textsuperscript{2}Catholic University of Korea College of Medicine, Seoul, Korea, Republic of.

 Exposure to Concentrated Ambient Particles Promotes Telomere Length Shortening in Multiple Murine Cell Types. J. Zhao, D. Gomes, and T. O'Toole. University of Louisville, Louisville, KY.

 Rodent and Human TRPA1, V1, and V3 Have Differential Responses to Prototypical and Particulate Matter Agonists. J. G. Lamb, C. Deering-Rice, and C. A. Reilly. University of Utah, Salt Lake City, UT.

 Aberrant Pulmonary Mechanics during Ozone-Induced Exacerbation of Acute Lung Injury in a Rodent Model of Sepsis. J. Radbel\textsuperscript{1}, O. Le-Hoang\textsuperscript{1}, E. Abramova\textsuperscript{2}, K. Vayas\textsuperscript{3}, J. Laskin\textsuperscript{2}, R. Panettieri Jr.\textsuperscript{1}, A. Gow\textsuperscript{2}, and D. L. Laskin\textsuperscript{2}. \textsuperscript{1}Rutgers Robert Wood Johnson Medical School, New Brunswick, NJ; and \textsuperscript{2}Rutgers Ernest Mario School of Pharmacy, Piscataway, NJ.

 Compartment-Specific Transcriptomics of Ozone-Exposed Murine Lungs Reveals Sex- and Cell Type-Associated Perturbations Relevant to Mucoinflammatory Lung Diseases. I. Choudhary, T. Vo, K. Paudel, S. Patial, and Y. Saini. Louisiana State University, Baton Rouge, LA.

 Dietary Supplementation with Fish Oil or Olive Oil and Respiratory and Cardiovascular Effects of Exposure to Ozone in Human Subjects. H. Chen\textsuperscript{1}, W. Shen\textsuperscript{1}, H. Tong\textsuperscript{1}, and J. M. Samet\textsuperscript{1}. \textsuperscript{1}Oak Ridge Institute for Science and Education, Oak Ridge, TN; \textsuperscript{2}Bowling Green State University, Bowling Green, OH; and \textsuperscript{3}US EPA, Research Triangle Park, NC.

 Systematic Review of the Association between Long-Term Exposure to Ambient Fine Particulate Matter and Mortality. R. L. Prueitt\textsuperscript{1}, W. Li\textsuperscript{2}, J. Zhou\textsuperscript{2}, and J. E. Goodman\textsuperscript{2}. \textsuperscript{1}Gradient, Seattle, WA; and \textsuperscript{2}Gradient, Boston, MA.
#2306  
**Poster Board Number**  
Social Isolation but Not Mild Chronic Stress during Early Life Exacerbate Ozone-Induced Metabolic and Immunological Effects in Rats.  
_A. R. Henriquez_\(^1\), _S. J. Snow_\(^1,2\), _M. C. Schladweiler_\(^1\), _C. N. Miller_\(^1\), and _U. P. Kodavanti_\(^1\).  
\(^1\)US EPA, Research Triangle Park, NC; and \(^2\)ICF International Inc., Durham, NC.

#2307  
**Poster Board Number**  
Neuroendocrine Aspect of Ozone Adaptation at Lung and Systemic Level: The Influence of One-Month Glucocorticoid Pretreatment.  
_U. P. Kodavanti_\(^1\), _S. J. Snow_\(^2\), _M. C. Schladweiler_\(^1\), _C. N. Miller_\(^1\), and _A. R. Henriquez_\(^1\).  
\(^1\)US EPA, Research Triangle Park, NC; and \(^2\)ICF International Inc., Durham, NC.

#2308  
**Poster Board Number**  
The Chemerin/ChemR23 Axis Regulates Ozone-Induced Lung Injury.  
_S. Varikuti_\(^1\), _M. Yaeger_\(^1\), _E. Stewart_\(^2\), _B. Kilburg-Basnyat_\(^1\), _A. Pal_\(^1\), _K. Dunigan_\(^1\), _R. Shaikh_\(^3\), and _K. M. Gowdy_\(^1\).  
\(^1\)Ohio State University, Columbus, OH; \(^2\)East Carolina University, Greenville, NC; and \(^3\)University of North Carolina at Chapel Hill, Chapel Hill, NC.

#2309  
**Poster Board Number**  
Phenotypic Analysis of Macrophages in Human Sputum after Ozone Exposure.  
Rutgers, The State University of New Jersey, Piscataway, NJ.

#2310  
**Poster Board Number**  
Fine Particulate Matter Exposure–Induced Adipose Tissue Changes in Diet-Induced Obesity and Light-Induced Circadian Dyssynchrony.  
P. Haberzettl, _D. J. Conklin_, _L. G. Haberzettl_, and _J. L. Hellmann_.  
University of Louisville, Louisville, KY.

#2311  
**Poster Board Number**  
Role of Gestational Respiratory Syncytial Virus and Ultrafine Particle Exposure on Maternal Infection and Offspring Outcomes.  
Texas A&M University, College Station, TX.

#2312  
**Poster Board Number**  
Impacts of Gestational Ozone Exposure on Placental Development and Vascularization.  
University of New Mexico, Albuquerque, NM.

#2313  
**Poster Board Number**  
Vesicular and Extravesicular Protein Signatures from the Airspaces of Ozone-Exposed Mice Reflect Muco-Inflammatory Disturbances.  
_T. Vo_\(^1\), _I. Choudhary_\(^1\), _K. Paudel_\(^1\), _R. Gupta_\(^2\), _K. Mehmet_\(^1\), _S. Patial_\(^1\), and _Y. Saini_\(^1\).  
\(^1\)Louisiana State University School of Veterinary Medicine, Baton Rouge, LA; and \(^2\)University of North Carolina at Chapel Hill, Chapel Hill, NC.

#2314  
**Poster Board Number**  
Diesel Exhaust Particles Reduce Airway Epithelial Barrier Integrity through a Reduction of the Tight Junction Protein Tricellulin.  
_T. Smyth_, and _S. Georas_.  
University of Rochester, Rochester, NY.

#2315  
**Poster Board Number**  
In Utero Ultrafine Particulate Matter Exposure Leads to Enhanced Murine Neonatal RSV Infection Severity.  
Texas A&M University, College Station, TX.

#2316  
**Poster Board Number**  
Sub-Cytotoxic Effects of Diesel Exhaust Particles and Woodsmoke in an Organotypic Model of the Human Alveolus.  
_A. E. Simmons_\(^1\), _E. Vitucci_\(^1\), _E. Aungst_\(^2\), and _S. McCullough_\(^2\).  
\(^1\)University of North Carolina at Chapel Hill, Chapel Hill, NC; and \(^2\)US EPA, Research Triangle Park, NC.

#2317  
**Poster Board Number**  
Identifying the Molecular Mechanisms of Air Pollution-Induced Cardiovascular Disease.  
_E. Vitucci_\(^1\), and _S. McCullough_\(^2\).  
\(^1\)University of North Carolina at Chapel Hill, Chapel Hill, NC; and \(^2\)US EPA, Research Triangle Park, NC.
Air Quality Monitoring in North Brooklyn Neighborhoods. M. Chaves¹, S. Kwon¹, G. Abreu², E. Huang³, A. Buissereeth², L. Goodman³, G. Thurston², and J. Zelikoff¹. New York University, New York, NY; and North Brooklyn Neighbors, Brooklyn, NY.


Toxicological Characterization of Traffic-Related Air Pollution in Five Distinct Atlanta Locations. H. Bejdic, and C. Watson-Wright. Georgia State University, Atlanta, GA.

Atmospheric 4-Nitrocatechol Exposure Causes Mitochondrial Dysfunction and Induce Apoptosis in the Lung BEAS-2B Cells. F. Khan¹, K. Kwapiszewska¹, A. Romero³, N. Jalal³, K. Rudzinski¹, J. D. Surratt³, and R. Szmigielski¹. Polish Academy of Sciences, Warsaw, Poland; Centro de Investigación Príncipe Felipe, Valencia, Spain; CDI Global China, Shanghai, China; and University of North Carolina at Chapel Hill, Chapel Hill, NC.

Identification of Critical Events and Sensitive Subpopulations in Particulate Matter Controlled Human Exposure Studies. S. S. Lange. Texas Commission on Environmental Quality, Austin, TX.
Thursday, March 18, 1:00 PM to 2:45 PM

Poster Session: Epigenetics

Chair(s): Alexander Suvorov, University of Massachusetts.

Abstract #

#2330  
**Poster Board Number** ................................................................. P206  
**Combined Analysis of DNA Methylation (5mC) and Hydroxymethylation (5hmC) in Adolescent Human Blood Identifies Associations with Prenatal Lead (Pb) Exposure.**  C. A. Rygiel¹, J. M. Goodrich¹, M. Solano-Gonzalezb², A. Mercado-García³, H. Hu³, M. M. Tellez-Rojoc², K. E. Peterson⁴, and D. C. Dolinoy¹. ¹University of Michigan School of Public Health, Ann Arbor, MI; ²National Institute of Public Health, Cuernavaca, Mexico; and ³University of Southern California Keck School of Medicine, Los Angeles, CA.

#2331  
**Poster Board Number** ................................................................. P207  
**Mitochondrial Dysfunction Induces Epigenetic Dysregulation by H3K27 Hyperacetylation to Perturb Active Enhancers in Parkinson’s Disease.**  M. Huang¹, D. Lou¹, A. Charli¹, D. Kong², H. Jin¹, G. Zenitsky², V. Anantharam¹, A. Kanthasamy¹, Z. Wang¹, and A. Kanthasamy¹. ¹Iowa State University, Ames, IA; and ²Johns Hopkins University, Baltimore, MD.

#2332  
**Poster Board Number** ................................................................. P208  

#2333  
**Poster Board Number** ................................................................. P209  
**Quantitative Dose-Response of Liver MicroRNA after Furan Exposure in Rodent Liver, Blood, and Cell Culture.**  G. Nelson¹, G. Carswell¹, C. Swartz², L. Recio², and B. Chorley¹. ¹US EPA, Research Triangle Park, NC; and ²Integrated Laboratory Systems Inc., Research Triangle Park, NC.

#2334  
**Poster Board Number** ................................................................. P210  
**Detrimental Effects of Flame Retardant, PBB153, Exposure on Sperm and Future Generations.**  K. W. Greeson¹, K. L. Fowler², P. M. Estave³, S. K. Thompson¹, C. Wagner⁴, R. C. Edenfield⁴, K. M. Symosko⁵, A. N. Steves², M. E. Marder², M. L. Terrell¹, H. Barton¹, M. Koval², M. Marcus², and C. A. Easley IV. ¹University of Georgia, Athens, GA; ²Emory University, Atlanta, GA; ³Wake Forest School of Medicine, Winston-Salem, NC; and ⁴University of Texas McGovern Medical School, Austin, TX.

#2335  
**Poster Board Number** ................................................................. P211  
**Programming Liver Disease from Developmental Exposure to Cadmium.**  S. D. Moorefield, M. Baptissart, and M. A. Cowley. North Carolina State University, Raleigh, NC.

#2336  
**Poster Board Number** ................................................................. P212  
**Epigenetic Regulation of Autophagy during Pentachlorophenol Exposure in In Vitro Study.**  S. Thota¹, P. Bagam¹, R. Begum¹, W. Dorsey¹, and S. Batra¹. ¹Southern University and A&M College, Baton Rouge, LA; and ²Grambling State University, Grambling, LA.
#2337

**Poster Board Number**

**Broad Utility of the FirePlex Multiplexed Assay Technology in Toxicology.**

Z. Gechtman¹, A. Heuberger², J. Heath¹, A. Perea¹, G. Tajeda¹, E. Atabakhsh¹, M. Tackett¹, J. E. McDuffie¹, and P. Wylie¹. ¹Abcam Inc., Cambridge, MA; ²Abcam Inc., Eugene, OR; ³Janssen Research & Development, San Diego, CA; and ⁴Abcam Inc., Cambridge, United Kingdom.

#2338

**Poster Board Number**

**Alterations in DNA Methylation Patterns among African Americans and Whites Confering Risk to Breast Cancer Susceptibility.**


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**Thursday, March 18, 1:00 PM to 2:45 PM**

**Poster Session: Regulation/Policy**

**Chair(s): Felix Ayala-Fierro, JUUL Labs.**

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**Abstract #**

**#2339**

**Health Impact of E-cigarettes: An Updated Perspective on Characteristics, Compositions, and Toxicological Effects of E-cigarettes for the Most Common Flavors: Tobacco and Menthol/Mint.**

A. Gaurav¹, T. Lamb Jr.², M. Perkins², T. Muthumalage², I. Rahman², and G. Kaur¹. ¹Shoolini University, Solan, India; and ²University of Rochester Medical Center, Rochester, NY.

**#2340**

**Facility Qualification and Study Audits: 2020 and Beyond.**

S. McPherson¹, S. Chan¹, and M. Trimble². ¹WuXi AppTec, Suzhou, China; and ²WuXi AppTec, Tempe, AZ.

**#2341**

**International Regulatory Needs for Acute Toxicity Data.**

J. Strickland¹, A. B. Daniel¹, D. G. Allen¹, N. C. Kleinstreuer², and E. Haugabrooks³. ¹Integrated Laboratory Systems Inc., Research Triangle Park, NC; ²NIEHS/NICEATM, Research Triangle Park, NC; and ³Physicians Committee for Responsible Medicine, Washington, DC.

**#2342**

**Feasibility of Long-Term Social Housing in Male ICR (CD1) Mice When Providing a Complex Environment.**


**#2343**

**Design Features and Elemental Analysis of the Atomizers in Pod Electronic Cigarettes.**


**#2344**

**Estimation of Screening No-Significant-Risk-Levels (NSRLs) and Product Exposure to β-mycene and Pulegone.**

K. Morris-Schaffer. Exponent, Sacramento, CA.

**#2345**

**Predicting Oral Acute Toxicity Using the GHS Additivity Equation.**

J. Hamm¹, D. G. Allen¹, P. Ceger¹, T. Flint², N. C. Kleinstreuer³, L. O’Dell², J. J. Tao³, and A. Lowit². ¹Integrated Laboratory Systems Inc., Research Triangle Park, NC; ²US EPA, Washington, DC; and ³NIEHS/NICEATM, Research Triangle Park, NC.

**#2346**

**Comprehensive Evaluation of Aerosol Constituents in JUUL System Virginia Tobacco 5.0% Using Non-targeted Analysis: Workflow Overview.**

#2347

**Poster Board Number** ................................................................. P223

**Regulatory Status of Pesticide Residues in Cannabis: Implications to Medical Use in Neurological Diseases.** D. Pinkhasova¹, L. Jameson¹, K. Conrow¹, M. Simeone¹, A. P. Davis², T. Wiegers², C. Mattingly², and M. Leung³. ¹Arizona State University West Campus, Glendale, AZ; and ²North Carolina State University, Raleigh, NC.

#2348

**Poster Board Number** ................................................................. P224

**Preventing Pneumoconiosis: Review of a Safe Level for Lifetime Occupational Inhalation Exposure to Mica.** K. W. Fried¹, and P. C. DeLeo². ¹Integral Consulting Inc., Portland, ME; and ²Integral Consulting Inc., Annapolis, MD.

#2349

**Poster Board Number** ................................................................. P225


#2350

**Poster Board Number** ................................................................. P226

**Retrospective Review on In Vitro Phototoxicity Data Generated in 3D Skin Models to Support the Development of New OECD Test Guideline.** H. Kandarova¹2, H. Raabe³, A. Hilberer³, N. Choksi⁴, and D. Allen⁴. ¹Centre of Experimental Medicine SAS, Bratislava, Slovakia; ²Institute of Biochemistry and Microbiology, FCHPT STU, Bratislava, Slovakia; ³Institute for In Vitro Sciences Inc., Gaithersburg, MD; and ⁴Integrated Laboratory Systems Inc., Morrisville, NC.

#2351

**Poster Board Number** ................................................................. P227

**Supporting Efficiencies in Nonclinical Toxicology Studies through Common Templates.** J. Horvath¹, P. Brink², S. Moesgaard³, M. Carfagna⁴, T. Fukushima⁵, S. Lopes⁶, N. Vansell⁷, J. Ingram-Ross⁷, P. Lynch⁷, and B. Emde⁸. ¹Bristol-Myers Squibb Company, New Brunswick, NJ; ²Novo Nordisk A/S, Copenhagen, Denmark; ³Eli Lilly and Company, Indianapolis, IN; ⁴Shionogi & Co. Ltd., Osaka, Japan; ⁵Pfizer Inc., Groton, CT; ⁶Janssen Research & Development, Spring House, PA; ⁷Bristol-Myers Squibb Company, New Brunswick, NJ; and ⁸Boehringer-Ingelheim Pharma GmbH & Co. KG, Biberach, Germany.

#2352

**Poster Board Number** ................................................................. P228

**Policy Initiatives to Support Use and Development of Human Biology-Based Nonclinical Approaches for Drug Development.** E. Baker. Physicians Committee for Responsible Medicine, Washington, DC.
Please note that the listed times for all Poster Sessions reflect US Eastern Daylight Time (UTC -4).

Monday, March 22, 11:15 AM to 1:00 PM

Poster Session: Biological Modeling

Chair(s): Cynthia Wolf, US EPA/ORD.

Abstract # 

#2363

**Factors Influencing Prediction of Bromodichloromethane (BDCM) in Exhaled Breath.**  *E. M. Kenyon,* C. Eklund, J. E. Simmons, and R. A. Pegram. US EPA, Research Triangle Park, NC.

#2364

**Development and Application of a Physiologically Based Pharmacokinetic Model to Predict Oxytetracycline Tissue Distribution and Withdrawal Intervals in Market-Age Sheep.**  *M. Riad*, R. E. Baynes*, L. A. Tell†, J. L. Davis*, F. P. Maunsell*, J. E. Riviere†, and Z. Lin*. 1Kansas State University, Manhattan, KS; 2North Carolina State University, Raleigh, NC; 3University of California Davis, Davis, CA; 4Virginia-Maryland College of Veterinary Medicine, Blacksburg, VA; and 5University of Florida, Gainesville, FL.

#2365

**Development of a Web-Based Interface to Facilitate Nanomedicine Design and Safety Assessment through the Prediction of Biodistribution of Nanoparticles.**  *W. Chou*, Y. Cheng*, J. E. Riviere†, N. A. Monteiro-Riviere†, W. G. Kreyling*, and Z. Lin*. 1Kansas State University, Manhattan, KS; and 2Helmholtz Zentrum München, Munich, Germany.

#2366

**Predicted Binding Sites for Bisphenol S within the Epidermal Growth Factor Receptor.**  *J. Villegas,* E. Ticiani, and A. Veiga-Lopez. University of Illinois at Chicago, Chicago, IL.

#2367

**Assessing Machine-Learning Methods in the Identification and Quantification of Environmental Chemical-Key Event Pairs Associated with Adverse Health Outcomes.**  *H. M. Mortensen* 1US EPA, Research Triangle Park, NC.

#2368

**Assessment and In Vitro-In Vivo Extrapolation of a Mechanistic Dermal Absorption Model.**  *J. Troutman*, A. Hamadeh, and A. Edginton. 1Procter & Gamble, Cincinnati, OH; and 2University of Waterloo, Waterloo, ON, Canada.

#2369

**Interpreting Biomonitoring Data: A Case Study for Ethylene, Ethylene Oxide, and Hemoglobin Adduct.**  *R. Ruiz*, C. Emond, J. Pynn, J. Durant, M. Goers, J. Przybyla, P. J. Kowalski, and Z. J. Li. 1CDC/ATSDR, Atlanta, GA; 2BioSimulation Consulting Inc, Newark, DE; and 3Oak Ridge Institute for Science and Education, Oak Ridge, TN.

#2370

**Bayesian Population Analysis of Age-Related Physiologically Based Pharmacokinetic Model of Pyrethroids in Rats.**  *N. Hsieh* 1California Department of Pesticide Regulation, Sacramento, CA.

#2371

**Toxicokinetics in Rats and Modeling to Support the Interpretation of Biomonitoring Data for Rare-Earth Elements.**  *M. Desrosiers*, G. Pelletier, J. Côté, D. Dieme, A. Nong, and M. Bouchard. 1Université de Montréal, Montreal, QC, Canada; and 2Health Canada, Ottawa, ON, Canada.
Simulating the External-Internal Dose Relationship for Saturable Pharmacokinetic Processes.
Nuventra, Durham, NC; Independent Consultant, Mystic, CT; Corteva Agriscience, Indianapolis, IN; ToxMetrics.com LLC, Midland, MI; and US EPA, Research Triangle Park, NC.

A Physiologically Based Pharmacokinetic Model for Endocrine Active Drugs Administered by the Intranasal Route.
A. E. Loccisano and B. Kerger.
Exponent, Alexandria, VA; and Exponent, Irvine, CA.

In Silico Prediction of Drug-Induced Arrhythmogenic Events Using Tissue Models of the Purkinje-Ventricular System.
M. Yuan and P. Li.
Xinxiang Medical University, Xinxiang, China; and Yunmai Biomedical Research Institute, Xinxiang, China. Sponsor: P. Li, International Society for Computational Biology.

Development of an Interactive Generic Physiologically Based Pharmacokinetic (igPBPK) Modeling Platform to Predict Drug Withdrawal Intervals in Food Animals.
Kansas State University, Manhattan, KS; North Carolina State University, Raleigh, NC; University of California Davis, Davis, CA; Virginia-Maryland College of Veterinary Medicine, Blacksburg, VA; and University of Florida, Gainesville, FL.

Intra- and Interspecies Half-Life Determination of PCBs through Bayesian Hierarchical Modeling.
US EPA/ORD, Research Triangle Park, NC.

A Quantitative Systems Toxicology (QST) Model for Hepatic Steatosis Induction by Carbon Tetrachloride.
Y. Niyonzima, H. Tran, and H. El-Masri.
North Carolina State University, Raleigh, NC; and US EPA, Research Triangle Park, NC.

K. Fairman, M. Li, and A. Lumen.
US FDA/NCTR, Jefferson, AR.
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**Benchmark Concentration (BMC) Analyses of the Effects of Organophosphate Esters (OPEs) on the Phenotype and Function of KGN Human Granulosa Cells.**  
X. Wang, B. F. Hales, and B. Robaire. McGill University, Montréal, QC, Canada.

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**Elucidation of Effects of Mono(2-ethylhexyl) Phthalate and Alternative Plasticizers on Germ and Steroidogenic Cells Using Single Cell High Content Imaging.**  
A. Rajkumar, T. Luu, B. Robaire, and B. Hales. McGill University, Montréal, QC, Canada.

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**High Content Screening Analysis of the Effects of an Environmentally Relevant Mixture of Organophosphate Esters on Human Adreno-Carcinoma Cells (H295R Cells).**  
Z. Li, B. Robaire, and B. Hales. McGill University, Montréal, QC, Canada.

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**In Vitro and In Silico Assessment of the Activation of Chicken Estrogen Receptor α by Bisphenol Analogs.**  
M. Sakata, Y. Yoshinouchi, H. Nakata, E. Kim, and H. Iwata. 1Ehime University, Matsuyama, Japan; 2Kumamoto University, Kumamoto, Japan; and 3Kyung Hee University, Seoul, Korea, Republic of.

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**Development of Battery of In Vitro Assays for High-Throughput Identification of Thyroid Hormone Disrupting Chemicals.**  
R. Liu, A. Martináková, M. Pipal, J. Novák, and K. Hilscherová. Masaryk University, Brno, Czech Republic.

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**Endocrine-Disrupting Chemicals Increase Early Testosterone Surge in Male Rodents.**  

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**Mechanistic Insights into the Toxicity of Mammary Toxicants Using the BCScreen Gene Panel and the TempO-seq Targeted RNA Sequencing Platform.**  
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**The Androgenic Impact of AKR1C3 and the 11-Oxygenated Androgenson Polycystic Ovary Syndrome (PCOS).**  

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**Multi-generational Metabolomics of Bisphenol-A Exposure in C57BL/6J Mice: Sexually Dimorphic Exposure Effects and Connections with the Circadian Clock.**  
L. Bottalico, A. Bansal, A. Briskin, D. Malik, A. Sengupta, R. Simmons, and A. Weljie. 1University of Pennsylvania, Philadelphia, PA; and 2Australian National University, Canberra, Australia. Sponsor: T. Penning.
Reproducibility of Adipogenic Chemical Responses in the 3T3-L1 Pre-Adipocyte Model System: An Interlaboratory Study. C. Kassotis¹, K. Hoffman², E. Atlas³, M. Bondesson⁴, P. Bovolin⁵, S. Fenton⁶, J. Legler⁷, J. Schliezinger⁸, S. Tischkau⁹, A. Veiga-Lopez¹⁰, J. Völker¹¹, and H. Stapleton¹². ¹Wayne State University, Detroit, MI; ²Duke University, Durham, NC; ³Health Canada, Ottawa, ON, Canada; ⁴Indiana University Bloomington, Bloomington, IN; ⁵Università degli Studi di Torino, Torino, Italy; ⁶NIEHS, Research Triangle Park, NC; ⁷Universiteit Utrecht, Utrecht, Netherlands; ⁸Boston University, Boston, MA; ⁹Southern Illinois University, Springfield, IL; ¹⁰University of Chicago, Chicago, IL; and ¹¹Norwegian University of Science and Technology, Trondheim, Norway.

Resveratrol Inhibits TCDD-Mediated Induction of Myeloid-Derived Suppressor Cells and Their Functions. A. C. Rutkovsky, W. Neamah, O. Abdullah, P. Nagarkatti, and M. Nagarkatti. University of South Carolina, Columbia, SC.

Antimicrobial Agent Cetylpyridinium Chloride Inhibits Immune Mast Cell Function. B. Obeng, C. M. Potts, B. E. West, S. R. Weller, S. Sangroula, M. S. Kinney, A. Y. Baez, and J. A. Gosse. University of Maine, Orono, ME.

Systematic Map of the Immune Effects of Hexavalent Chromium (Cr(VI)). D. M. Lehmann¹, A. Sasso², and C. Gibbons². ¹US EPA, Research Triangle Park, NC; and ²US EPA, Washington, DC.

Investigating the Impact of Dermal Triclosan Exposure on the Skin Barrier Integrity. R. Baur, E. Lukomska, H. Shane, L. Weatherly, and S. Anderson. NIOSH, Morgantown, WV.

Antimicrobial Agent Cetylpyridinium Chloride Interferes with Phosphatidylinositol 4,5-Bisphosphate-Protein Interactions in Influenza Infection Fibroblast Model and in Mast Cells. S. R. Weller, and J. Gosse. University of Maine, Orono, ME.

Immunotoxicity Screening to Understand the Impact of Microplastics on Human Health. N. Beijer¹, M. Carlier², H. Wolter², M. Mengelers¹, F. Cassee¹, A. Dehaut³, G. Duflos¹, H. Niemann¹, L. Amaral-Zettler², and Y. Staal¹. ¹Rijksinstituut voor Volksgezondheid en Milieu (RIVM), Bilthoven, Netherlands; ²Nederlands Instituut voor Zeeonderzoek, 't Horntje, Netherlands; and ³ANSES, Boulogne sur mer, France.

Cannabidiol (CBD) Selectively Modulates Monocyte-Derived Proinflammatory Cytokine IL-1β Secretion in Human Monocytes Activated through Toll-Like Receptors (TLRs) 1-9. S. Sermet, J. Li, A. Bach, R. Crawford, and N. Kaminiski. Michigan State University, East Lansing, MI.

The Trichloroethylene Metabolite S-(1,2-dichlorovinyl)-L-cysteine Suppresses Inflammatory Pathways and Cytokine Release in a Macrophage Cell Model. S. M. Harris¹, E. Boldenow², J. Dou¹, K. Bakulski¹, E. Scheeres², E. Schellenboom², and R. Loch-Caruso¹. ¹University of Michigan, Ann Arbor, MI; and ²Calvin University, Grand Rapids, MI.
Alteration in THP-1 Cell Cytokine Production Profiling following In Vitro Exposure to Cyclophosphamide, Cyclosporin, Dexamethasone, or Tacrolimus Representative Immunosuppressants. M. Acharya, J. Jo, A. Maharjan, R. Gautam, D. Lee, and Y. Heo. Daegu Catholic University, Gyeongsan, Korea, Republic of.

Potential Role of AhR in Antibody Production by Human B Cells. M. Bhakta, and C. Sulentic. Wright State University, Dayton, OH.


Thyroid Disrupting Chemicals in Mixture Perturb Thymocyte Differentiation in Xenopus laevis. C. C. McGuire, and J. Robert. University of Rochester School of Medicine and Dentistry, Rochester, NY.


Deoxynivalenol-Activated Caveolae Impair EGFR-Mediated Barrier Protection. K. Kim1, and Y. Moon2. 1Pusan National University Hospital, Busan, Korea, Republic of; and 2Pusan National University, Yangsan, Korea, Republic of.


D9-Tetrahydrocannabinol (THC) and Cannabidiol (CBD) Reduce MCP-1 Production in Interferon Gamma (IFN-g)-Stimulated u251 Human Astrocytes. J. R. Marty, R. B. Crawford, and N. E. Kaminski. Michigan State University, East Lansing, MI.

T Cells from Smokers Show Signs of Aging and Immune Dysfunction. S. N. Martos, M. R. Campbell, A. K. Merder, X. Wang, O. A. Lozoya, and D. A. Bell. NIEHS, Research Triangle Park, NC.

TCDD Inhibits IgG1 Antibody Production In Vivo and In Vitro. A. Nicaise, and B. Kaplan. Mississippi State University, Mississippi State, MS.

A Panel of Antibodies for Identification of Macrophage M1 or M2 Polarization. L. Liu, J. Stokes, W. Tan, and S. B. Pruett. Mississippi State University, Mississippi State, MS.
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Understanding the Response to Drugs That Cause Idiosyncratic Drug Reactions: Leukocyte Changes in Mice Treated with Nevirapine.  
A. Jee, S. Sernoskie, and J. Uetrecht. University of Toronto, Toronto, ON, Canada.

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Incorporation of Cell Membrane Phosphatidylserine with Oxidizable Polyunsaturated DHA Potentiates Alveolar Macrophage Clearance of Toxicant-Induced Cellular Corpses.  

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Single Cell RNA-sequencing Demonstrates Role of Persistent Aryl Hydrocarbon Receptor (AhR) Signaling in Development of Different Hematopoietic Lineages in Humans.  
D. M. Isha Olive Khan, P. W. Karmaus, A. Bach, and N. E. Kaminski. 1Michigan State University, East Lansing, MI; and 2National Institute of Health Sciences, Kawasaki, Japan.

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T. Woodlief, S. Vance, H. Qing, and J. DeWitt. East Carolina University, Greenville, NC.

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The Nrfr2 Activator, tBHQ, Inhibits Early NK Cell Responses to Influenza.  

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Aryl Hydrocarbon Receptor Regulation of T Follicular Helper Cells during Respiratory Viral Infection.  
C. L. Houser. University of Rochester Medical Center, Rochester, NY.

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The Synthetic Food Additive, tert-butylhydroquinone, Impairs the Effector T Cell Response to Influenza Virus through a Nrf2-Dependent, T Cell–Intrinsic Mechanism.  

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Skimune, an In Vitro Human Skin Explant Assay to Predict Adverse Immune Reactions Associated with Cytokine Release.  

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Prenatal Cadmium Exposure Alters Proliferation in Mouse CD4 T Cells via LncRNA Snhg7.  
J. L. McCall, M. E. Varney, S. A. Dziadowicz, C. Hall, K. Blethen, G. Hu, I. Martinez, and J. B. Barnett. 1West Virginia University, Morgantown, WV; and 2Marshall University, Huntington, WV.

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The Response of Natural Killer Cells, B Cells, and T Cells to Influenza Is Diminished In Vitro in the Presence of Arsenic Trioxide.  
L. M. Kaiser, R. Freeborn, A. Boss, and C. Rockwell. Michigan State University, East Lansing, MI.

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Depletion of CCR2 Monocytes Ameliorates Lung Injury and Fibrosis Driven by Surfactant Protein-C Mutation.  
S. Rayavara, B. S. Armstrong, Y. Tomer, M. F. Beers, and A. Venosa. 1University of Utah, Salt Lake City, UT; and 2University of Pennsylvania, Philadelphia, PA.


AhR-Mediated Transcriptional Regulation of the Human Immunoglobulin hs1.2 Enhancer. S. A. White, A. Freiwan, and C. Sulentic. Wright State University, Dayton, OH.

Development of an In Vitro Model of Drug-Induced Toxic Epidermal Necrosis. A. Dickinson¹, D. Carr², A. Olsson-Brown², and M. Pirmohamed². ¹Alcyomics Ltd., Newcastle upon Tyne, United Kingdom; and ²University of Liverpool, Liverpool, United Kingdom. Sponsor: J. Descotes

RNA-Seq Reveals Disturbance of Key Neurodevelopmental Processes in the Human Neural Progenitor Test (hNPT) by Diverse Neurodevelopmental Toxicants. V. C. de Leeuw¹,², C. T. van Oostrom¹, P. F. Wackers¹, J. L. Pennings¹, H. M. Hodemaekers¹, A. H. Piersma¹,², and E. V. Hessel¹. ¹Rijksinstituut voor Volksgezondheid en Milieu (RIVM), Bilthoven, Netherlands; and ²Institute for Risk Assessment Sciences, Utrecht, Netherlands. Sponsor: H. Heusinkveld

Optimization of Human Neural Progenitor Cells for an Imaging-Based High-Throughput Phenotypic Profiling Assay for Developmental Neurotoxicity Screening. M. Culbreth¹, C. Willis¹, J. Nyffeler¹,², R. Brockway¹,², and J. Harrill¹. ¹US EPA, Research Triangle Park, NC; and ²Oak Ridge Institute for Science and Education, Oak Ridge, TN.


Prenatal Citalopram Exposure Promotes Resilience in Offspring Exposed to Maternal Stress. S. A. Erwin¹, M. Dagher¹, K. A. Perrotta¹, H. Yang¹, A. Bonnin², and A. M. Andrews¹. ¹University of California Los Angeles, Los Angeles, CA; and ²University of Southern California, Los Angeles, CA.

Induced Pluripotent Stem Cell-Derived Neural Organoids Generated on Synthetic Hydrogels for Interrogation of Neural Inflammation and Toxicity. W. Richards, J. Zimmermann, J. Handel, S. Visuri, and C. S. Lebakken. StemPharm, Madison, WI.
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A. J. Bullert, and H. Lehmler. University of Iowa, Iowa City, IA.

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A. Kotapalli, J. Akkin Chin Tai, K. Kiper, and J. L. Freeman. Purdue University, West Lafayette, IN.

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M. A. Muhsen, J. Youngs, A. Riu, J. Gustafsson, V. Kondamadugu, E. Garyfalidis, and M. Bondesson. 1Indiana University Bloomington, Bloomington, IN; 2University of Houston, Houston, TX; and 3Karolinska Institutet, Huddinge, Sweden.

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M. D. Neely, L. Prince, S. Xie, H. Kim, M. Aschner, J. Thimmapuram, and A. B. Bowman. 1Vanderbilt University Medical Center, Nashville, TN; 2Purdue University, West Lafayette, IN; and 3Albert Einstein College of Medicine, Bronx, NY.

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L. Koshko, and M. Runge-Morris. Wayne State University, Detroit, MI.

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*E. Kimura*¹,²,³, *M. Kohda*¹,², *F. Maekawa*¹, and *C. Tohyama*²,⁴. ¹National Institute for Environmental Studies, Tsukuba, Japan; ²University of Tokyo, Tokyo, Japan; ³Japan Society for the Promotion of Science, Tokyo, Japan; and ⁴University of Tsukuba, Tsukuba, Japan.

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*R. L. Petroff*,¹,², *G. J. Harry*,¹,³, *T. Richards*,¹,³, *T. Bammler*,¹,³, *K. S. Grant*,¹,²,³, *B. Cruthamel*,¹,³, *N. McKinai*,¹,³, *S. Shum*,¹,³, *J. Jing*,¹,³, *N. Isoherranen*,¹,³, and *T. M. Burbacher*.¹,²,³,⁴. ¹University of Michigan, Ann Arbor, MI; ²University of Washington, Seattle, WA; ³NIEHS, Research Triangle Park, NC; ⁴Washington National Primate Research Center, Seattle, WA; and ⁵Center on Human Development and Disability, Seattle, WA.

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*C. Zong*¹,³, *H. Sato*¹,³, *S. Iwama*¹,³, *B. Schneider*²,³, *M. Urushitani*³, and *G. Ichihara*.¹. ¹Tokyo University of Science, Noda, Japan; ²Université de Paris, Paris, France; and ³Shiga University of Medical Science, Otsu, Japan.

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*r. Pibiri*,¹, G. *Teuns*,¹, H. *Var De Linde*,¹, V. *Urmaliya*,¹, F. *Cools*,¹, H. *Borghys*,¹, A. *Teisman*,¹, and D. J. *Gallacher*.¹. ¹Janssen Pharmaceutica NV, Turnhoutseweg, Belgium; and ²UCB, Braine-l’Alleud, Belgium. Sponsor: G. Teuns, Safety Pharmacology Society

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*J. Wise*, L. *Cai*, and J. P. *Wise*, Sr. University of Louisville, Louisville, KY.

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*C. M. Santana*,¹, D. *Kim*,², and W. K. *Rumbelaha*.¹. ¹Iowa State University, Ames, IA; and ²University of California Davis, Davis, CA.
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**#2472**  
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**Integrated CNS and CV Safety Models in Freely Moving Rodents.** F. Pibiri\(^1\), G. Teuns\(^1\), H. Van De Linde\(^1\), V. Urmaliya\(^2\), R. Vreken\(^1\), S. Youssef\(^3\), H. Borghys\(^1\), A. Teisman\(^1\), and D. Gallacher\(^1\). Janssen Pharmaceutica NV, Turnhoutseweg, Belgium; and \(^2\)UCB, Braine-l’Alleud, Belgium. Sponsor: G. Teuns, Safety Pharmacology Society.

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**Microglial Responses to Inflammatory Cues Are Potentiated by Exposure to Polychlorinated Biphenyls (PCBs) in Rat Primary Culture.** K. A. Walker, A. E. Devaney, K. Kasparian, E. Cudaback, and M. R. Bell. DePaul University, Chicago, IL.

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**#2482**  
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**CSF Proteome as Fluidic Biomarkers of Neurotoxicity.** S. Z. Imam\(^1\), Z. He\(^1\), S. Rogstad\(^4\), S. M. Burks\(^1\), J. Raymick\(^1\), J. P. Hanig\(^2\), D. W. Herr\(^3\), S. Lachenko\(^1\), J. P. O’Callaghan\(^1\), C. Sumps\(^3\), I. D. Pardo\(^1\), J. Pierson\(^3\), R. Roberts\(^2\), M. Aschner\(^6\), M. G. Paule\(^8\), and W. Slikker Jr.\(^1\). US FDA/NCTR, Jefferson, AR; \(^2\)US EPA, Research Triangle Park, NC; \(^3\)NIOSH, Morgantown, WV; \(^4\)Pfizer Inc., Groton, CT; \(^5\)HESI, Washington, DC; \(^6\)University of Birmingham, Birmingham, United Kingdom; \(^8\)Albert Einstein College of Medicine, Bronx, NY; and \(^9\)US FDA/NCTR (Retired), Jefferson, AR.
#2483  **Poster Board Number** ................................................................. P221
**Neurodegeneration Induction in Dopaminergic Neurons of Caenorhabditis elegans Exposed to Electronic Cigarette (E-cig) Constituents.** O. B. Oyetade¹, M. R. Miah², M. Aschner¹, and J. T. Zelikoff¹. ¹New York University, New York, NY; and ²Albert Einstein College of Medicine, Bronx, NY.

#2484  **Poster Board Number** ................................................................. P222

#2485  **Poster Board Number** ................................................................. P223
**Human iPSC-Derived Neural Spheroids Provide a High-Throughput Platform for Early Neurotoxicity Detection.** B. Van Hese¹, K. Prum¹, A. LaCroix¹, N. Coungeris¹, B. Anson¹, O. Guicherit¹, P. Yeh¹, B. Jones², G. J. Smits³, and C. Carromeu¹. ¹StemoniX, Maple Grove, MN; ²Cancer Genetics Inc., Rutherford, NJ; and ³VivoPharm LLC, Hershey, PA.

#2486  **Poster Board Number** ................................................................. P224

#2487  **Poster Board Number** ................................................................. P225

#2488  **Poster Board Number** ................................................................. P226
**Simultaneous Detection of the Bath Salt MDPV and Phasic Dopamine Changes in Rat Brain with Sub-Second Temporal Resolution Using Cyclic Voltammetry.** Q. D. Walker, B. S. Succop, Jr., S. Ergun, and C. M. Kuhn. Duke University School of Medicine, Durham, NC.

#2489  **Poster Board Number** ................................................................. P227
**Dugesia japonica Is the Best Suited of Three Planarian Species for High-Throughput Toxicology Screening.** V. Bochenek, D. Ireland, D. Chaiken, C. Rabeler, S. Onoe, A. Soni, and E. S. Collins. Swarthmore College, Swarthmore, PA.

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**Monday, March 22, 11:15 AM to 1:00 PM**

**Poster Session: Reproductive and Developmental Toxicology I**

**Chair(s):** Maria Szilagyi, Retired.

**Abstract #**

#2490  **Poster Board Number** ................................................................. P228
**Cadmium Exposure and LincRNA Tuna: A Novel Role in the Placenta.** M. D. Simmers, and M. Cowley. North Carolina State University, Raleigh, NC.

#2491  **Poster Board Number** ................................................................. P229
**Sex-Specific Extracellular Matrix Remodeling during Adipogenic Differentiation by Gestational Bisphenol A.** E. Ticiani¹, Y. Pu¹, A. Waye¹, K. Dong², H. Zhang², and A. Veiga-Lopez¹. ¹University of Illinois at Chicago, Chicago, IL; and ²US Department of Agriculture, East Lansing, MI.

#2492  **Poster Board Number** ................................................................. P230
**Comparison of Historical Control Data for Fertility and Early Embryonic Development Toxicity Parameters in Sprague-Dawley Rats from Different Geographical Regions.** D. Zhijia, Y. Shuijin, P. Lei, S. McPherson, and M. Trimble. WuXi AppTec, Suzhou, China.
Poster Board Number .................................................................................................................. P231
Developmental Exposure to Bisphenol S Causes Reproductive Toxicity and Behavioral Changes in C. elegans and NODEF Mice. C. McDonough, and T. L. Guo. University of Georgia, Athens, GA.

Poster Board Number .................................................................................................................. P232

Poster Board Number .................................................................................................................. P233
Peri-Implantation Ozone Exposure Alters Adipose Morphology in Female Offspring of Long-Evans Rats. H. Nguyen¹, C. Miller², E. Stewart³, P. Phillips⁴, K. O’Shaughnessy⁵, and J. Dye⁶. ¹Oak Ridge Institute for Science and Education, Research Triangle Park, NC; and ²US EPA, Research Triangle Park, NC.

Poster Board Number .................................................................................................................. P234

Poster Board Number .................................................................................................................. P235

Poster Board Number .................................................................................................................. P236
Metabolism, Morphological Effects, and Behavioral Alterations following a Developmental Atrazine Exposure in Zebrafish. J. K. Ahkin Chin Tai¹, K. A. Horzmann², and J. L. Freeman¹. ¹Purdue University, West Lafayette, IN; and ²Auburn University, Auburn, AL.

Poster Board Number .................................................................................................................. P237
Both Sex and Prenatal Ozone Exposure Programs Hepatic Sensitivity to a High-Fat Diet in the Adolescent Rat. C. N. Miller¹, E. J. Stewart², M. C. Schladweiler¹, J. H. Richards¹, P. M. Phillips¹, K. L. McDaniel¹, C. J. Gordon¹, U. P. Kodavanti¹, and J. A. Dye¹. ¹US EPA, Research Triangle Park, NC; and ²Oak Ridge Institute for Science and Education, Research Triangle Park, NC.

Poster Board Number .................................................................................................................. P238
Multigenerational and Transgenerational Toxicity in Progeny of Zebrafish (Danio rerio) with Developmental Trichloroethylene (TCE) Exposure. T. E. Abernathy, and K. A. Horzmann. Auburn University, Auburn, AL.

Poster Board Number .................................................................................................................. P239
A Neuroanatomical Mechanism Linking Perinatal Chemical Exposure to Prostate Smooth Muscle Hyperactivity and Altered Voiding Function. A. E. Turco¹, S. R. Oakes¹, K. Keil-Stietz², C. Dunham³, N. Girardi¹, C. Sheftel¹, A. J. Schneider¹, P. Wang¹, Z. Wang¹, T. Chathurvedula¹, D. E. Bjorling¹, W. A. Ricke¹, L. Hernandez¹, A. Bonev¹, N. Tykocki¹, R. Tanguay³, R. E. Peterson¹, and C. M. Vezina¹. ¹University of Wisconsin–Madison, Madison, WI; ²Oregon State University, Portland, OR; ³University of Vermont, Burlington, VT; and ⁴Michigan State University, East Lansing, MI.

Poster Board Number .................................................................................................................. P240

Poster Board Number .................................................................................................................. P241

Poster Board Number .................................................................................................................. P242
#2505  
**Poster Board Number** ................................................................. P243  
**Characterizing the Transcriptomic and Epigenetic Changes Associated with Preconceptional Exposure to BaP.** Z. Pandelides1, C. E. Thornton1, K. Dickson1, D. Decker1, N. Aluru2, and K. L. Willett1. 1University of Mississippi, University, MS; and 2Woods Hole Oceanographic Institution, Woods Hole, MA.

#2506  
**Poster Board Number** ................................................................. P244  
**Zinc Supplementation Rescues Cadmium-Exacerbated, High Fat Diet–Induced NAFLD.** J. L. Young, and C. Lu. University of Louisville, Louisville, KY.

#2507  
**Poster Board Number** ................................................................. P245  
**Comparative Assessment of Alpha-Cypermethrin and Permethrin on Development of the Placenta and Fetal Brain in Mice.** B. Elser, F. Rimi, B. Hing, M. Chimenti, H. Lehmler, and H. Stevens. University of Iowa, Iowa City, IA.

#2508  
**Poster Board Number** ................................................................. P246  
**Knowledge-Driven Approach to Select Relevant Cell Lines for In Vitro Toxicology Studies Using Developmental and Reproductive Toxicology as a Case Study.** E. Janowska-Sejda, R. J. Currie, and Y. Adeleye. Syngenta, Bracknell, United Kingdom.

#2509  
**Poster Board Number** ................................................................. P247  
**Replacement Organophosphate Flame Retardants Cause Short-Term Reproductive and Developmental Toxicity in Sprague Dawley Rats.** S. Witchey1, B. Collins1, G. Roberts1, K. Shockley2, M. Vallant1, E. Mylchreest1, B. Sparrow1, R. Moyer1, T. Guilarte1, and M. Behl1. 1NIH, NTP, Research Triangle Park, NC; 2NIH, Research Triangle Park, NC; and 3Battelle Memorial Institute, Columbus, OH.

#2510  
**Poster Board Number** ................................................................. P248  
**Does Nrf2 Play a Role in the Developmental Toxicity of the Sulfate Metabolite of 3,3’-Dichlorobiphenyl (PCB-11)?** M. A. Roy, C. K. Gridley, S. Li, Y. Park, and A. R. Timme-Laragy. University of Massachusetts Amherst, Amherst, MA.

#2511  
**Poster Board Number** ................................................................. P249  

#2512  
**Poster Board Number** ................................................................. P250  
**Profiling of Heavy Metal Transporters and Stress Response Genes in Human Placentas.** S. Wang1, L. Walker1, E. Barrett1, J. Cui1, and L. M. Aleksunes2. 1West Windsor Plainsboro High School North, West Windsor, NJ; 2Rutgers, The State University of New Jersey, Piscataway, NJ; and 3University of Washington, Seattle, WA.

#2513  
**Poster Board Number** ................................................................. P251  

#2514  
**Poster Board Number** ................................................................. P252  
**Altered Immune Populations Precede Islet Dysfunction following Intrauterine Growth Restriction.** T. Golden1, C. Williams1, G. Worthen1, and R. Simmons1. 1University of Pennsylvania, Philadelphia, PA; and 2Children's Hospital of Philadelphia, Philadelphia, PA.

#2515  
**Poster Board Number** ................................................................. P253  

#2516  
**Poster Board Number** ................................................................. P254  
**Mono-(2-ethylhexyl) Phthalate–Induced Testicular Injury Recruits Peritubular Macrophages That Aid in Recovery of Spermatogenesis.** R. Tiwary, and J. Richburg. University of Texas at Austin, Austin, TX.
Poster Sessions—Monday, March 22

#2517
Poster Board Number ........................................... P255
Clomifene and Assisted Reproductive Technology in Humans Are Associated with Offspring Epigenetic Alterations in Imprinted Control Regions. D. T. Lloyd¹, H. G. Skinner¹, R. Maguire¹, S. K. Murphy², C. Hoyo¹, and J. S. House¹. ¹North Carolina State University, Raleigh, NC; ²Duke University, Durham, NC; and ³NIEHS, Research Triangle Park, NC.

#2517a
Poster Board Number ........................................... P255a
Vaping Inhalation Consequences on Placental and Pup Weight to Determine the Health Effects of Exposure in Maternal Gestation. K. J. Schafner, E. C. Bowdridge, and T. R. Nurkiewicz. West Virginia University, Morgantown, WV.

Monday, March 22, 1:00 PM to 2:45 PM

Poster Session: Bioinformatics

Chair(s): Kumaraswamy Naidu Chitrala, Temple University.

Abstract #

#2518
Poster Board Number ........................................... P256
Deep Learning-Powered Drug-Induced Liver Injury Prediction Using Model-Level Representation. T. Li¹, W. Tong¹, R. Roberts², Z. Liu¹, and S. Thakkar¹. ¹US FDA/NCTR, Jefferson, AR; ²ApconiX, Alderley Park, United Kingdom; and ³US FDA/CDER, Silver Spring, MD.

#2519
Poster Board Number ........................................... P257

#2520
Poster Board Number ........................................... P258

#2521
Poster Board Number ........................................... P259

#2522
Poster Board Number ........................................... P260
Pharmacophore, Ligand-Based, and Molecular Modeling Approach to Predict Novel Therapeutic Targets in Breast Cancer for Resveratrol. S. Yeguvapalli¹, and K. Chitrala². ¹Sri Venkateswara University, Tirupati, India; and ²Temple University, Philadelphia, PA.

#2523
Poster Board Number ........................................... P261
DeePrescribing: A Deep Learning Framework for Predicting Drug-Drug Interactions. Z. Liu¹, R. Roberts², and W. Tong¹. ¹US FDA/NCTR, Jefferson, AR; and ²ApconiX, Alderley Edge, United Kingdom.

#2524
Poster Board Number ........................................... P262

#2525
Poster Board Number ........................................... P263
Subchronic Cellulose Nanofibril Exposure Moderates Gut Microbiome and Predicted Metagenomic Functional Content. H. S. Xu. University of Georgia, Athens, GA.
#2526  
**Poster Board Number**: P264  

#2527  
**Poster Board Number**: P265  
**Use of CEBSR API for Advanced Searching across NTP Study Data.** E. R. Sheridan¹, A. Chen¹, C. Martini¹, E. Erdenepil¹, G. Segura¹, and J. Fostel¹. ¹ASRC Federal Vistronix, Morrisville, NC; and ²NIEHS/NTP, Research Triangle Park, NC. Sponsor: M. Hooth.

#2528  
**Poster Board Number**: P266  

#2529  
**Poster Board Number**: P267  
**Using a High-Throughput Screening Method to Pinpoint Genetic Mechanisms That Lead to Individual Susceptibility Differences in a Genetically Diverse Zebrafish Model.** D. J. Wallis¹, J. La Du², P. Thunga¹, L. Truong², R. Tanguay², and D. Reif². ¹North Carolina State University, Raleigh, NC; and ²Oregon State University, Corvallis, OR.

#2530  
**Poster Board Number**: P268  
**Drugshot, an Appyter for Querying Biomedical Search Terms to Receive Prioritized Lists of Small Molecules.** E. Kropiwnicki, D. J. Clarke, A. Lachmann, and A. Ma’ayan. Icahn School of Medicine at Mount Sinai, New York, NY. Sponsor: A. Ma’ayan, Society of Environmental Toxicology and Chemistry.

#2531  
**Poster Board Number**: P269  
**Mapping of a Highly Repetitive Enhancer Region within the IGH Gene Using Long-Read-Single Molecule Nanopore Sequencing.** C. P. Allex-Buckner, A. Snyder, and C. Sulentic. Wright State University, Dayton, OH.

#2532  
**Poster Board Number**: P270  
**Characterization of Chemical Mechanisms-of-Action by Transcriptional Perturbagen Network Analysis and 3D Visualization.** D. Mav¹, A. Ross¹, M. Balik-Meisner¹, D. Phadke¹, D. Taxman¹, C. Wimberley¹, R. Shah¹, S. Auerbach², A. Merrick², M. DeVito², and W. Gwinn². ¹Sciome LLC, Research Triangle Park, NC; and ²NIEHS/NTP, Research Triangle Park, NC.

#2533  
**Poster Board Number**: P271  
**The Regulatory Effects in Intestinal- and Diffuse-Type Gastric Cancer and RNA Virus Infection Pathway.** S. Tanabe¹, S. Quader², R. Ono¹, H. Cabral¹, K. Aoyagi², A. Hirose¹, E. Perkins², H. Yokozaki³, and H. Sasaki³. ¹National Institute of Health Sciences, Kawasaki, Japan; ²Innovation Center of NanoMedicine, Kawasaki, Japan; ³University of Tokyo, Tokyo, Japan; ⁴National Cancer Center Research Institute, Tokyo, Japan; ⁵US Army, Washington, DC; and ⁶Kobe University of Graduate School of Medicine, Kobe, Japan.

#2534  
**Poster Board Number**: P272  
**Deep Learning on High-Throughput Transcriptomics to Predict Drug-Induced Liver Injury.** T. Li¹, W. Tong¹, R. Roberts², Z. Liu¹, and S. Thakkar¹. ¹US FDA/NCTR, Jefferson, AR; ²ApconiX, Alderley Park, United Kingdom; and ³US FDA/CDER, White Oak, MD.
Abstract #

#2535  Poster Board Number .......................................................... P273

#2536  Poster Board Number .......................................................... P274
Morphometric Feature Selection for the High-Throughput Image-Based Chemical Phenotyping of Per- and Polyfluoroalkyl Substances. N. Cemaloglu, A. Tapaswi, C. Forté, and J. Colacino. University of Michigan School of Public Health, Ann Arbor, MI.

#2537  Poster Board Number .......................................................... P275
In Silico Modeling of Bisphenols: Pregnancy-Specific Physiologically Based Toxicokinetic Models for BPA and BPS. D. Filipovic, J. Gingrich, S. Bhattacharya, and A. Veiga-Lopez. 1Michigan State University, East Lansing, MI; and 2University of Illinois at Chicago, Chicago, IL.

#2538  Poster Board Number .......................................................... P276

#2539  Poster Board Number .......................................................... P277
Development of a Physiologically Based Pharmacokinetic (PBPK) Model for Meloxicam in Broiler Chickens and Laying Hens. L. Yuan, W. Chou, M. H. Riad, Y. Cheng, L. A. Tell, R. E. Baynes, J. L. Davis, F. P. Maunsell, J. E. Riviere, and Z. Lin. 1Kansas State University, Manhattan, KS; 2University of California Davis, Davis, CA; 3North Carolina State University, Raleigh, NC; 4Virginia-Maryland College of Veterinary Medicine, Blacksburg, VA; and 5University of Florida, Gainesville, FL.

#2540  Poster Board Number .......................................................... P278

#2541  Poster Board Number .......................................................... P279

#2542  Poster Board Number .......................................................... P280

#2543  Poster Board Number .......................................................... P281

#2544  Poster Board Number .......................................................... P282
Bridging the Gap between In Vitro Assays and Real World Patient Data with Novel Statistical Models. D. Wang, and Z. Lu. US FDA/NCTR, Jefferson, AR.
Trade-Off Predictivity and Explainability for ML-Powered Predictive Toxicology: An In-Depth Investigation with Tox21 Datasets. L. Wu\textsuperscript{1}, R. Huang\textsuperscript{2}, J. Xu\textsuperscript{1}, and W. Tong\textsuperscript{1}. \textsuperscript{1}US FDA/NCTR, Jefferson, AR; and \textsuperscript{2}NIH/NCATS, Rockville, MD.


Adverse Outcome Pathways and Computational Toxicology Applications of a Multi-database Review of Retinoid Signaling in Skeletal Development. J. D. Pierro\textsuperscript{1}, N. Baker\textsuperscript{2}, and T. Knudsen\textsuperscript{1}. \textsuperscript{1}US EPA, Research Triangle Park, NC; and \textsuperscript{2}Leidos, Research Triangle Park, NC.

Bridging In Vitro DDE Obesogenicity Data with Epidemiologic Studies through the Use of Biological Modeling. S. Bloch, and M. Verner. Université de Montréal, Montréal, QC, Canada.

Dexter: A Semi-Automated Data Extraction Tool to Support Literature-Based Health Assessments. V. R. Walker\textsuperscript{1}, A. J. Nowak\textsuperscript{2}, C. S. Schmitt\textsuperscript{1}, M. S. Wolfe\textsuperscript{1}, A. R. Williams\textsuperscript{3}, and A. A. Rooney\textsuperscript{1}. \textsuperscript{1}NIEHS, Research Triangle Park, NC; \textsuperscript{2}Evidence Prime, Krakow, Poland; and \textsuperscript{3}ICF International Inc., Research Triangle Park, NC.

Construction of a AOP Network Related to Metabolism Disorders Induced by an Endocrine-Disrupting Chemical Mixture Using Artificial Intelligence and Systems Toxicology. E. Zgheib\textsuperscript{1}, M. Kim\textsuperscript{1}, F. Jornod\textsuperscript{1}, E. Blanc\textsuperscript{1}, K. Bernal\textsuperscript{1}, X. Coumoul\textsuperscript{1}, N. Benhajkassen\textsuperscript{1}, C. Rousselle\textsuperscript{1}, R. Barouki\textsuperscript{1}, and K. Audouze\textsuperscript{1}. \textsuperscript{1}Université de Paris, Paris, France; and \textsuperscript{2}ANSES, Paris, France.

Atomic Contribution Mapping and Exploration with Reverse Fingerprinting (ACME-RF): Assigning Toxicological Endpoints to Chemical Structure at Atomic Resolution. M. R. Goldsmith\textsuperscript{1}, C. Williams\textsuperscript{2}, and D. T. Chang\textsuperscript{1}. \textsuperscript{1}US EPA, Research Triangle Park, NC; and \textsuperscript{2}Chemical Computing Group ULC, Montréal, QC, Canada.


An Expert-Driven Literature Review of “Negative” Reference Chemicals for Developmental Neurotoxicity (DNT) Assay Evaluation. M. M. Martin\textsuperscript{1}, N. C. Baker\textsuperscript{2}, W. K. Boyes\textsuperscript{3}, K. E. Carstens\textsuperscript{1}, M. E. Culbreth\textsuperscript{1}, M. E. Gilbert\textsuperscript{1}, J. A. Harrill\textsuperscript{1}, J. Nyffeler\textsuperscript{1}, S. Padilla\textsuperscript{1}, K. Paul-Friedman\textsuperscript{1}, and T. J. Shafer\textsuperscript{1}. \textsuperscript{1}US EPA, Research Triangle Park, NC; and \textsuperscript{2}Leidos, Research Triangle Park, NC.


Binding Site Complementarity and Screening Data Analysis to Identify Off-Target Propensity: A Case Study from Global Kinase Panel Screening. A. Basu\textsuperscript{1}, K. Yonemori\textsuperscript{2}, Y. Dragon\textsuperscript{1}, and T. Yukawa\textsuperscript{3}. \textsuperscript{1}Takeda Pharmaceuticals International Inc., Cambridge, MA; and \textsuperscript{2}Takeda Pharmaceuticals International Inc., Fujisawa, Japan.

Downsampling Expression Dose-Response Modeling: Discovery versus Money. D. T. Lloyd, J. S. House, F. Grimm, A. Motsinger-Reif, F. Wright, and I. Rusyn. North Carolina State University, Raleigh, NC; NIEHS, Research Triangle Park, NC; ExxonMobil Biomedical Sciences Inc., East Annandale, NJ; and Texas A&M University, College Station, TX.


Development of FAIRTox, an Interactive R-Based Application for the Exploration, Visualization, and Reanalysis of Toxicogenomic Data. J. Dodson, R. Nault, and T. Zacharewski. Michigan State University, East Lansing, MI.

High-Throughput Screening to Predict hERG Inhibition. S. Krishna, A. Borrel, R. Huang, J. Zhao, M. Xia, and N. Kleinstreuer. NIEHS/NTP, Research Triangle Park, NC; Independent Consultant, Research Triangle Park, NC; NIH/NCATS, Bethesda, MD; and NIEHS/NICEATM, Research Triangle Park, NC.


Combining In Silico Structure-Based Methods and Enrichment Analysis to Increase Confidence in HTS Results: Application to Tox21 TRHR Assay. M. Shobair, A. M. Richard, D. Chang, R. Lougee, K. Paul Friedman, and C. Grulke. US EPA/ORD, Research Triangle Park, NC; Oak Ridge Institute for Science and Education Center, Research Triangle Park, NC.


Abstract #

#2569  

#2570  
**Health Risk Assessment Challenges of Handling and Disposal of Electronic Waste (E-waste).** B. Fowler¹, B. Sonawane¹, A. M. Kadry¹, and J. Kancharla¹. ¹Toxicology and Risk Assessment Consulting Services, North Potomac, MD; and ²University of Maryland, College Park, MD.

#2571  
**Health Assessment of Sodium and Potassium Salts of Inorganic Phosphates.** D. D. Petersen. US EPA, Cincinnati, OH.

#2572  
**Are Environmental Phenols and Parabens in Food Chain Risk Factors for Prostate Cancer?** D. Alwadi, and A. Deoraj. Florida International University, Miami, FL.

#2573  
**Species Differences in Phenobarbital-Mediated UGT Gene Induction in Rat and Human Liver 3D Microtissues.** S. Plummer, B. Beaumont, S. Wallace, M. Elcombe, R. Currie, and D. Cowie. MicroMatrices, Dundee, United Kingdom.

#2574  
**Investigating the Transfer Rate of Waterpipe Additives to Smoke as an Integral Part of Toxicological Risk Assessments.** J. C. Miller Holt¹, J. Gafner¹, C. Hirn¹, T. Paschke¹, and B. Mayer-Helm². ¹JT International SA, Geneva, Switzerland; and ²Oekolab Gesellschaft Fuer Umweltanalytik Ges.m.b.H., Vienna, Austria.

#2575  
**Zinc Deficiency Exacerbated Bisphenol A Toxicity in Rat Testis.** C. Sahu, and G. Jena. National Institute of Pharmaceutical Education and Research, Mohali, India.

#2576  
**Noncancer Health Effects from Exposure to PCB Mixtures.** L. M. Carlson¹, K. Christensen¹, R. M. Shaffer¹, J. Trgovcich², R. Silva², C. Lin², and G. M. Lehmann¹. ¹US EPA, Research Triangle Park, NC; and ²ICF International, Research Triangle Park, NC.

#2577  
**Influence of Transcriptomic Descriptors on the Generalized Read-Across (GenRA) Performance.** T. A. Tate, G. Patlewicz, J. Wambaugh, and I. Shah. US EPA, Research Triangle Park, NC.
A Framework for Establishing Occupational Exposure Limits for Medicinal Enzymes.  A. Buerger1, C. Boles1, J. Reichard2, E. Fung3, C. Dahm4, K. Schmid4, H. Freitag5, and A. Maier1. 1Cardno ChemRisk, Blue Ash, OH; 2University of Cincinnati, Cincinnati, OH; 3Cardno ChemRisk, Aliso Viejo, CA; and 4Vetter Pharma, Ravensburg, Germany.


Scanning Chemical Analysis and Toxicological Screening of an E-cigarette Aerosol.  C. Hirn1, S. Hofer2, D. Mucs1, A. Coulot1, and I. Abraham1. 1Japan Tobacco International, Geneva, Switzerland; and 2Japan Tobacco International, Vienna, Austria.

Derivation of an Oral Cancer Slope Factor for 4-Chlorobenzotrifluoride Utilizing Data from NTP Inhalation Studies in Rats and Mice.  B. J. Lampe. NSF International, Ann Arbor, MI.

Application of Meta-Analysis to Derivation of Points-of-Derivation for Short-Term Inhalation Exposure Levels of Hazardous Chemicals.  A. J. Prussia, and E. Demchuk. CDC/ATSDR, Atlanta, GA.


Inhalation Cancer Weight of Evidence for Vinyl Bromide Based on Limited Chemical-Specific Data Supported by a Common Mechanism across a Chemical Class.  J. P. Kaiser1, K. Zaccaria2, and M. Odin2. 1US EPA, Cincinnati, OH; and 2SRC Inc., North Syracuse, NY.

Optimizing the Use of Toxicokinetics to Build the Case for Elimination of Dog as a Required Species for Agrochemical Toxicity Testing.  L. Murphy, J. Domoradzki, R. Mingoia, Z. Yan, and C. Terry. Corteva Agriscience, Indianapolis, IN.

Setting Occupational Exposure Limits for Antimicrobial Agents: A Case Study Based on a Quaternary Ammonium Compound-Based Disinfectant.  J. T. Lotter1, G. S. Dotson2, R. E. Zisook3, S. H. Gaffney4, A. Maier2, and J. Colvin1. 1Cardno ChemRisk, Chicago, IL; 2Cardno ChemRisk, Cincinnati, OH; 3Cardno ChemRisk, San Francisco, CA; and 4Cincinnati Children's Hospital Medical Center, Cincinnati, OH.
#2589
Poster Board Number .............................................................. P327
**Rodent Triggered Range-Finding (TRF) Study Design and 3Rs in Testing Agrochemicals.** S. Ganesan
1, P. Mukerji1, D. Anderson1, M. Fallers1, L. Murphy1, M. Corvaro1, and M. Aggarwal1. 1Corteva Agriscience, Newark, DE; 2Corteva Agriscience, Indianapolis, IN; and 3Corteva Agriscience, Milano, Italy.

#2590
Poster Board Number .............................................................. P328
**Analytical Method Development for Transfer Testing from Smokeless Nicotine Pouches and the Elution Profiles of Nicotine and Flavors under Different Conditions.** M. Sakimura1, M. Miyachi1, M. Furukoshi1, K. Kobayashi1, K. Sasaki1, C. Hiri1, and I. Abraham1. 1JT International SA, Geneva, Switzerland; 2Japan Tobacco Inc., Kanagawa, Japan; and 3Japan Tobacco Inc., Tokyo, Japan.

#2591
Poster Board Number .............................................................. P329

#2592
Poster Board Number .............................................................. P330
**A Systematic Screening Hazard Identification Process for Versatile Implementation in Bespoke Human Health Risk Assessment Paradigms.** A. J. Bernal1, and L. R. Neilson2. 1ToxCreative LLC, Laguna Hills, CA; and 2Broughton Nicotine Services, Earby, United Kingdom.

#2593
Poster Board Number .............................................................. P331

#2594
Poster Board Number .............................................................. P332
**Quantitative Risk Assessment of Skin Sensitization Induction from Hexavalent Chromium in Leather Consumer Products.** S. L. More1, J. A. Parker2, C. Mathis3, E. Encina3, and E. S. Fung4. 1Cardno ChemRisk, Portland, OR; 2Cardno ChemRisk, Aliso Viejo, CA; and 3Cardno ChemRisk, Arlington, VA.

#2595
Poster Board Number .............................................................. P333
**Toxicological Ontologies: Moving from Concept into Practice.** G. M. Woodall, M. Angrish, A. J. Shapiro, S. Burns, and D. Rabstejnek. US EPA, Research Triangle Park, NC.

#2596
Poster Board Number .............................................................. P334
**Exposure and Risk Assessment of Metals used in Oxo-biodegradable Plastics in Consumer Products.** R. Y. Hwang1, J. S. Kozal1, F. Louie1, and K. Unice2. 1Cardno ChemRisk, San Francisco, CA; and 2Cardno ChemRisk, Pittsburgh, PA.

#2597
Poster Board Number .............................................................. P335
**Impact of Updated BMD Modeling Methods on Perchlorate and Chlorate Assessments of Human Health Hazard.** L. T. Haber1, R. S. Schoeny2, and B. C. Allen1. 1Risk Science Center, University of Cincinnati, Cincinnati, OH; 2Rita Schoeny LLC, Washington, DC; and 3Independent Consultant, Chapel Hill, NC.

#2598
Poster Board Number .............................................................. P336
**Use of the Mucilair Airway Assay, a New Approach Methodology, for Evaluating the Safety and Inhalation Risk of Agrochemicals.** M. M. Hargrove1, R. Parr-Dobrzanski2, A. Charlton2, and D. Wolf1. 1Syngenta Crop Protection LLC, Greensboro, NC; and 2Syngenta Crop Protection LLC, Bracknell, United Kingdom.

#2599
Poster Board Number .............................................................. P337
**Using GreenScreen and ChemFORWARD Methodologies to Identify Safer Plasticizers.** J. Y. Tanir, B. Wang, and M. H. Whittaker. ToxServices LLC, Washington, DC.
Poster Board Number ................................................................. P338

Poster Board Number ................................................................. P339
A Risk Assessment of Inorganic Mercury Renal Toxicity from Application of Skin Lightening Products from Multiple Countries. C. M. Hamaji1, K. M. Towe1, R. E. Zisook1, C. A. Park1, S. Dotson2, and S. H. Gaffney1.
1Cardno ChemRisk, San Francisco, CA; and 2Cardno ChemRisk, Cincinnati, OH.

Poster Board Number ................................................................. P340
Quantifying Uncertainty in Interspecies and Intraspecies Extrapolation for Equipotent Doses Using a PBPK Model. A. E. Meade1, C. M. Schacht1, D. F. Kapraun2, P. M. Schlosser1, A. S. Bernstein1, and H. T. Tran1.
1North Carolina State University, Raleigh, NC; and 2US Environmental Protection Agency, Research Triangle Park, NC.

Poster Board Number ................................................................. P341
1ToxStrategies, Katy, TX; 2ToxStrategies, Boston, MA; and 3ToxStrategies, Mission Viejo, CA.

Poster Board Number ................................................................. P342
Derivation of an Oral Reference Dose for Drinking Water Treatment Polymers, Polyacrylic Acid, and AA-AMPS Co-polymer, Using a Class-Based Approach. K. D. Cox, and M. LaFramboise. NSF International, Ann Arbor, MI.

Poster Board Number ................................................................. P343
Toward a Quantitative Adverse Outcome Pathway for Small Intestinal Tumors in Mice. C. M. Thompson1, V. S. Bhat2, M. A. Harris1, and D. M. Proctor1.
1ToxStrategies, Katy, TX; 2ToxStrategies, Boston, MA.

Poster Board Number ................................................................. P344

Poster Board Number ................................................................. P345

Poster Board Number ................................................................. P346
Exposure and Human Health Risk of Metals from Electronic Nicotine Delivery Systems. E. de Gandiaga1, A. Hazell1, A. Sharma1, M. Donnell1, A. Massarsky1, A. Schulte1, A. Bernal1, and A. Madl1.
1Cardno ChemRisk, Aliso Viejo, CA; 2Cardno ChemRisk, Boulder, CO; and 3ToxCreative LLC, Laguna Hills, CA.

Poster Board Number ................................................................. P347
Hazard and Risk Banding Framework for Prioritization and Bridging of E-liquids for Toxicity Testing. H. C. O’Neill1, M. J. Vincent1, A. A. Han1, S. E. Brown1, A. M. Hazell1, M. L. Krieder1, and A. M. Madl1.
1Cardno ChemRisk, Boulder, CO; 2Cardno ChemRisk, Cincinnati, OH; 3Cardno ChemRisk, Pittsburgh, PA; and 4Cardno ChemRisk, Aliso Viejo, CA.

Poster Board Number ................................................................. P348
Dose-Response Assessment for Cancer Risk Associated with Inorganic Arsenic Exposure through Drinking Water. K. Shao1, Z. Zhou1, and S. M. Cohen1. 1Indiana University Bloomington, Bloomington, IN; and 2University of Nebraska Medical Center, Omaha, NE.

Poster Board Number ................................................................. P349
Inhalation of Two Prop 65 Chemicals within Vehicles May Be Associated with Increased Cancer Risk. A. Reddam, and D. Volz. University of California Riverside, Riverside, CA.
#2612 Poster Board Number: P350

**A Web-Based Literature Identification Platform for the ECOTOXicology Knowledgebase, Powered by Deep Learning.** B. E. Howard¹, C. Norman¹, A. Tandon¹, R. Shah¹, J. Olker², C. Elonen², and D. Hoff³. ¹Sciome LLC, Research Triangle Park, NC; and ²US EPA, Duluth, MN.

#2613 Poster Board Number: P351

**Derivation of a Proposed Asbestiform Tremolite NOAEL for Lung Cancer.** A. Ierardi¹, J. Lotter², N. Jacobs³, B. Finley¹, and J. Pierce². ¹Cardno ChemRisk, Brooklyn, NY; ²Cardno ChemRisk, Chicago, IL; and ³Cardno ChemRisk, Arlington, VA.

#2614 Poster Board Number: P352

**Revisiting the Testicular Toxicity of Cyanide: New Data and Weight of Evidence Review.** A. L. Williams¹, and J. M. DeSesso¹². ¹Exponent, Alexandria, VA; and ²Georgetown University School of Medicine, Washington, DC.

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Monday, March 22, 1:00 PM to 2:45 PM

**Poster Session: Tobacco and ENDS Toxicology**

Chair(s): Alexandra Noël, Louisiana State University.

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Abstract #

#2615 Poster Board Number: P353

**Metabolome-Wide Association Study of E-cigarette Flavorant Vanillin Reveals Amino Acid Perturbations in Human Lung Cells and Plasma from Individuals Exposed to Secondhand Smoke.** M. R. Smith, Z. R. Jarrell, M. Orr, Y. Go, and D. P. Jones. Emory University, Atlanta, GA.

#2616 Poster Board Number: P354

**Short-Term Aerosol Exposures to Flavored JUUL and Third-Generation E-cigarettes Affect Redox Signaling and Regulation of Inflammation in Mouse Macrophages Exposed at the Air-Liquid Interface.** R. Pinkston¹², A. L. Penn², and A. Noël². ¹Southern University, Baton Rouge, LA; and ²Louisiana State University, Baton Rouge, LA.

#2617 Poster Board Number: P355

**E-cigarette Flavorant Maltol Disrupts Respiratory Epithelial Amino Acid Metabolism.** Z. R. Jarrell, M. R. Smith, M. L. Orr, D. P. Jones, and Y. Go. Emory University, Atlanta, GA.

#2618 Poster Board Number: P356

**In Vitro Cytotoxicity Evaluation of Commercial JUUL Product E-liquids and Aerosol Condensates.** K. Demir¹, U. Doshi², C. Laxamana¹, J. Yao¹, R. Atallah¹, K. Lee², and G. Lalonde¹. ¹JLI, San Francisco, CA; and ²ALCS, Richmond, VA. Sponsor: C. Barton

#2619 Poster Board Number: P357

**Pulmonary Tissue Dysfunction and Cytotoxicity in Precision-Cut Lung Slices Exposed to E-cigarette Condensate.** J. Kelty, J. Herbert, J. McGann, R. Panettieri, J. Laskin, D. Laskin, and A. Gow. Rutgers, The State University of New Jersey, Piscataway, NJ.

#2620 Poster Board Number: P358

**In Utero Exposures to E-cigarette Aerosol Imprint Molecular Signatures and Alter Lung Function in Neonatal Mice.** K. M. Cahill, S. Sahu, M. R. Gartia, A. Penn, and A. Noel. Louisiana State University, Baton Rouge, LA.

#2621 Poster Board Number: P359

#2622 Poster Board Number ............................................................ P360

#2623 Poster Board Number ............................................................ P361
Do Consumer Behaviors Drive Nasal Inflammation Associated with Alternative Tobacco Products (ATPs)? E. Karey1, J. Hess1, T. Reed1, M. Rebuli2, K. Farrell1, G. Gibbon1, J. Shearston1, L. Lee1, J. Eazor1, I. Jaspers2, M. Weitzman1, and T. Gordon1. 1New York University School of Medicine, New York, NY; and 2University of North Carolina at Chapel Hill, Chapel Hill, NC.

#2624 Poster Board Number ............................................................ P362
Chemical Adducts of Reactive Flavor Aldehydes Formed in E-cigarette Liquids Are Cytotoxic and Inhibit Mitochondrial Function in Respiratory Epithelial Cells. S. V. Jabba1, A. N. Diaz1, A. I. Caceres1, H. C. Erythropel2, V. Kumar1, S. Varghese1, and S. Jordt1. 1Duke University, Durham, NC; and 2Yale University, New Haven, CT.

#2625 Poster Board Number ............................................................ P363

#2626 Poster Board Number ............................................................ P364

#2627 Poster Board Number ............................................................ P365

#2628 Poster Board Number ............................................................ P366

#2629 Poster Board Number ............................................................ P367

#2630 Poster Board Number ............................................................ P368
Comparative Assessment of Exposure Effects of Smoke from Reference Cigarettes 3R4F and 1R6F In Vivo. U. Kogel1, A. Kondylis1, J. Ho2, E. Wong3, B. Phillips2, P. Vanscheeuwijck1, and J. Hoeng1. 1Philip Morris Products S.A., Neuchatel, Switzerland; and 2Philip Morris International Research Laboratories, Singapore.

#2631 Poster Board Number ............................................................ P369
Exposure Characterization and In Vitro Toxicity Assessment of Smoke from Reference Cigarettes (1R6F and 3R4F) Using an Air-Liquid Interface Exposure System. U. Doshi1, M. Scian1, P. Kosachevsky2, C. Sovick2, and K. M. Lee1. 1Altria Client Services LLC, Richmond, VA; and 2Enthalpy Analytical, Richmond, VA.

#2632 Poster Board Number ............................................................ P370
Assessment of Oxidative Stress Response to Heated Tobacco Product Vapor Compared with That of Mainstream Cigarette Smoke in Human Bronchial Epithelial Cells. K. Kushibe1, K. Ishimori1, T. Hirata2, H. Suzuki1, and S. Ito1. 1Japan Tobacco Inc., Kanagawa, Japan; and 2JT International SA, Geneva, Switzerland.

#2633 Poster Board Number ............................................................ P371
Please note that the listed times for all Poster Sessions reflect US Eastern Daylight Time (UTC -4).

Tuesday, March 23, 11:15 AM to 1:00 PM

Poster Session: Exposure Assessment/Biomonitoring

Chair(s): Sanket Gadhia, Research Institute for Fragrance Materials.

Abstract #

#2635  
Poster Board Number ................................................................. P101  
**Retention, Exhalation, and Environmental Accumulation of Flavor Chemicals and Nicotine during JUUL Vaping.**  
M. Hua\(^1\), C. Khachatourian\(^1\), S. Leung\(^1\), W. Luo\(^1\), K. McWhirter\(^1\), J. F. Pankow\(^2\), and P. Talbot\(^1\). \(^1\)University of California Riverside, Riverside, CA; and \(^2\)Portland State University, Portland, OR.

#2636  
Poster Board Number ................................................................. P102  
**Detection of miR-122 in Dried Blood Spots for Chemical Exposure Monitoring.**  

#2637  
Poster Board Number ................................................................. P103  
**Environmental Persistent Organic Pesticides in Human Milk from Lactating North Carolina Women.**  
E. P. Hines\(^1\), and S. E. Fenton\(^2\). \(^1\)US EPA, Research Triangle Park, NC; and \(^2\)NIEHS/NTP, Research Triangle Park, NC.

#2638  
Poster Board Number ................................................................. P104  
**A Review of Polychlorinated Biphenyl Concentrations in Environmental Media Worldwide: Relative Contributions of Exposure Routes.**  

#2639  
Poster Board Number ................................................................. P105  
**Ex Priori: A Screening-Level Chemical Prioritization Dashboard for Consumer Exposures.**  
M. R. Goldsmith\(^1\), C. L. Ring\(^1\), H. F. Hubbard\(^2\), T. Hong\(^1\), C. C. Henning\(^2\), D. A. Vallero\(^1\), and P. P. Egeghy\(^1\). \(^1\)US EPA, Research Triangle Park, NC; and \(^2\)ICF International Inc., Durham, NC.

#2640  
Poster Board Number ................................................................. P106  
**Biomonitoring of Mycotoxins in Human Hair as Novel Matrix to Assess Cumulative Exposure.**  
Y. Rodriguez Carrasco\(^1\), A. Narváez\(^2\), J. Mañes\(^1\), A. Ritiieni\(^2\), and M. Ruiz\(^1\). \(^1\)Universitat de València, Burjassot, València, Spain; and \(^2\)Università degli Studi di Napoli Federico II, Naples, Italy. Sponsor: A. Juan Garcia

#2641  
Poster Board Number ................................................................. P107  
**Determining Dietary Exposure to Glyphosate Resulting from Recommended US Diets.**  
F. Louie\(^1\), N. Jacobs\(^2\), L. G. Yang\(^1\), C. Park\(^1\), and S. B. Bandara\(^1\). \(^1\)Cardno ChemRisk, San Francisco, CA; and \(^2\)Cardno ChemRisk, Arlington, VA.

#2642  
Poster Board Number ................................................................. P108  
**Characterization of Particle Size Distribution and Number Concentration of Nano Objects Generated during Synthesis of Silver and Gold Nanoparticles.**  

#2643  
Poster Board Number ................................................................. P109  
**Spatial and Temporal Distribution of Surface Water Quality Contaminants after the Intercontinental Terminal Company Fire.**  
S. Jang, T. J. McDonald, S. Bhandari, I. Rusyn, and W. A. Chiu. Texas A&M University, College Station, TX.

#2644  
Poster Board Number ................................................................. P110  
**Informal Workers Exposed to Potentially Toxic Elements and Risk for COVID-19 Infection.**  
I. N. Leroux\(^1\), F. J. Salles\(^1\), A. N. Araujo\(^2\), N. A. Assunção\(^2\), M. S. Luz\(^2\), F. A. Diaz-Quijano\(^1\), and K. P. Olympio\(^1\). \(^1\)Universidade de São Paulo, São Paulo, Brazil; \(^2\)Universidade Federal de São Paulo, São Paulo, Brazil; and \(^3\)Instituto de Pesquisas Tecnológicas do Estado de SP, São Paulo, Brazil.
#2645 Poster Board Number ................................................................. P111

#2646 Poster Board Number ................................................................. P112
The Effects of Incorporating Nonlinearity in LCA: Characterizing the Impact on Human Health. D. Li1, M. Tao2, J. Vieira3, and S. Suh4. 1University of Nevada Reno, Reno, NV; and 2University of California Santa Barbara, Santa Barbara, CA.

#2647 Poster Board Number ................................................................. P113
Application of Systematic Evidence Mapping to Characterize Baseline Legacy Chemical Contamination: An Urban Estuary Case Study. K. Camargo1, M. Foster, B. Buckingham, T. J. McDonald, and W. A. Chiu. Texas A&M University, College Station, TX.

#2648 Poster Board Number ................................................................. P114
Circulating microRNAs Are Associated with PCB Exposures and Liver Disease in the Anniston Community Health Survey. M. Cave1, C. Pinkston1, S. Rai1, M. Pavuk2, K. Head1, B. Wahlang1, and B. Chorley3. 1University of Louisville, Louisville, KY; 2CDC, Atlanta, GA; and 3US EPA, Chapel Hill, NC.

#2649 Poster Board Number ................................................................. P115
Bayesian Inference of Chemical Exposures from NHANES Urinary Biomonitoring Data. Z. Stanfield1, V. Hull1,2, R. R. Sayre1,2, W. R. Setzer1, K. K. Isaacs1, and J. F. Wambaugh1. 1US EPA/ORD, Research Triangle Park, NC; and 2Oak Ridge Associated Universities, Oak Ridge, TN.

#2650 Poster Board Number ................................................................. P116

#2651 Poster Board Number ................................................................. P117
Expansion and Refinement of Chemical Use Data for Characterizing Exposure Pathways. S. Handa1, J. T. Wall1, K. Isaacs1, A. Larger2, B. Horton3, D. Lyons1, and K. Dionisio1. 1US EPA/ORD, Research Triangle Park, NC; and 2Oak Ridge Associated Universities, Research Triangle Park, NC. Sponsor: J. Wambaugh

Tuesday, March 23, 11:15 AM to 1:00 PM

Poster Session: Neurodegenerative Disease

Chair(s): Shreesh Sammi, Purdue University.

Abstract #

#2652 Poster Board Number ................................................................. P118
Investigation of the Protective Effects of Nicotine in Pesticide-Induced Neurodegeneration in the Model Organism C. elegans. A. Svetlik1, R. Frye1, C. Rogers1, A. McDowell1, E. DeRouis1, M. McCrury1, V. Fitsanakis2, and K. Vaughan1. 1King University, Bristol, TN; and 2Robson Forensic, Charleston, SC.

#2653 Poster Board Number ................................................................. P119
Chlorpyrifos and Chlorpyrifos-Oxon Produce Dopaminergic Toxicity in C. elegans. S. R. Sammi1,2, T. Syeda1,2, and J. R. Cannon1,2. 1Purdue University, West Lafayette, IN; and 2Purdue Institute for Integrative Neurosciences, West Lafayette, IN.

#2654 Poster Board Number ................................................................. P120
Poster Board Number .......................... P121
Heterocyclic Aromatic Amines Promote Protein Aggregation and Induce Alzheimer's Disease-Relevant Neurotoxicity. T. Syeda$^{1,2}$, S. Min$^{1,2}$, J. C. Rochet$^{1,2}$, and J. R. Cannon$^{1,2}$. $^1$Purdue University, West Lafayette, IN; and $^2$Purdue Institute for Integrative Neuroscience, West Lafayette, IN.

Poster Board Number .......................... P122

Poster Board Number .......................... P123
The Effects of Sex, Age, and Genotype on Neuroinflammation in Humanized Targeted Replacement APOE Mice. I. Mhatre-Winters$^{1,2}$, A. Eid$^1$, Y. Han$^2$, Z. Bursac$^1$, and J. Richardson$^1$. $^1$Florida International University, Miami, FL; and $^2$Kent State University, Kent, OH.

Poster Board Number .......................... P124
Lead and DDT Additively Increase Levels of Amyloid Precursor Protein in HT22 Cells and Mouse Primary Hippocampal Neurons. F. M. Sammoura, A. Eid, and J. R. Richardson. Florida International University, Miami, FL.

Poster Board Number .......................... P125

Poster Board Number .......................... P126
Aspergillus versicolor Inhalation Dysregulates Neuroimmune Homeostasis and Augments Alzheimer's Disease-Like Neuropathology. A. L. Dunbar$^1$, T. B. Ladd$^1$, J. A. Johnson Jr.$^1$, C. L. Mumaw$^1$, H. J. Greve$^1$, X. Xuei$^1$, E. Simpson$^1$, M. A. Barnes$^3$, B. J. Green$^2$, T. L. Croston$^2$, D. H. Beezhold$^2$, and M. L. Block$^1$. $^1$Indiana University School of Medicine, Indianapolis, IN; and $^2$NIOSH, Morgantown, WV.

Poster Board Number .......................... P127
Paraquat Primes the Microglial NLRP3 Inflammasome via the Voltage-Gated Proton Channel Hv1. C. Kim$^1$, M. Neal$^2$, A. Boyle$^2$, L. Wu$^2$, and J. R. Richardson$^1$. $^1$Florida International University, Miami, FL; $^2$Kent State University, Kent, OH; and $^3$Mayo Clinic, Rochester, MN.

Poster Board Number .......................... P128

Poster Board Number .......................... P129
A Differential Gene Expression Study of Two Siblings with Genetic Risk for Parkinson's Disease. H. N. Cukier$^1$, A. J. Griswold$^1$, H. Kim$^2$, L. M. Prince$^2$, D. M. Dykshoorn$^1$, A. B. Bowman$^2$, and M. D. Neely$^3$. $^1$University of Miami Miller School of Medicine, Miami, FL; $^2$Purdue University, West Lafayette, IN; and $^3$Vanderbilt University Medical Center, Nashville, TN.
**Poster Session: PFAS**

Chair(s): Dakota Robarts, University of Kansas Medical Center.

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**Abstract #

#2664**

**Poster Board Number** ................................................................. P130

**Perfluorononanoic Acid Impedes Mouse Oocyte Maturation by Inducing Mitochondrial Dysfunction and Oxidative Stress.**  
R. Shrestha, X. Jiao, N. Liu, Y. Xu, and H. Qiao. University of Illinois at Urbana-Champaign, Urbana, IL.

#2665

**Poster Board Number** ................................................................. P131

**Per- and Polyfluorinated Alkyl Acid Replacement GenX Induces Fibroinflammatory Gene Expression in Human Hepatocytes.**  
D. R. Robarts, S. Abernathy, S. Gunewardena, and U. Apte. University of Kansas Medical Center, Kansas City, KS.

#2666

**Poster Board Number** ................................................................. P132

**Dose Additive Developmental Toxicity of a Mixture of Three PFAS (HFPO-DA, NBP2, PFOS) in the Sprague-Dawley Rat.**  

#2667

**Poster Board Number** ................................................................. P133

**Per- and Polyfluoroalkyl Substances Inhibit the Phagocytic Respiratory Burst.**  
D. Phelps, A. Palekar, J. Driggers, and J. Yoder. North Carolina State University, Raleigh, NC.

#2668

**Poster Board Number** ................................................................. P134

**Oregon’s Polyfluoroalkyl Substances (PFAS) Reference Doses and Drinking Water Health Action Levels.**  
A. K. Hamade, D. Farrer, and T. Hudson. Oregon Health Authority, Portland, OR.

#2669

**Poster Board Number** ................................................................. P135

**Probabilistic Integrated Mixture Risk Assessment of Perfluorinated Substances for Adolescents Based on Global Serum Concentration Data.**  
K. Kuo¹, P. Lin², and Y. Lin¹. ¹National Yang-Ming University, Taipei, Taiwan; and ²National Institute of Environmental Health Sciences, Miaoli, Taiwan.

#2670

**Poster Board Number** ................................................................. P136

**Effects of Perfluoroalkyl Substances on the Pulmonary Immune Response of Macrophages to Microbial Infection.**  

#2671

**Poster Board Number** ................................................................. P137

**Comparative Toxicity Assessment of Perfluoroalkyl Substances (PFAS) Using Zebrafish Model System.**  
O. Wasel, H. King, K. Thompson, and J. L. Freeman. Purdue University, West Lafayette, IN.

#2672

**Poster Board Number** ................................................................. P138

**Exposure to a Mixture of Legacy and Emerging Per- and Polyfluoroalkyl Substances (PFAS) Modulates Lipid Metabolism in Mice.**  
K. Roth, Z. Peng, W. Liu, and M. Petriello. Wayne State University, Detroit, MI.

#2673

**Poster Board Number** ................................................................. P139

**Using E-FAST Platform to Predict Human Exposure to PFAS.**  
M. T. Donnell¹, A. Massarsky¹, E. de Gandiaga¹, J. S. Kozal², L. C. Garnick³, S. M. Bartell³, J. A. Kubitz², and A. D. Monnot². ¹Cardno ChemRisk, Aliso Viejo, CA; ²Cardno ChemRisk, San Francisco, CA; ³Cardno, Greenback, TN; and ⁴Cardno, Crystal Lake, IL.

#2674

**Poster Board Number** ................................................................. P140

**Using ECOSAR and E-FAST Platforms to Predict Ecological Risks of PFAS.**  
A. Massarsky¹, M. T. Donnell¹, E. de Gandiaga¹, J. S. Kozal², L. Garnick³, S. M. Bartell³, J. A. Kubitz², and A. D. Monnot². ¹Cardno ChemRisk, Aliso Viejo, CA; ²Cardno ChemRisk, San Francisco, CA; ³Cardno, Greenback, TN; and ⁴Cardno, Crystal Lake, IL.
#2675  
**Poster Board Number**  
**Systematic Data Gathering for PFAS Toxicity and Property Modeling.** G. Sinclair¹, C. Ramsländ¹, T. Martin², and A. Williams³. ¹US EPA, Research Triangle Park, NC; ²US EPA/CCTE, Cincinnati, OH; and ³US EPA/CCTE, Research Triangle Park, NC.

#2676  
**Poster Board Number**  
**Systematic Evaluation of the Developmental Toxicity of Per- and Polyfluoroalkyl Substances (PFAS) in Zebrafish.** Y. Rericha¹,², D. Cao¹, L. Truong¹,², J. Field¹, and R. L. Tanguay¹,². ¹Oregon State University, Corvallis, OR; and ²Sinnhuber Aquatic Research Laboratory, Corvallis, OR.

#2677  
**Predicting the Effect of PFAS Mixtures on Nuclear Receptor Activity.** G. Nielsen¹, W. Heiger-Bernays, T. Webster, and J. Schlezinger. Boston University School of Public Health, Boston, MA.

#2678  
**Poster Board Number**  
**PFOA Modifies Fatty Acid and Triglyceride Homeostasis in a Humanized PPARα Mouse Model Fed an American Diet.** J. J. Schlezinger¹, T. Hyötyläinen², T. Sinioja², H. Puckett¹, J. Oliver¹, W. Heiger-Bernays¹, and T. F. Webster¹. ¹Boston University School of Public Health, Boston, MA; and ²Örebro Universitet, Örebro, Sweden.

#2679  
**Poster Board Number**  

#2680  
**The Role of Human and Mouse PPARα in Modulating the Hepatic Effects of PFOS in Mice.** S. Su, L. J. Billy, and J. M. Peters. Pennsylvania State University, University Park, PA.

#2681  
**Poster Board Number**  
**Alterations in Lung Epithelial Barrier Integrity May Be Associated with Downregulation of AKT Signaling and Tight Junction Proteins by Perfluorooctane Sulfonic Acid (PFOS).** J. H. Lucas, Q. Wang, and I. Rahman. University of Rochester, Rochester, NY.

#2682  
**Poster Board Number**  
**Investigating the Effects of Perfluorooctanoic Sulfonate (PFOS) and Ethanol on Fatty Liver Disease Using a Modified NIAAA Model.** T. C. Gripshover, B. Wahlang, K. Z. Head, and M. C. Cave. University of Louisville, Louisville, KY.

#2683  
**Poster Board Number**  
**A Quantitative Structure-Activity Relationship (QSAR) Model to Estimate Half-Lives of Perfluoro-alkyl Substances (PFAS) in Multiple Species.** D. E. Dawson¹, C. Lau¹, P. Pradeep¹, R. Judson¹, R. Tornero-Velez¹, and J. Wambaugh¹. ¹US EPA, Research Triangle Park, NC; and ²Oak Ridge Institutes for Science and Education, Oak Ridge, TN.

#2684  
**Poster Board Number**  
**Transcriptional Response to Combined Binary Exposures to PFAS in FaO Cells.** J. A. Bjork, J. O. Krogstad, and K. B. Wallace. University of Minnesota Medical School, Duluth, MN.

#2685  
**Poster Board Number**  
**Effects of a Perfluoroether Acid, an Understudied PFAS, on Developing Mice.** E. J. Stewart, E. E. Tobin, T. L. Woodlief, and J. C. DeWitt. East Carolina University, Greenville, NC.

#2686  
**Poster Board Number**  
**Analysis of PFAS Levels and Associations with Adolescent Height and Weight in the US Population.** D. Sutherland, A. LeBeau, M. Bourgeois, S. Jones, and R. Harbison. University of South Florida College of Public Health, Tampa, FL.

#2687  
**Poster Board Number**  
**Key Methodological Considerations for Dermal Permeability Studies of Per- and Polyfluoroalkyl Substances (PFAS).** A. Yeh¹, L. E. Kerper², and B. D. Beck³. ¹Gradient, Seattle, WA; and ²Gradient, Boston, MA.
#2688
Poster Board Number ................................................................. P154

#2689
Poster Board Number ................................................................. P155
Effect of Subacute Exposure to PFOS and GenX on Gut Microbiota-Host Metabolome Homeostasis. F. Rashid, V. Dubinkina, S. Maslov, and J. M. Irudayaraj. University of Illinois at Urbana-Champaign, Urbana, IL.

#2690
Poster Board Number ................................................................. P156
Comparing an Acceptable Exposure Level Based on In Vitro Studies of PFOA Hepatotoxicity to Levels Measured in Epidemiologic Studies. A. Bocéno, S. Bloch, N. Tahiri, and M. Verner. Université de Montréal, Center for Public Health Research, Montréal, QC, Canada.

Tuesday, March 23, 11:15 AM to 1:00 PM
PS Poster Session: POPs
Chair(s): Banrida Wahlang, University of Louisville.

Abstract #

#2691
Poster Board Number ................................................................. P157

#2692
Poster Board Number ................................................................. P158

#2693
Poster Board Number ................................................................. P159
Astroglial Cells and Neurotoxicity of 2,2',5,5'-Tetrachlorobiphenyl (PCB 52) and Its Metabolites. N. N. Paranjape1, B. S. Cagle1, R. B. Tjalkens2, H. J. Lehmiller1, and J. A. Doorn1. 1University of Iowa, Iowa City, IA; and 2Colorado State University, Fort Collins, CO.

#2694
Poster Board Number ................................................................. P160

#2695
Poster Board Number ................................................................. P161
Sulfonation of Hydroxylated Bromodiphenylethers in One Marine and One Freshwater Fish Species. C. Hindrichs1, V. Agarwal2, and M. O. James1. 1University of Florida, Gainesville, FL; and 2Georgia Institute of Technology, Atlanta, GA.

#2696
Poster Board Number ................................................................. P162
Long-Term Exposure to Aroclor 1260-Induced Hepatic Injury, Inflammation, Fibrosis, and Tumors in a Diet-Dependent Manner in Mice. K. Z. Head, B. Wahlang, T. C. Gripshover, J. Jin, Y. Li, and M. C. Cave. University of Louisville, Louisville, KY.

#2697
Poster Board Number ................................................................. P163

#2698
Poster Board Number ................................................................. P164
**#2699**

**Poster Board Number** ................................................................. P165


**#2700**

**Poster Board Number** ................................................................. P166

*Methylmercury Modulates the Cytochrome P450 1a1 and 1a2 in C57Bl/6 Mice.* M. AlQahtani, and A. El-Kadi. University of Alberta, Edmonton, AB, Canada.

**#2701**

**Poster Board Number** ................................................................. P167

*The Effects of a One-Time Intraperitoneal Injection of PCB126 on the Colon Microbiome in Aryl Hydrocarbon Receptor (AhR) Knockout and Wild-Type Holtzman-Sprague-Dawley Rats.* L. E. Gosse¹, K. Iqbal², M. J. Soares³, A. Mangalam¹, L. Robertson¹, and G. Ludewig¹. ¹University of Iowa, Iowa City, IA; and ²University of Kansas Medical Center, Kansas City, KS.

**#2702**

**Poster Board Number** ................................................................. P168

*Multigenerational Impacts of Dietary Exposure to the Flame Retardant, BDE-99, in the Atlantic Killifish (Fundulus heteroclitus).* N. McNabb¹, B. Clark², M. Francoeur³, H. Schrader², S. Jayaraman², L. Mills², D. Nacci², and A. Whitehead¹. ¹University of California Davis, Davis, CA; and ²US EPA, Narragansett, RI.

**#2703**

**Poster Board Number** ................................................................. P169


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**Tuesday, March 23, 11:15 AM to 1:00 PM**

**PS Poster Session: Reproductive and Developmental Toxicology II**

**Chair(s):** Hasan Alghetaa, University of South Carolina School of Medicine.

**Abstract #**

**#2704**

**Poster Board Number** ................................................................. P170

*Prenatal and Postnatal Exposure to Polychlorinated Biphenyls Alter Hormone Receptor Expression in the Rat Ovary.* K. M. De La Torre¹, D. D. Meling¹, L. M. Thompson², M. Belf³, A. C. Gore³, and J. A. Flaw¹. ¹University of Illinois at Urbana-Champaign, Urbana, IL; and ²University of Texas at Austin, Austin, TX.

**#2705**

**Poster Board Number** ................................................................. P171


**#2706**

**Poster Board Number** ................................................................. P172


**#2707**

**Poster Board Number** ................................................................. P173

*Cox1 Inhibition in C18-4 Spermatogonial Stem Cell Model Reveals Notch Signaling Activation.* A. Tran, and M. Culty. University of Southern California, Los Angeles, CA.

**#2708**

**Poster Board Number** ................................................................. P174

*Bisphenol S Impairs Invasion and Proliferation of Extravillous Trophoblasts through Epidermal Growth Factor Receptor Binding Inhibition.* E. Ticiani, Y. Pu, and A. Veiga-Lopez. University of Illinois at Chicago, Chicago, IL.
#2709
Poster Board Number ........................................... P175
Low-Dose Triphenyltin Upregulates ABCA1 Expression without Altering Intracellular Cholesterol in Ovarian Theca Cells. Y. Pu1, E. Ticiani1, D. Martin2, S. Pearl1, and A. Veiga-Lopez1. 1University of Illinois at Chicago, Chicago, IL; and 2Sparrow Health System, Lansing, MI.

#2710
Poster Board Number ........................................... P176
Involvement of the Aryl Hydrocarbon Receptor to Gestational and Developmental Toxicity of PCB126 in Rats. N. Eti1, K. N. Gibson-Corley2, G. Ludewig1, and L. W. Robertson1. 1University of Iowa, Iowa City, IA; and 2Sparrow Health System, Lansing, MI.

#2711
Poster Board Number ........................................... P177
Iodoacetic Acid Affects Estrous Cyclicity, Ovarian Gene Expression, and Hormone Levels in Mice. A. Gonsioroski, D. Meling, L. Gao, M. Plewa, and J. Flaws. University of Illinois at Urbana-Champaign, Urbana, IL.

#2712
Poster Board Number ........................................... P178

#2713
Poster Board Number ........................................... P179
Maternal Gestation Engineered Nanomaterial Exposure Impairs Vascular Reactivity, Estrogen, and Fertility in F1 Females. E. C. Bowridge1,2, K. L. Garner1,2, J. A. Griffith1,2, E. R. DeVallance1,2, S. Hussain1,2, T. P. Batchelor1,2, K. A. Wix1,2, J. K. Engels1,2, W. T. Goldsmith1,2, and T. R. Nurkiewicz1,2. 1West Virginia University, Morgantown, WV; and 2Center for Inhalation Toxicology, Morgantown, WV.

#2714
Poster Board Number ........................................... P180
Effects of Fractions of Saccharum officinarum Molasses and Refined Sugar on Reproductive Functions of Male Wistar Rats. E. Ogunwole1,2, O. T. Kunle-Alabi2, O. O. Akindele2, and Y. Raji1. 1Bingham University, Karu, Nigeria; and 2University of Ibadan, Ibadan, Nigeria.

#2715
Poster Board Number ........................................... P181

#2716
Poster Board Number ........................................... P182
Transcriptional Profiling of the Response to the Trichloroethylene Metabolite S-(1,2-dichlorovinyl)-L-Cysteine Revealed Activation of the eIF2a/ATF4 Integrated Stress Response in Two In Vitro Placental Models. E. Elkin1, K. M. Bakulski1, J. A. Colacino1, D. Bridges1, B. A. Kilburn2, D. R. Armant2, and R. Loch-Caruso1. 1University of Michigan, Ann Arbor, MI; and 2Wayne State University, Detroit, MI.

#2717
Poster Board Number ........................................... P183
A Review of Maternal and Perinatal Outcomes from Exposure to Environmental Phthalates. J. Gomes1, J. Go1, D. Krewski1, and P. Kumarathasan2. 1University of Ottawa, Ottawa, ON, Canada; and 2Health Canada, Ottawa, ON, Canada.

#2718
Poster Board Number ........................................... P184

#2719
Poster Board Number ........................................... P185
The Role of Aryl Hydrocarbon Receptor in Mediating the Effects of Mono(2-Ethylhexyl) Phthalate in Ovarian Antral Follicles. A. M. Neff, L. Gao, A. Gonsioroski, and J. A. Flaws. University of Illinois at Urbana-Champaign, Urbana, IL.

#2720
Poster Board Number ........................................... P186
Prenatal Exposure to Arsenic: Effects on Immune Signaling in the Heart. A. Mathur1, K. A. Rychlik1, J. Liao1, C. Kashiwagi1, V. Tran1,2, A. Maertens1,2, A. Kleensang1,2, and F. C. Sillé1. 1Johns Hopkins University Bloomberg School of Public Health, Baltimore, MD; and 2Johns Hopkins University Center for Alternatives to Animal Testing (CAAT), Baltimore, MD.
#2721  Poster Board Number ................................................................. P187
Effect of Maternal Pulmonary Exposure to Nanopolystyrene and Uterine Position in the Fetal Development Pattern of Rats. A. D. Rivera Ruiz1, C. M. Cary2, S. B. Fournier2, and P. A. Stapleton3. 1Universidad Ana G. Méndez Gurabo, Gurabo, PR; and 2Rutgers, The State University of New Jersey, Piscataway, NJ.

#2722  Poster Board Number ................................................................. P188

#2723  Poster Board Number ................................................................. P189

#2724  Poster Board Number ................................................................. P190
All-Trans Retinoic Acid Effects on Germ Cells Differ between Ex Vivo Cultured Mouse and Rat Fetal Testes. R. K. Ephrem, S. J. Hall, and D. J. Spade. Brown University, Providence, RI.

#2725  Poster Board Number ................................................................. P191

#2726  Poster Board Number ................................................................. P192
Epidemiologically Relevant Phthalate Metabolite Mixtures Impact Ovarian Follicle Growth, Granulosa Cell Cytotoxicity, and Steroid Hormone Synthesis in Primary Murine Culture Systems. M. J. Laws1, L. Gao1, Z. Li1, R. D. Björvang2, P. Damdimopoulou2, and J. A. Flaws1. 1University of Illinois at Urbana-Champaign, Urbana, IL; and 2Karolinska Institutet, Stockholm, Sweden.

#2727  Poster Board Number ................................................................. P193
Investigating the Effects of NSAIDs on Human Spermatogenesis Using a Stem Cell–Based Model. K. M. Symosko Crow1, K. Watkins Greeson1, J. N. Langmo1, and C. A. Easley IV1,2. 1University of Georgia, Athens, GA; and 2Yerkes National Primate Research Center, Atlanta, GA.

#2728  Poster Board Number ................................................................. P194
Environmentally Relevant Exposure to Microcystin-LR Compromises Ovarian Follicle Dominance and Ovulation in Mice. Y. Wang1,2, J. Zhang3, G. Scott4, S. Chatterjee1, Q. Zhang5, and S. Xiao1,2. 1Rutgers, The State University of New Jersey, Piscataway, NJ; 2University of South Carolina, Columbia, SC; 3Northwestern University, Chicago, IL; and 4Emory University, Atlanta, GA.

#2729  Poster Board Number ................................................................. P195
Transporter-Mediated Uptake of the Reversible Male Contraceptive H2-Gamendazole across the Human Blood-Testis Barrier. R. K. Hau1, S. R. Miller1, A. S. Yu2, G. I. Georg1, S. H. Wright1, and N. J. Cherrington1. 1University of Arizona, Tucson, AZ; 2University of Kansas Medical Center, Kansas City, KS; and 3University of Minnesota, Minneapolis, MN.

#2730  Poster Board Number ................................................................. P196
E-cigarette Constituents Are Toxic for Human Placental Tissues: An Ex Vivo Perspective. N. Potter1, Y. Arita2, M. R. Peltier2, and J. T. Zelikoff1. 1New York University Grossman School of Medicine, New York, NY; and 2New York University Langone Hospital Long Island, Mineola, NY.

#2731  Poster Board Number ................................................................. P197
Flusilazole Disrupts Retinoid Signalling in Fetal Rodent Testes. M. K. Draskau1, C. M. Spiller2, J. Boberg1, J. Bowles1, and T. Svingen1. 1Danmarks Tekniske Universitet, Kgs Lyngby, Denmark; and 2University of Queensland School of Biomedical Sciences, Brisbane, Australia.

#2732  Poster Board Number ................................................................. P198
Poster Sessions—Tuesday, March 23

#2733

Poster Board Number P199


#2734

Poster Board Number P200

Sex-Dependent Differences in Placental and Fetal Cadmium Toxicity in Mice. D. L. Kozlosky, L. M. Aleksunes, and E. Barrett. Rutgers, The State University of New Jersey, New Brunswick, NJ.

#2735

Poster Board Number P201

Long-Term Exposition to Antineoplastic Drugs at Environmental Concentrations Impairs the Epididymis of Male Rats. P. da Cunha de Medeiros, M. G. Aranha, L. N. Silva, K. Almeida, and J. E. Perobelli. Universidade Federal de São Paulo, Santos, Brazil. Sponsor: M. Aschner

#2736

Poster Board Number P202

Evaluating the Reproductive Toxicity of Cr(VI): Reassessing the Prop 65 MADL. T. Ludar¹, S. B. Bandara², C. Mathias³, and A. Monnot⁴. ¹Rainbow Sandals, San Clemente, CA; ²Cardno ChemRisk, San Francisco, CA; and ³Cardno ChemRisk, Arlington, VA.

#2737

Poster Board Number P203


#2738

Poster Board Number P204


#2739

Poster Board Number P205

E-cigarette Exposure during Fetal Development Alters Protein Transporter and Gene Expression Activity in Neural Pathways Associated with Obesity in Mice. C. Awada, A. Ortíz, J. L. Blum, and J. T. Zelikoff. NYU School of Medicine, New York, NY.

#2740

Poster Board Number P206

A New 90-Day Drinking Water Study of Sodium Cyanide in Rats to Further Evaluate NTP Findings and Inform Risk Assessment. M. C. Tyner, and P. S. Coder. Charles River, Ashland, OH.

#2741

Poster Board Number P207

Biological Relevance of Phthalate-Induced Disruption of Fetal Testis Hormones and Gene Expression: Key Events in a Novel AOP. L. E. Gray¹, C. Lambright¹, N. Evans¹, V. Wilson¹, B. Hannas², P. Foster³, and J. Conley¹. ¹US EPA, Research Triangle Park, NC; ²Corteva Agriscience, Newark, DE; and ³NIEHS/NTP, Research Triangle Park, NC.

#2742

Poster Board Number P208

Exposure to an Environmentally Relevant Phthalate Mixture Disrupts Ovulatory Extracellular Matrix Remodeling in Mouse Antral Follicles In Vitro. K. L. Land, M. E. Lane, A. C. Fugate, and P. R. Hannon. University of Kentucky, Lexington, KY.

#2743

Poster Board Number P209

Prenatal Exposure to an Environmentally Relevant Phthalate Mixture Alters Folliculogenesis in the F1 Generation of Adult Female Mice. S. Gill, E. Brehm, and J. Flaws. University of Illinois at Urbana-Champaign, Urbana, IL.

#2744

Poster Board Number P210

Metabolomic Dysregulation and Immune Cell Dysfunction in Endometriosis. H. F. Kashef Alghetaa¹, A. K. Mohammed², M. Nagarkatti³, and P. Nagarkatti⁴. ¹University of South Carolina, Columbia, SC; and ²University of Baghdad, Baghdad, Iraq.
#2745

**Poster Board Number**

Monoc-(2-Ethylhexyl) Phthalate Interaction with Retinoic Acid Signaling Alters Fetal Mouse Testicular Somatic Cell Differentiation and Spatial Patterning.  M. A. Alhasnani, and D. Spade. Brown University, Providence, RI.

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**Tuesday, March 23, 11:15 AM to 1:00 PM**

**Poster Session: Safety Evaluation of Nonpharmaceutical Products**

Chair(s): Colleen McLoughlin, Scivera LLC.

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**Abstract #**

#2746

**Poster Board Number**

Impact of Personal Care Product Exposure on Hair Follicle Health.  E. S. Fung¹, J. A. Parker², and A. D. Monnot². ¹Cardno ChemRisk, Aliso Viejo, CA; and ²Cardno ChemRisk, San Francisco, CA.

#2747

**Poster Board Number**


#2748

**Poster Board Number**

Chemical Characterization of Contemporary Shisha Tobaccos.  J. H. Lauterbach. Lauterbach & Associates LLC, Macon, GA.

#2749

**Poster Board Number**

Guidance on Dose-Setting in Repeated-Dose Toxicity Studies: Outcome of an ECETOC Task Force.  D. Lewis¹, A. Andrus², A. Brousse³, J. Burke⁴, M. Corvaro⁵, G. Daston⁶, B. Delaney⁷, J. Domoradzki⁸, C. Forlini⁹, M. L. Green⁴⁰, T. Hofmann¹¹, S. Jaeckel¹², M. Lee¹³, F. Sewell¹⁴, and M. Tenerowski¹⁵. ¹Syngenta, Bracknell, United Kingdom; ²Dow, Midland, MI; ³European Centre for Ecotoxicology and Toxicology of Chemicals (ECETOC), Brussels, Belgium; ⁴Huntsman Advanced Materials, Stockton-on-Tees, United Kingdom; ⁵Corteva Agriscience, Rome, Italy; ⁶Procter & Gamble, Cincinnati, OH; ⁷Firmenich SA, Plainsboro, NJ; ⁸Corteva Agriscience, Indianapolis, IN; ⁹Arkema Inc., Colombes, France; ¹⁰ExxonMobil Biomedical Sciences Inc., Annandale, NJ; ¹¹BASF, Ludwigshafen, Germany; ¹²Merck Healthcare KGaA, Darmstadt, Germany; ¹³Clariant, Sulzbach am Taunus, Germany; ¹⁴National Centre for the Replacement, Refinement and Reduction of Animals in Research (NC3Rs), London, United Kingdom; and ¹⁵Bayer Crop Sciences, Mannheim, Germany.

#2750

**Poster Board Number**

Application of the Capillary Aerosol Generator (CAG) to Generate Aerosols for E-liquid Preclinical Inhalation Studies.  J. Zhang¹, E. Benson², E. Psurny², A. Gupta², A. Mokhtar³, and K. M. Lee¹. ¹Altaria Client Services LLC, Richmond, VA; ²Battelle Memorial Institute, West Jefferson, OH; and ³Eurofins Lancaster Laboratories, Richmond, VA.

#2751

**Poster Board Number**


#2752

**Poster Board Number**

Assessing Human Carcinogenicity Risk without the Rodent Cancer Bioassay.  A. Goetz¹, N. Ryan¹, A. Sauve-Ciencewicki², C. Lord², G. Hilton², and D. C. Wolf². ¹Syngenta Crop Protection LLC, Greensboro, NC; and ²PETA International Science Consortium Ltd., United Kingdom.

#2753

**Poster Board Number**

Consumer Safety of Personal Care Products with Electrokinetic Extracts of Marine-Sourced Plants.  S. Kim¹, L. Zhang¹, E. Bauza¹, J. Johnson¹, P. Recht¹, S. Micceri², R. Hamilton¹, and C. Capellere¹. ¹Ashland, Wilmington, DE; ²Ashland, Ossining, NY; ³Ashland, Sophia Antipolis, France; and ⁴Avoca LLC, Merry Hill, NC.
A Case Study to Leverage Public and Commercial Resources to Improve In Silico Chemical Safety Assessment. A. Mostrag-Szlichtyng, K. Arvidson, M. Cronin, D. Ebbrell, S. Enoch, J. Firman, J. Madden, J. Marusczyk, P. Volarath, J. Rathman, C. Schwab, and C. Yang. 1MN-AM, Columbus, OH; 2US FDA/CFSAN, College Park, MD; 3Liverpool John Moores University, Liverpool, United Kingdom; and 4MN-AM, Nurnberg, Germany.


Profiling Tox21 Compounds That Activate p53 Signaling after Metabolic Activation. M. Ooka, J. Zhao, R. Huang, K. Witt, S. Ferguson, S. Smith-Roe, A. Simeonov, and M. Xia. 1NIH, Rockville, MD; and 2NIH, Bethesda, MD.

In Vitro, In Chemico, In Silico, or In Vivo for Evaluation of Airborne Chlorothalonil Aerosols to Estimate a Safe Level of Exposure for Workers. Y. Alarie. University of Pittsburgh, Bradfordwoods, PA.
#2763 Poster Board Number ................................................................. P229
Quantifying the DARTable Genome for Prediction of Teratogenic Doses: A Case Study Using Retinoic Acid Pathway-Induced Developmental Toxicity.  R. A. Currie¹, N. Principato¹, T. B. Knudsen¹, A. R. Kaczor¹, L. Yu², A. Letamendia³, A. H. Piersma⁴, and S. Mitchell-Ryan⁵. ¹Syngenta Crop Protection LLC, Greensboro, NC; ²US EPA, Research Triangle Park, NC; ³Merk & Co. Inc., West Point, PA; ⁴US FDA/NCTR, Jefferson, AR; ⁵Bayer SAS, Sophia Antipolis, France; ²Rijksinstituut voor Volksgezondheid en Milieu (RIVM), Bilthoven, Netherlands; and ⁶HESI, Washington, DC.

#2764 Poster Board Number ................................................................. P230
Prediction of Inter-ethnic and Inter-individual Variations in the Cardiotoxicity of R- and S-Methadone by Integrating Monte Carlo Simulations and Physiological-Based Kinetic Modeling-Based Reverse Dosimetry.  M. Shi¹, Y. Dong¹, H. Bouwmeester¹, I. Rietjens¹, and M. Strikwold². ¹Wageningen University and Research, Wageningen, Netherlands; and ²Van Hall Larenstein University of Applied Sciences, Leeuwarden, Netherlands.

#2765 Poster Board Number ................................................................. P231

#2766 Poster Board Number ................................................................. P232

#2767 Poster Board Number ................................................................. P233

#2768 Poster Board Number ................................................................. P234
A Human iPSC-Based In Vitro Neuronal Network Formation Assay to Investigate Neurodevelopmental Toxicity of Pesticides.  K. Bartmann¹, F. Bendt¹, L. Stürzl¹, A. Dönmez¹, E. H. Keßel¹, S. Masjosthusmann¹, and E. Frische². ¹IUF—Leibniz Research Institute for Environmental Medicine, Duesseldorf, Germany; and ²Heinrich-Heine-Universität, Duesseldorf, Germany.

#2769 Poster Board Number ................................................................. P235
Transitioning Animal to Nonanimal Testing with a Zebrafish Behavioral and Transcriptomic Model to Predict General Toxicity and Endocrine Disruption.  C. L. Woodland³, and L. D. Ellis². ³Government of Canada, Ottawa, ON, Canada; and ²NCR Canada, Halifax, ON, Canada.

#2770 Poster Board Number ................................................................. P236

#2771 Poster Board Number ................................................................. P237
Use of Transcriptomics to Identify Cosmetic Ingredient Biological Activity: Caffeine and Its Metabolites.  J. M. Naciff¹, Y. Shan¹, X. Wang¹, N. DeAbrew¹, M. Varçin², and G. Daston¹. ¹Procter & Gamble, Mason, OH; and ²Cosmetics Europe, Brussels, Belgium.

#2772 Poster Board Number ................................................................. P238
An In Vitro Buccal Membrane Absorption Model for the Evaluation of Tobacco Constituent Permeability and Absorption: Nicotine in Combination with Menthol.  M. E. Kraeling¹, K. Hieber¹, C. Vaught¹, R. L. Jones Jr¹, D. Lauterstein¹, J. Crespo-Barreto², R. L. Sprando¹, R. P. Yeager¹, and J. J. Yourick¹. ¹US FDA/CFSAN, Laurel, MD; and ²US FDA/CTP, White Oak, MD.
Abstract #

#2773

Poster Board Number ................................................................. P239

The Clarion Go Screen, an Innovative Toxicogenomics Tool for Early and Mechanistic Toxicity Assessment.  K. Tilmant¹, H. Ziegelbauer², J. Wichard³, A. Al-Dilaimi³, T. Thykjaer³, F. Antigny⁴, J. Sandler⁴, J. Hubbard⁵, X. Jiang⁵, A. Schweitzer⁵, and D. Rouquie¹. ¹Bayer SAS, Valbonne, France; ²Bayer AG, Wuppertal, Germany; ³Bayer AG, Berlin, Germany; ⁴Bayer AG, Monheim, Germany; ⁵Eurofins Genomics Europe Genotyping A/S, Aarhus, Denmark; and ⁶Thermo Fisher Scientific, Santa Clara, CA.

Tuesday, March 23, 1:00 PM to 2:45 PM

Poster Session: Cell Death Mechanisms

Chair(s): Lei Guo, US FDA.

#2774

Poster Board Number ................................................................. P240

Oxidative Stress and Cell Death Induction by Amitraz and Its Metabolite BTS-27271 Mediated through Cytochrome P450 and NRF2 Pathway Alteration in Primary Hippocampal Cell.  P. V. Moyano Cires¹, M. Ruiz Fernandez¹, J. M. Garcia¹, M. V. Naval Lopez¹, A. Flores Calle¹, J. Garcia Lobo¹, M. T. Frejo Moya¹, M. J. Anadon Baselga¹, M. Lobo Alonso¹, J. Sanjuan¹, and J. Del Pino Sans². ¹Universidad Complutense de Madrid, Madrid, Spain; and ²Universidad Complutense de Madrid, Paracuellos del Jarama, Spain.

#2775

Poster Board Number ................................................................. P241


#2776

Poster Board Number ................................................................. P242


#2777

Poster Board Number ................................................................. P243

Ferroptosis as an Essential Contributor to Diabetic Cardiomyopathy Is Preventable by Sulforaphane via AMPK-Mediated NRF2 Activation.  X. Wang¹,², H. Men¹,², W. Zhou¹,², T. Bao¹,², Y. Zheng², and L. Cai¹. ¹University of Louisville School of Medicine, Louisville, KY; and ²First Hospital of Jilin University, Changchun, China.

#2778

Poster Board Number ................................................................. P244


#2779

Poster Board Number ................................................................. P245

DNA Damage Response Pathways Are Induced after Exposure to Various Heavy Metals in C. elegans.  J. Hall, J. Hall, K. Kelly, and S. Koga.  Lincoln Memorial University, Harrogate, TN.

#2780

Poster Board Number ................................................................. P246


#2781

Poster Board Number ................................................................. P247

Tuesday, March 23, 1:00 PM to 2:45 PM

Poster Session: Computational Toxicology II

Chair(s): David Szabo, PPG Industries Inc.

Abstract #

#2782

Poster Board Number .............................................................. P248
Development of Minimum Requirements and Data Management Framework for Animal Toxicology Experiments. R. Nault1, H. Moseley2, K. Pennell1, M. C. Cave1, G. Ludewig4, and T. Zacharewski1. 1 Michigan State University, East Lansing, MI; 2 University of Kentucky, Lexington, KY; 3 University of Louisville, Louisville, KY; and 4 University of Iowa, Iowa City, IA.

#2783

Poster Board Number .............................................................. P249
Development of a Predictive Model for Individual Susceptibility to Hearing Loss Based on Environmental and Genetic Risk. R. A. Clewell1, M. Linakis2, R. Bradford3, T. Jaworek1, D. Mattie1, D. Schneider4, and D. Yamamoto5. 1 21st Century Tox Consulting, Chapel Hill, NC; 2 US Air Force, Wright-Patterson AFB, OH; 3 UES Inc., Dayton, OH; and 4 Henry M. Jackson Foundation for the Advancement of Military Medicine, Dayton, OH.

#2784

Poster Board Number .............................................................. P250
A Procedure to Detect and Identify Specific Chemicals of Potential Toxic Concern in Smoke. T. P. Klupinski, R. A. Moyer, P. Chen, E. D. Strozio, S. S. Buehler, D. A. Friedenberg, and B. Koszowski. Battelle Memorial Institute, Columbus, OH.

#2785

Poster Board Number .............................................................. P251
Cross-Study Data Mining NTP Summary Data in the CEBSR Data Warehouse. C. Martini1, Y. Liu1, D. Burrows1, J. Moose1, H. Gong1, E. Sheridan1, C. Rogers1, S. Kumar Reddy Vangala1, J. Johnson1, D. E. Malakrey2, A. E. Brix3, R. A. Herbert3, S. A. Elmore4, M. F. Cesta2, M. C. Caza2, G. Segura Jim1, and J. Foster1. 1 ASRC Federal Vistronix, Morrisville, NC; and 2 NIEHS/NTP, Research Triangle Park, NC. Sponsor: M. Hooth

#2786

Poster Board Number .............................................................. P252

#2787

Poster Board Number .............................................................. P253

#2788

Poster Board Number .............................................................. P254

#2789

Poster Board Number .............................................................. P255
Determination of Kinetically Derived Maximum Dose (KMD) in Repeated-Dose Studies: A Comparison of Current Statistical Methods. X. Sopko1, H. Yu2, C. Walker3, R. Mingoia1, M. Himmelstein1, and J. Domoradzki4. 1 Corteva Agriscience, Wilmington, DE; 2 Iowa State University, Ames, IA; 3 Corteva Agriscience, Johnston, IA; and 4 Corteva Agriscience, Indianapolis, IN.

#2790

Poster Board Number .............................................................. P256
In Vitro to In Vivo Extrapolation (IVIVE) for Evaluating Exposure and Health Impacts of Whole Product E-liquid: Case Study. T. Holland1, X. Chang2, D. Hines3, S. Bell4, J. Zhang4, and K. M. Lee5. 1 Altria Client Services LLC, Richmond, VA; and 2 Integrated Laboratory Systems Inc., Morrisville, NC.

Is In Silico Prediction of Respiratory Sensitization Reliable? E. B. Shipp1, J. Zhang2, and S. Gehen3. 1Corteva Agriscience, Abingdon, United Kingdom; and 2Corteva Agriscience, Indianapolis, IN.

Predicting Acute Toxicity Using Computational Models. G. J. Myatt1, A. Bassan2; D. Bower3, K. Cross4; C. Johnson5; S. Miller6; and M. Pavan7. 1Leadscape Inc., Columbus, OH; and 2Innovatune srl, Padova, Italy.


Utilizing CDISC SEND Data to Generate Historical Control Incidence from a Large Database of Toxicology Studies. M. Carfagna1, T. Page1, J. Horvath2, W. Houser3, C. Sloan4, C. Eley5, T. Fukushima6, J. Anderson7, K. Snyder7, R. Thompson7, B. Larsen7, G. Ullmann7, and Y. All8. 1Eli Lilly and Company, Indianapolis, IN; 2Bristol-Myers Squibb Company, New Brunswick, NJ; 3Pfizer Inc., Groton, CT; 4Shionogi & Co. Ltd., Osaka, Japan; 5US FDA/CDER, White Oak, MD; 6Janssen Pharmaceuticals Inc., Springhouse, PA; 7Novo Nordisk A/S, Copenhagen, Denmark; and 8Oak Ridge Institute for Science and Education, Oak Ridge, TN.


Developing QSAR Models for Inhibition Growth of Plasmodium falciparum. B. Volkis1,2, S. Chakravarti3, A. Parnis3, Y. Waguespack1, M. Girireddy3, M. Okulate1, and R. Saiakhov2. 1University of Maryland Eastern Shore, Princess Anne, MD; 2MultiCASE Inc., Beachwood, OH; and 3Technion, Haifa, Israel.

Estimating EC3 (Effective Concentration for a Stimulation Index of Three) Confidence Bounds and Uncertainties for Skin Sensitization Based on Structure Similarity and Assay Profiles. J. Rathman1, C. Yang2, M. Cronin3, and S. Enoch4. 1MN-AM, Columbus, OH; 2MN-AM, Nurnberg, Germany; and 3Liverpool John Moores University, Liverpool, United Kingdom.


OrbiTox: A Translational Discovery Platform for Concerted View and Analysis of Big Data. V. Gombar1, A. Sedykh1, A. Ross1, W. Casey2, and R. Shah3. 1Sciome LLC, Research Triangle Park, NC; and 2NIEHS/NTP, Research Triangle Park, NC.
#2803 Poster Board Number ................................................. P269

**Accurate Tissue-Specific In Silico Genome-Wide Prediction of Aryl Hydrocarbon Receptor Binding.**

D. Filipovic¹, W. Qi¹, S. Cuddapah², and S. Bhattacharya¹. ¹Michigan State University, East Lansing, MI; and ²New York University Grossman School of Medicine, New York, NY.

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Tuesday, March 23, 1:00 PM to 2:45 PM

**Poster Session: DNA Damage and Repair**

**Chair(s):** John Wise Sr., University of Louisville.

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**Abstract #**

**#2804 Poster Board Number ................................................. P270**


**#2805 Poster Board Number ................................................. P271**


**#2806 Poster Board Number ................................................. P272**


**#2807 Poster Board Number ................................................. P273**

**Development of a Three-Dimensional (3D) In Vitro Model from Metabolically Competent HepaRG Cells to Evaluate Chemical-Induced Genotoxicity Using the High-Throughput CometChip Platform.** J. Seo, X. He, and X. Guo. US FDA/NCTR, Jefferson, AR.

**#2808 Poster Board Number ................................................. P274**


**#2809 Poster Board Number ................................................. P275**


**#2810 Poster Board Number ................................................. P276**


**#2811 Poster Board Number ................................................. P277**

**Identifying DNA Repair Genes That Confer Resistance to P450-Activated Carcinogens Using a Humanized Yeast Library.** M. Albrecht, and M. Fasullo. SUNY Polytechnic Institute, Albany, NY.

**#2812 Poster Board Number ................................................. P278**

**Analysis of Genetic Susceptibility Factors for N-nitrosamine-Induced Toxicity, Genomic Instability, and Cancer.** J. E. Kay¹, J. J. Corrigan¹, A. L. Armijo¹, I. S. Nazari¹, D. K. Torous¹, S. L. Avlasevich¹, S. E. Carrasco¹, S. D. Dertinger¹, L. D. Samson¹, J. M. Essigmann¹, and B. P. Engelward¹. ¹Massachusetts Institute of Technology, Cambridge, MA; ²Silent Spring Institute, Newton, MA; and ³Litron Laboratories, Rochester, NY.
**#2813**

**Poster Board Number** .......................................................... P279

**In Vitro Mutagenicity Evaluation of Commercial JUUL Product E-liquids and Aerosol Condensates.**

J. Yao. JUUL Labs Inc., San Francisco, CA. Sponsor: F. Ayala-Fierro

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**#2814**

**Poster Board Number** .......................................................... P280

**Adopting Duplex Sequencing Technology for Genetic Toxicity Testing: A Proof of Concept Mutagenesis Experiment with N-Ethyl-N-Nitrosourea (ENU)-Exposed Rats.**


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**#2815**

**Poster Board Number** .......................................................... P281

**Biomarkers of DNA Damage Response Improve In Vitro Micronucleus Testing by Providing Genotoxic Mode of Action and Reducing Occurrences of False Positive Results.**

S. Avlasevich¹, T. Pellegrin¹, S. Bryce¹, J. Bemis¹, M. Godse², P. Bajorski², and S. Dertinger¹. ¹Litron Laboratories, Rochester, NY; and ²Rochester Institute of Technology, Rochester, NY.

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**#2816**

**Poster Board Number** .......................................................... P282

**Assessment of Chemical-Induced Mutagenesis in Mice and Rats Using Error-Corrected Next Generation Sequencing.**

R. R. Young¹, C. C. Valentine², F. Lo³, S. Minocherhomji³, T. Li⁴, L. N. Williams⁴, and J. J. Salk⁴. ¹MilliporeSigma, Rockville, MD; ²TwinStrand Biosciences Inc., Seattle, WA; and ³Amgen Inc., Thousand Oaks, CA.

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**#2817**

**Poster Board Number** .......................................................... P283

**Modification of DNA Damage and Repair Pathways Reveals Detailed Mechanistic Information on the Genotoxicity of Clastogens.**


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**#2818**

**Poster Board Number** .......................................................... P284

**High-Throughput Screening for Resistance to Colon Cancer-Associated Carcinogen in Budding Yeast Identifies Both DNA Repair and Ribosomal Protein Genes.**

M. Fasullo¹, M. Dolan, N. St. John, and F. Zaidi. SUNY Polytechnic Institute, Albany, NY.

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**#2819**

**Poster Board Number** .......................................................... P285

**Evaluation of Telomere Length and Markers of Neurodegeneration after Welding Fume Exposure.**


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**#2820**

**Poster Board Number** .......................................................... P286

**Duplex Sequencing Provides a Sensitive Method for Early Detection of Mutations Induced by Chemical Exposure In Vitro: A Concentration Response and Time Course Experiment in Human TK6 Cells Exposed to N-ethyl-N-nitrosourea.**

C. D. Swartz¹, J. J. Salk², C. Valentine³, T. Smith³, J. Higgins³, L. Williams³, E. Schmidt², J. Fowler¹, M. Rivas¹, L. Recio¹, S. L. Smith-Roe¹, and K. L. Witt¹. ¹Integrated Laboratory Systems Inc., Research Triangle Park, NC; ²TwinStrand Biosciences Inc., Seattle, WA; and ³NIEHS/NTP, Research Triangle Park, NC.

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**#2821**

**Poster Board Number** .......................................................... P287

**Scoring of the In Vitro Micronucleus Assay Using Imaging Flow Cytometry and Deep Learning.**

M. A. Rodrigues, B. Davidson, M. Riedel, Y. Li, and V. Venkatachalam. Luminex Corporation, Seattle, WA.

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**#2822**

**Poster Board Number** .......................................................... P288

**Next Generation Genotoxicity Assessment in Human Hepatocyte Models: CometChip and Micronucleus Assay in Metabolically Competent HepaRG Cells.**

L. Martin¹, J. Fowler¹, C. Swartz¹, J. Sly¹, N. Owiti², S. Kaushal², B. Engelward³, and L. Recio¹. ¹Integrated Laboratory Systems Inc., Research Triangle Park, NC; and ²Massachusetts Institute of Technology, Cambridge, MA.

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**#2823**

**Poster Board Number** .......................................................... P289

**Impact of DNA Polymerase ζ in the Mutation Signature of Methylating Agents.**

C. Mingard¹, A. Tsalaib-Shytlik³, R. Oka³, R. Van Bokel¹, N. de Wind², and S. J. Sturla¹. ¹ETH Zurich, Zurich, Switzerland; ²Universiteit Leiden Medical Center, Leiden, Netherlands; and ³Princess Maxima Center for Pediatric Oncology, Utrecht, Netherlands.
Tuesday, March 23, 1:00 PM to 2:45 PM

Poster Session: Respiratory Toxicology

Chair(s): Gagandeep Kaur, University of Rochester.

Abstract #

#2824

Treatment of SEB-Induced ARDS with CBD Ameliorates Fatal Inflammatory Response.
K. Wilson, M. Sultan, A. Cannon, P. Nagarkatti, and M. Nagarkatti. University of South Carolina School of Medicine, Columbia, SC.

#2825

Comparison of Overall Immune Status among Orchard, Greenhouse, and Open-Field Farmers.
A. Maharjan, R. Gautam, M. Acharya, J. Jo, D. Lee, C. Kim, H. Kim, and Y. Heo. Daegu Catholic University, Gyeongsan, Korea, Republic of; and Catholic University of Korea College of Medicine, Seoul, Korea, Republic of.

#2826

Inhibition of Glycolysis Attenuates Excitation-Contraction Coupling in Human Airway Smooth Muscle Cells.

#2827

Single Cell Profile of LPS-Induced Acute Respiratory Distress Syndrome Shows an Increase of Reg3g, Scgb1a1, and Scgb3a Expression with I3C Treatment.
B. L. Holloman, M. Nagarkatti, and P. Nagarkatti. University of South Carolina School of Medicine, Columbia, SC; and University of South Carolina, Columbia, SC.

#2828

Next Generation Risk Assessment Approach for Inhalation: Polymer Case Studies.
I. Muller, H. Behrsing, A. Bowden, S. Cable, S. Constant, G. Fitton, A. Middleton, M. Theiventhran, J. Wallace, and M. Baltazar. Unilever, Sharnbrook, United Kingdom; Institute for In Vitro Sciences Inc., Gaithersburg, MD; Epithelix, Geneva, Switzerland; and Charles River, Edinburgh, United Kingdom.

#2829

Toxicity Profiling of Compounds and Nanoparticles in a Breathing Lung-on-Chip Model.
A. Sengupta, N. Roldan, J. Stucki, N. Hobi, and O. Guenat. ARTORG Center for Biomedical Engineering Research, Bern, Switzerland; and AlveoliX AG, Bern, Switzerland. Sponsor: A. Clippinger

#2830

Utilization of Human Evidence for Testing and Assessment of Chemical Respiratory Sensitizers.
J. Ponder, S. Cochrane, R. Rajagopal, M. Singal, and K. Sullivan. Physicians Committee for Responsible Medicine, Washington, DC; Unilever, Sharnbrook, Bedfordshire, United Kingdom; and AeroTox Consulting Services LLC, Montvale, NJ.

#2831

Alveolar Macrophage Phenotype Contributes to Sex Differences in Nanoparticle-Induced Lung Disease.
J. L. Ray, and A. Holian. University of Montana, Missoula, MT.

#2832

Single Cell RNA Sequencing Identifies Multiple Genes Related to T Regulatory Cells Induced in Cannabinoid Treated Staphylococcus Enterotoxin B (SEB)-Induced Acute Respiratory Distress Syndrome (ARDS).
M. Sultan, K. Wilson, P. Nagarkatti, and M. Nagarkatti. University of South Carolina School of Medicine, Columbia, SC.
#2833  
**Poster Board Number**  
**Benchmark Dose Modeling Approaches for Volatile Organic Chemical Exposed Human Airway Epithelial Cells at Air-Liquid Interface.**  

#2834  
**Poster Board Number**  
**Differences in Lung Cell Type Susceptibility to Engineered Nanomaterials.**  

#2835  
**Poster Board Number**  
**Assessing Respiratory Toxicity in Human Cell-Based In Vitro Systems.**  
M. Sharma¹, S. Verstraeten, E. Frisvad, F. Maes, A. O. Stucki, and A. J. Clipping. ¹PETA International Science Consortium Ltd., London, United Kingdom; and ²VITO, Mol, Belgium.

#2836  
**Poster Board Number**  
**Assessment of Respiratory Parameters of Once-Weekly Dosing on Respiratory Studies Using Mouse-Head-Only Plethysmography.**  
S. Moore, R. Carrington, and S. Jordan. Covance, Huntingdon, United Kingdom.

#2837  
**Poster Board Number**  
**Live Cell Imaging of Oxidative Stress in Human Airway Epithelial Cells Exposed to a Secondary Organic Aerosol.**  

#2838  
**Poster Board Number**  
**Western Diet Alters Blood Flow and Exacerbates Silica-Induced Lung Inflammation in the F344 Rat.**  

#2839  
**Poster Board Number**  
**Chemical-Specific Respiratory and Neuroendocrine Effects of Hazardous Air Pollutants.**  

#2840  
**Poster Board Number**  
**Targeting the Proton-Sensing GPCR OGR1 (GPR68) to Inhibit Pulmonary Fibrosis.**  
T. J. Bell, R. Clough, D. Nagel, and M. Kottmann. University of Rochester, Rochester, NY.

#2841  
**Poster Board Number**  
**Dietary Activation of Nrf2 to Attenuate RSV-Induced Immune Suppression and Infection Risk.**  
R. A. Shore, C. Lau, T. Mustapha, D. Pendleton, N. Drury, N. Harvey, J. Behlen, Y. Li, R. Zhang, A. Rodrigues-Hoffmann, and N. M. Johnson. Texas A&M University, College Station, TX.

#2842  
**Poster Board Number**  
**The Impact of Aerosolized Cosmetic Aerosols on Respiratory Health and Immune Response: An In Vivo Analysis.**  
K. Pearce, A. King, and C. Wright. Georgia State University, Atlanta, GA.

#2843  
**Poster Board Number**  
**Role of Lung P450 OxidoReductase in Paraquat-Induced Collagen Deposition in the Lung.**  
N. Kovalchuk, J. L. Jilek, L. S. Van Winkle, N. J. Cherrington, and X. Ding. ¹University of Arizona, Tucson, AZ; and ²University of California Davis, Davis, CA.

#2845  
**Poster Board Number**  
**Development of an In Vitro Approach to Point-of-Contact Inhalation Toxicity Testing of Volatile Compounds, Using Organotypic Culture and Air-Liquid Interface Exposure.**  
#2846
**Inhalation Exposure of Acrylonitrile Butadiene Styrene Filament 3D Printer Emissions Induces Pulmonary and Systemic Toxicity in Rats.** M. T. Farcas¹, W. McKinney², K. W. Mandler³, A. B. Stefaniak², M. Kashon², L. Battelli², M. Orandle², A. Winn², S. A. Friend³, C. Qi³, D. R. Hammond³, R. F. Lebouf³, M. Jackson³, K. A. Russ³, D. Burns³, A. Ranpara³, T. A. Thomas³, J. Matheson³, and Y. Qian¹. ¹NIOSH and West Virginia University, Morgantown, WV; ²NIOSH, Morgantown, WV; and ³US Consumer Product Safety Commission, Rockville, MD.

#2847
**Is TGF-β1/SMAD3 Signaling Differentially Modulated in Obesity?** J. Woo¹, N. Karmacharya², R. A. Panettieri, Jr¹, and J. A. Jude¹. ¹Rutgers Ernest Mario School of Pharmacy, Piscataway, NJ; and ²Rutgers, The State University of New Jersey, New Brunswick, NJ.

#2848
**Derivation of an Occupational Exposure Limit for β-glucans.** J. A. Parker¹, C. Boles², A. Buerger³, E. S. Fung¹, and A. Maier³. ¹Cardno ChemRisk, Aliso Viejo, CA; ²Cardno ChemRisk, Cincinnati, OH; and ³Cardno ChemRisk, Cincinnati, CA.

#2849
**Characterizing the Properties of Respirable Silica Particles to Determine Their Role in the Development of Silicosis.** C. A. Bates¹, G. S. Dotson¹, J. Lotter², and M. A. Maier¹. ¹Cardno ChemRisk, Blue Ash, OH; and ²Cardno ChemRisk, Chicago, IL.

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**Tuesday, March 23, 1:00 PM to 2:45 PM**

**Poster Session: Skin and Dermal Toxicity**

Chair(s): Jeffrey Yourick, US FDA.

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**Abstract #**

#2950
**E-cigarette Fluids and Exhaled Residue Cause an Inflammatory Response in Both Human Keratinocytes and a 3D Skin Model.** C. Khachatourian¹, W. Luo², K. J. McWhirter², J. F. Pankow², and P. Talbot¹. ¹University of California Riverside, Riverside, CA; and ²Portland State University, Portland, OR.

#2951
**Mechanism Mediating the Dermal Inflammation and Toxicity from Phosgene Oxime Exposure.** S. K. Singh¹, D. G. Goswami², C. R. Crouthš³, R. Agarwal⁴, and N. Tewari-Singh¹. ¹Michigan State University, East Lansing, MI; ²Texas Tech University Health Sciences Center, El Paso, TX; ³MRIGlobal, Kansas City, MO; and ⁴University of Colorado Denver, Aurora, CO.

#2952
**Mechanisms Contributing to Skin Inflammatory Pathology following Exposure to Environmental Pollutant Benzo(a) Pyrene in Psoriatic Mouse Model.** S. Sharma¹, J. A. Klein¹, S. K. Singh¹, D. G. Goswami², L. N. Braucher¹, H. N. Wright¹, E. L. Noland¹, R. Agarwal⁴, and N. Tewari-Singh¹. ¹Michigan State University, East Lansing, MI; ²Texas Tech University Health Sciences Center, El Paso, TX; and ³University of Colorado Denver, Aurora, CO.

#2953
**Liquid Smoke–Induced Abnormal Cornified Envelope Formation in Human Keratinocyte.** L. Lin, and R. H. Rice. University of California Davis, Davis, CA.

#2954
**Validation of Restricted Substances Lists and Chemical Hazard Classifications as Screening Tools for Identifying Potential Skin Sensitizers in Consumer Products.** R. Ticknor¹, C. Marsh², D. Mims¹, J. Cohen², and T. Lewandowski¹. ¹Gradient, Seattle, WA; and ²Gradient, Boston, MA.
#2955  
**Poster Board Number**  
#2955  
**Ex Vivo Evaluation of Phenol-Induced Chemical Skin Lesions.**  
L. Mathieu¹, F. Burgher¹, J. Blomet¹, A. Bouraoui¹, A. Navarro¹, A. H. Hall², E. Lati³, L. Peno-Mazzarino³, and H. Maibach⁴. ¹Laboratoire Prevor, Valmondois, France; ²Toxicology Consulting and Medical Translating Services, Springtown, TX; ³Laboratoire BIO-EC, Longjumeau, France; and ⁴University of California San Francisco, San Francisco, CA.

#2956  
**Poster Board Number**  
#2956  
**GARD Skin and GARD Potency: A Proof of Concept Study to Investigate the Applicability Domain for Agrochemical Formulations.**  
M. Corvaro¹, J. Henriquez², R. Settivari³, U. T. Mattson⁴, and S. Geha². ¹Corteva Agriscience, Rome, Italy; ²Corteva Agriscience, Indianapolis, IN; ³Corteva Agriscience, Newark, DE; and ⁴SenzaGen AB, Lund, Sweden.

#2957  
**Poster Board Number**  
#2957  
**Quantitative Sensitizing Potency Assessment Using GARD Skin Dose-Response.**  
H. Johansson¹, R. Gradin¹, A. Forreryd¹, and J. Schmidt². ¹SenzaGen AB, Lund, Sweden; and ²SenzaGen Inc., Raleigh, NC.

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Please note that the listed times for all Poster Sessions reflect US Eastern Daylight Time (UTC -4).

Wednesday, March 24, 11:15 AM to 1:00 PM

Poster Session: Alternatives to Mammalian Models II

Chair(s): Lisa Truong, Oregon State University.

Abstract #

#2963 Poster Board Number ........................................... P101 Development of High-Throughput In Vitro Human Alveolar Tissue Models Utilizing Novel Electrospun Scaffolds.  
P. J. Hayden¹, R. Kassab¹, K. C. Golden¹, J. Chakravarty¹, A. Heng², N. F. Long³, L. M. Fitzgerald¹, L. Willetts¹, G. R. Gaudette², and M. D. Phaneuf¹. ¹BioSurfaces Inc., Ashland, MA; ²Worcester Polytechnic Institute, Worcester, MA; and ³Corning Incorporated, Tewksbury, MA.

#2964 Poster Board Number ........................................... P102 Characterization of Single Species Biofilms in an In Vitro Intestinal Model.  

#2965 Poster Board Number ........................................... P103 Utilizing Computational Fluid Dynamics Modeling to Create an Aerosol-Specific Cell Culture Exposure System to Evaluate the Toxicity of Aerosols at the Air-Liquid Interface.  

#2966 Poster Board Number ........................................... P104 Study on the Inflammatory Effects Induced by Smoke Based on Exposure-Circulation-Metabolism Model.  
C. Hua, J. Zhao, P. Shang, X. Li, and F. Xie. Zhengzhou Tobacco Research Institute of CNTC, Zhengzhou, China. Sponsor: R. Meng

#2967 Poster Board Number ........................................... P105 Using the Human Proximal Tubule Cell Line HK-2 to Evaluate In Vitro to In Vivo Concordance of Toxicity.  
M. Mossoba, and R. Sprando. US FDA, Laurel, MD. Sponsor: J. Yourick

#2968 Poster Board Number ........................................... P106 The Human In Vitro Developmental Toxicity Assay, devTOX quickPredict, Accurately Predicts the Developmental Toxicity Potential of Agrochemical Research Molecules.  

#2969 Poster Board Number ........................................... P107 Cryopreserved Primary Human Thyrocytes for Screening of Thyroid Disruptive Chemicals.  

#2970 Poster Board Number ........................................... P108 A Human Pluripotent Stem Cell-Based Assay, devTOX quickPredict, Accurately and Reproducibly Predicts the Developmental Toxicity Potential across a Diverse Set of Chemicals.  

S. Mondal, E. Hegarty, C. Martin, S. K. Gökçe, and A. Ben-Yakar. University of Texas at Austin, Austin, TX.

#2972 Poster Board Number ........................................... P110 Characterization of Aerosolized CBD E-liquids and Cytotoxicity in a 3D Air-Liquid Interface In Vitro Model.  
M. Katsigeorgis, J. Adragna, and T. Gordon. New York University Langone School of Medicine, New York, NY.
#2973  
**Poster Board Number**  
**Metabolic Response to PAH Toxicity in an Airway Organotypic Culture Model.**  
V. Colvin, K. Bastin, L. K. Siddens, M. Maier, D. E. Williams, and S. C. Tilton. Oregon State University, Corvallis, OR.

#2974  
**Poster Board Number**  
**Biomarkers of PAH Toxicity in Normal and Asthmatic Human Bronchial Epithelial Cells.**  
T. Valdez, C. Huynh, B. Rivera, Y. Chang, J. Pennington, and S. Tilton. Oregon State University, Corvallis, OR.

#2975  
**Poster Board Number**  
**Repeatability of a Depth of Injury Test Method for the Classification of Eye Irritants.**  
P. Mistry\(^1\), J. V. Jester\(^2\), D. Le\(^1\), and S. Lebrun\(^1\). \(^1\)Lebrun Labs LLC, Anaheim, CA; and \(^2\)University of California Irvine, Irvine, CA. Sponsor: G. DeGeorge

#2976  
**Poster Board Number**  
**Integrating Cytotoxicity Profiling into the H295R Steroidogenesis Assay.**  
A. Karmaus\(^1\), N. Christy\(^1\), J. Fowler\(^1\), and S. Levine\(^2\). \(^1\)Integrated Laboratory Systems Inc., Morrisville, NC; and \(^2\)Bayer AG, Chesterfield, MO.

#2977  
**Poster Board Number**  
**Toward Automation of High-Throughput Toxicology Assay Image Analysis Using Deep Learning.**  
A. Tandon\(^1\), A. Maharana\(^1\), B. Howard\(^3\), S. Ramaiahgari\(^1\), P. Dunlap\(^3\), J. Rice\(^1\), A. Merrick\(^1\), M. DeVito\(^1\), S. Ferguson\(^3\), and R. Shah\(^1\). \(^1\)Sciome LLC, Research Triangle Park, NC; and \(^3\)NIEHS/NTP, Research Triangle Park, NC.

#2978  
**Poster Board Number**  
**Effects of \(p\)-cresol and Conjugated Metabolites on Markers of Cellular Toxicity in HepaRG Cells.**  

#2979  
**Poster Board Number**  
**Evaluation of Toxic Effects of Psychoactive Substances Using Caenorhabditis elegans as a Biological Model.**  

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**Wednesday, March 24, 11:15 AM to 1:00 PM**

**Poster Session: Biomarkers**

**Chair(s):** Minhong Huang, Iowa State University.

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**Abstract #**

#2980  
**Poster Board Number**  
**Transcriptomic Meta-Analyses Reveal a Molecular Fingerprint Underlying Hepatic Cholestasis Response.**  
J. J. Reske\(^1\), M. B. Black\(^1\), A. Ranade\(^1\), C. Chesne\(^3\), J. Orelien\(^1\), and P. D. McMullen\(^1\). \(^1\)ScitoVation, Durham, NC; \(^3\)Michigan State University, East Lansing, MI; and \(^1\)Biopredic International, Rennes, France.

#2981  
**Poster Board Number**  
**Exploration of Small RNA Biomarkers for Rat Testicular Injury in the Serum Exosomes.**  
T. Yokoi, T. Kagawa, Y. Koya, H. Kajiyaama, S. Oda, and R. Kawata. Nagoya University Graduate School of Medicine, Nagoya, Japan.

#2982  
**Poster Board Number**  
**Biomarkers of Human Exposure and Effect to Petrogenic Polycyclic Aromatic Hydrocarbons.**  
D. Y. Yap\(^1\), G. Golovko\(^1\), H. Spratt\(^1\), H. Fernando\(^2\), G. Ansari\(^1\), S. P. Croissant\(^1\), J. Sullivan\(^1\), and C. J. Efferink\(^1\). \(^1\)University of Texas Medical Branch at Galveston, Galveston, TX; and \(^2\)Prairie View A&M University, Prairie View, TX.

#2983  
**Poster Board Number**  
**Transcriptomic and Morphological Study of the Impact of Duration of Exposure to All-Trans Retinoic Acid on Its Metabolic Pathway in the Zebrafish Embryotoxicity Assay.**  
L. M. Samrani\(^1\), J. L. Pennings\(^1\), R. Bars\(^2\), M. Pallardy\(^3\), H. Tinwell\(^2\), and A. H. Piersma\(^1\). \(^1\)Rijksinstituut voor Volksgezondheid en Milieu (RIVM), Bilthoven, Netherlands; \(^2\)Bayer SAS, Lyon, France; and \(^3\)Université Paris, Châtenay-Malabry, France.
| #2985 | Poster Board Number | P123 | High-Throughput Screening and Genome-Wide Analyses of 44 Anticancer Drugs in the 1000 Genome Cell Lines Reveal an Association of the NQO1 Gene with the Response of Multiple Anticancer Drugs. | F. S. Akhtari, G. W. Small, T. M. Havener, K. R. Roell, A. J. Green, J. S. House, D. M. Reif, H. L. McLeod, T. Wiltshire, and A. A. Motzinger-Reif. 1NIEHS, Research Triangle Park, NC; 2University of North Carolina at Chapel Hill, Chapel Hill, NC; 3North Carolina State University, Raleigh, NC; and 4University of South Florida Taneja College of Pharmacy, Tampa, FL. |
| #2986 | Poster Board Number | P124 | Dysregulated Metabolites by Electronic Cigarette and Cigarette Smoke Serve as Novel Biomarker for Metabolic Diseases Caused by Vaping and Smoking. | Q. Wang, X. Ji, and J. Rahman. 1University of Rochester Medical Center, Rochester, NY; and 2Georgia State University, Atlanta, GA. |
| #2987 | Poster Board Number | P125 | Exploration of Cell-Free DNA in Human Embryonic Stem Cells as a Biomarker of Teratogenicity. | M. I. Weick. NIEHS/NTP, Research Triangle Park, NC. |
| #2988 | Poster Board Number | P126 | Mycotoxins Exposure in Children Resided in Banke Region, Nepal. | K. Baral, D. Davis, A. Pokharel, S. Ghosh, P. Webb, and J. Wang. 1University of Rochester Medical Center, Rochester, NY; and 2Georgia State University, Atlanta, GA. |
| #2989 | Poster Board Number | P127 | New Insights into Genotoxic and Oxidative Stress Responses within Rat Nasal Tissue for Propylene Oxide-Induced Mode of Action (MOA) of Nasal Tumors. | J. Klapacz, S. S. Sarang, M. J. LeBaron, M. Bell, R. R. Young, M. Koehler, F. Zhang, E. L. McClymont, L. M. Moore, and K. Kleinert. 1Dow, Midland, MI; 2Shell International, Houston, TX; and 3MilliporeSigma, Rockville, MD. |
| #2990 | Poster Board Number | P128 | Lung Tissue-Derived Extracellular Vesicle Cargo as Novel Protein Biomarkers in Asthma. | A. Srinivasan, and I. Sundar. University of Kansas Medical Center, Kansas City, KS. |
| #2991 | Poster Board Number | P129 | A Novel Biomarker of Dopamine Homeostasis Disruption. | R. A. Crawford, E. Gilardoni, and J. Doorn. University of Iowa, Iowa City, IA. |

Wednesday, March 24, 11:15 AM to 1:00 PM

Poster Session: Clinical and Translational Toxicology

Chair(s): James Dear, University of Edinburgh, United Kingdom.

| Abstract # |
| #2993 | Poster Board Number | P131 | Elevated Cytokine Profiles in Response to Prosthetic Implant and Implant-Associated Infection in Total Knee Arthroplasty. | N. Prince, J. Penatzer, M. Dietz, M. Shaw, M. Newman, and J. Boyd. West Virginia University, Morgantown, WV. |
#2994  Poster Board Number ................................................................. P132
Preconception Fish Oil Mitigates the Impact of Historical Toxicant Exposure on Bronchopulmonary
Dysplasia in a Mouse Model. J. T. Rumph¹, V. R. Stephens², S. Ameli², K. G. Osteen¹, and K. Bruner-Tran¹.
¹Meharry Medical College, Nashville, TN; and ²Vanderbilt University, Nashville, TN.

#2995  Poster Board Number ................................................................. P133
Translation of In Vitro Cytokine Release Outputs to Clinical Reactogenicity Scores. R. Pullen III¹,
E. Sassano², D. Drake², and R. Brennan¹. ¹Sanofi, Waltham, MA; and ²Sanofi, Orlando, FL.

#2996  Poster Board Number ................................................................. P134
Poisoning Fatalities in Pregnancy from the American Association of Poison Control Center Annual
Reports, 1999-2018. T. Dodd-Butera¹,², H. Li¹, and M. Der Movsesian¹. ¹Azusa Pacific University, San Diego, CA;
²California State University San Bernardino, San Bernardino, CA; and ³Azusa Pacific University, Monrovia, CA.

#2997  Poster Board Number ................................................................. P135
microRNA-122 and Its Isomirs in Acetaminophen-Induced Liver Injury. J. D. Tranter¹, C. E. MacLeod¹,
L. Chahman-Vos², O. Matthews¹, and J. W. Dear¹. ¹University of Edinburgh, Edinburgh, United Kingdom; and
²Universiteit Utrecht, Utrecht, Netherlands.

Wednesday, March 24, 11:15 AM to 1:00 PM
Poster Session: COVID-19 Issues
Chair(s): Taehyun Roh, Texas A&M University.

Abstract #
#2998  Poster Board Number ................................................................. P136
The Health Opportunity Index: Understanding the Input to Disparate Health Outcomes in Vulnerable
and High-Risk Census Tracts. D. B. Hood¹, C. N. Ogojiaku¹, J. C. Allen², R. Anson-Dwamena³, K. S. Barnett³,
O. T. Adetona¹, and W. Im¹. ¹Ohio State University, Columbus, OH; ²Ohio Department of Health, Columbus, OH;
³Kirwan Institute for the Study of Race and Ethnicity, Columbus, OH; and ⁴Meharry Medical College, Nashville, TN.

#2999  Poster Board Number ................................................................. P137
Elucidating Interactions between SARS-CoV-2 Trimeric Spike Protein and ACE2 Using Homology
Modeling and Molecular Dynamics Simulations. S. Sakkiah, and H. Hong. US FDA/NCTR, Jefferson,
AR. Sponsor: W. Tong

#3000  Poster Board Number ................................................................. P138
The Australian COVID-19 Second Wave Coincided with a Sudden Local Surge of the s_s477n Mutant of

#3001  Poster Board Number ................................................................. P139
SARS and HIV Inhibitory Peptides with Therapeutic Potential against COVID-19. B. V. Bassa, and
R. M. Uppu. Southern University and A&M College, Baton Rouge, LA.

#3002  Poster Board Number ................................................................. P140
Molecular Signatures in SARS-CoV and SARS-CoV2. R. M. Uppu, and B. V. Bassa. Southern University and
A&M College, Baton Rouge, LA.

#3003  Poster Board Number ................................................................. P141
University of Massachusetts Amherst, Amherst, MA.

#3004  Poster Board Number ................................................................. P142
Modeling COVID-19 Pathogenesis Using the Adverse Outcome Pathway Framework: The CIAO Project.
L. Mei, and H. Mortensen. Oak Ridge Associated Universities, Research Triangle Park, NC.

The Association of Exposure to Arsenic from Drinking Water with COVID-19 Infection and Mortality in Texas. T. Roh, D. Han, N. Johnson, T. Wang, and N. T. Hasan. 1Texas A&M University School of Public Health, College Station, TX; and 2Texas A&M University, College Station, TX.

Assessing the Risk of Coronavirus Transmission in Different Counties of Kansas and Identifying the Relative Impact of Environmental Factors and Human Demography. M. Riad, and Z. Lin. Kansas State University, Manhattan, KS.


Dysregulated ACE2 Activity and Cytokine Profile amongst Smokers Could Increase Disease Susceptibility toward SARS-CoV2. G. Kaur, S. Sharma, and I. Rahman. University of Rochester Medical Center, Rochester, NY.

Evaluating Consumer Exposure to Disinfecting Chemicals against Coronavirus Disease 2019 (COVID-19) and Associated Health Risks. D. Li, A. Sangion, and L. Li. 1University of Nevada Reno, Reno, NV; and 2University of Toronto, Toronto, ON, Canada.

Exhaled Aerosols and Transmission of Particles Presumed to Contain Respiratory Viruses: An Observational Study in Normal, Healthy, as Well Clinically Ill Persons. G. Scheuch, M. Weiss, T. Voshaar, D. Koehler, and R. Jaeger. 1GS Bio-Inhalation GmbH, Gemunden, Germany; 2Palas GmbH, Karlsruhe, Germany; 3Krankenhaus Bethanien, Moers, Germany; 4Fachkrankenhaus Kloster, Schmallenberg, Germany; and 5CH Technologies (USA) Inc, Westwood, NJ.

Dysregulation in microRNA Expression in Peripheral Blood Mononuclear Cells from Patients with COVID-19. J. Zhou, X. Yang, Y. Zhong, P. Nagarkatti, and M. Nagarkatti. University of South Carolina School of Medicine, Columbia, SC.

The Suitability of Reconstructed Human Epidermis Models for Medical Device Irritation Assessment: A Comparison of In Vitro and In Vivo Testing Results. K. P. Coleman, W. H. De Jong, J. W. Carraway, C. Liu, C. Fan, J. Liu, A. P. Turley, and T. S. Rollins. 1Medtronic, Minneapolis, MN; 2Rijksinstituut voor Volksgezondheid en Milieu (RIVM) [Retired], Bilthoven, Netherlands; 3NAMSA, Northwood, OH; 4National Medical Products Administration, Jinan, China; and 5Nelson Laboratories Inc., Salt Lake City, UT.
#3015  
**Poster Board Number**  
**Accelerated Method to Predict Long-Term Nickel Release from Nitinol.**  

#3016  
**Poster Board Number**  
**Applicability of the European Chemicals Agency (ECHA) Database in Medical Device Toxicological Risk Assessments (TRAs).**  

#3017  
**Poster Board Number**  
**Medical Device Alchemy: How Chemistry Can Affect Your Toxicological Risk Assessment.**  

#3018  
**Poster Board Number**  
**Optimization of Extraction Method B Using Common Organic Solvents for Dosing in Genotoxicity In Vitro Assays.**  
F. Merah. Charles River, Senneville, QC, Canada. Sponsor: A. Hamel

#3019  
**Poster Board Number**  
**How Sensitive Should Chemical Characterization of Medical Devices Be? Calibration of Analytical Evaluation Thresholds with the Carcinogenic Potency Database.**  
T. Kennedy, and M. Spinti. W. L. Gore & Associates Inc., Flagstaff, AZ.

#3020  
**Poster Board Number**  
**Applicability Domain of the GARDskin Medical Device Test for In Vitro Skin Sensitization Testing of Medical Devices.**  
J. J. Schmidt¹, R. Brown², and R. Jenvert³. ¹SenzaGen Inc, Raleigh, NC; ²Risk Science Consortium LLC, Arnold, MD; and ³SenzaGen AB, Lund, Sweden.

#3021  
**Poster Board Number**  
**Safety of Nutrients or Essential Elements Commonly Extracted from Medical Devices Confirmed through Multiple Toxicological Risk Assessments.**  
J. Bendaly, S. Wu, X. Dai, and C. Roegge. Medtronic, Minneapolis, MN.

#3022  
**Poster Board Number**  
**Evaluating Sensitization and Chemical-Mediated Pyrogenicity through Toxicological Risk Assessments of Chemicals Extracted from Medical Devices.**  
J. Bendaly, C. Roegge, S. Wu, and X. Dai. Medtronic, Minneapolis, MN.

#3023  
**Poster Board Number**  
**Considerations for Uncertainty Factor Determination in Medical Device Extractables Analysis.**  

#3024  
**Poster Board Number**  
**A Method for Simulating Clinical Use of Luer Valve Disinfectant Caps for Estimating a Worst-Case-Exposure-Dose of Isopropyl Alcohol (IPA) in Neonatal Intensive Care Unit (NICU) Patients.**  
J. Park¹, A. Lumen², B. Oktem¹, H. Shin¹, and A. Hood³. ¹US FDA/CDRH, Silver Spring, MD; and ³US FDA/NCTR, Jefferson, AR.

#3025  
**Poster Board Number**  
**Advancing the Evaluation of Reproductive and Developmental Toxicity Endpoints in the Preclinical Safety Assessment of Medical Devices.**  
J. Park, and A. Hood. US FDA/CDRH, Silver Spring, MD.

#3026  
**Poster Board Number**  
**Evaluation of a Toxicological Screening Limit (TSL) Approach to Reduce the Burden of Toxicological Risk Assessments of Medical Device Analytical Screening Data.**  
C. Pinto, H. Shin, and A. Hood. US FDA/CDRH, Silver Spring, MD.

#3027  
**Poster Board Number**  
**Cancer Risk Assessment for Medical Devices—Shifting Paradigms toward a Personalized Approach.**  
C. Fischer, and R. Elespuru. US FDA/CDRH, Silver Spring, MD.
Wednesday, March 24, 11:15 AM to 1:00 PM

Poster Session: Stem Cell Biology and Toxicology

Chair(s): Erik Tokar, NIEHS/NTP.

Abstract #

#3028  
**Poster Board Number** ................................................................. P166  
**Transcriptomic and Proteomic Responses of Silver Nanoparticles in Hepatocyte-Like Cells Derived from Human Induced Pluripotent Stem Cells.**  

#3029  
**Poster Board Number** ................................................................. P167  
**A Human 3D iPSC-Derived Brain Model to Study Chemical-Induced Myelin Disruption.**  
D. Pamies¹, M. Chesnut², M. Maillard³, A. Mutallimov³, L. Smirnova⁴, K. Ramirez Cuevas⁴, T. Hartung², M. Zurich¹, and H. Hogberg¹. ¹Université de Lausanne, Lausanne, Switzerland; and ²Johns Hopkins University Center for Alternatives to Animal Testing (CAAT), Baltimore, MD.

#3030  
**Poster Board Number** ................................................................. P168  
**Can SARS-CoV-2 Infect Developing Human Embryos?**  
A. Song, and P. Talbot. University of California Riverside, Riverside, CA.

#3031  
**Poster Board Number** ................................................................. P169  
**Gene Network Regulations Show Different Signatures for Morpholines and Piperidines in the ESTc.**  
G. Mennen¹, N. Hallmark², M. Pallardy³, R. Bars³, H. Tinwell⁴, and A. Piersma¹,²,⁵. ¹Rijksinstituut voor Volksgezondheid en Milieu (RIVM), Bilthoven, Netherlands; ²Bayer AG, Monheim, Germany; ³Université de Paris, Châtenay-Malabry, France; ⁴Bayer SAS, Sophia-Antipolis, France; and ⁵Universiteit Utrecht, Utrecht, Netherlands.

#3032  
**Poster Board Number** ................................................................. P170  
**Characteristics of Human iPS Cell-Derived Intestinal Epithelial Cells and Usefulness as a Model for Gastrointestinal Toxicity Evaluation.**  
S. Mima¹, Y. Imakura¹, N. Yamazaki¹, S. Mochizuki¹, A. Inomata¹, T. Iwao¹, T. Matsunaga², K. Nagata¹, and M. Taniguchi¹. ¹Fujifilm Corporation, Kanagawa, Japan; and ²Nagoya City University, Nagoya City, Japan. Sponsor: A. Inomata, Japanese Society of Toxicology

#3033  
**Poster Board Number** ................................................................. P171  
**A Human Embryonic Stem Cell–Based High-Throughput Platform with AI Technology to Screen for Developmental Toxicants.**  
Y. Chen, S. Birla, and E. Tokar. NIEHS, Research Triangle Park, NC.

#3034  
**Poster Board Number** ................................................................. P172  
**New Assay Tools for Short-Term and Chronic-Dosing Cardiotoxicity Studies.**  

#3035  
**Poster Board Number** ................................................................. P173  
**Evaluation of the hPSC Scorecard Assay in a Human Embryonic Stem Cell Test for Developmental Toxicity Screening.**  
J. Gamble¹,², and C. Deisenroth¹. ¹US EPA/ORD, Research Triangle Park, NC; and ²Oak Ridge Institute for Science and Education, Oak Ridge, TN.

#3036  
**Poster Board Number** ................................................................. P174  
**Comparison of Immunoconditioning Regimens for Cell Therapy Toxicology Studies Using the NCG or NSG Mouse Models.**  

Arsenic Impairs Stem Cell Differentiation via the Hippo Signaling Pathway. M. C. Perego1, B. D. McMichael1,2, and L. J. Bain1. 1Clemson University, Clemson, SC; and 2US EPA, Durham, NC.


Nrf2 Improves Angiogenic Function of Diabetic Endothelial Progenitor Cells though Transcriptional Reprogramming of Mitochondrial Metabolism. X. Dai1, J. Fan1, L. Cai2, and Y. Tan2. 1Chengdu Medical College, Chengdu, China; and 2University of Louisville, Louisville, KY.


Application of In Vitro Hepatic Clearance Data and Physiologically Based Kinetic Modeling for the Estimation of Species Differences in Internal Exposure. J. Louisse, N. Pinckaers, K. Beekmann, A. Peijnenburg, and A. Punt. Wageningen University, Wageningen, Netherlands.


Understanding the Impact of Chemical Structure on the Hydrolysis of Fatty Esters of 2-ethylhexanoic Acid or 2-ethylhexanol. C. Obringer, C. Lester, A. Vallance, M. Karb, A. Smith, A. Zoller, and C. Ellison. Procter & Gamble, Mason, OH.
**Abstract #**

**#3060**  
**Poster Board Number** ................................................................. P191  
**Assessing the Relationship between Neighborhood Socioeconomic Status and Toxic Chemical Releases in Upstate New York.** A. Charette. SUNY College of Environmental Science and Forestry, Syracuse, NY.

**#3061**  
**Poster Board Number** ................................................................. P192  
**Clinical Management of Poisoned Patients: An Educational Intervention for Medicine Students of the University of Concepción, Chile.** M. Urzúa-Farrán, and C. Muller-Ramirez. 1Independent Consultant, Concepción, Chile; and 2University of Concepción, Concepción, Chile.

**#3062**  
**Poster Board Number** ................................................................. P193  
**Diversity Initiatives in Undergraduate Research and Education: Our Journey toward Success in Meeting the Goals of Group 2 of CDI-UDP 2020 Cycle.** K. Camargo1, T. Cedillo2, J. Parres-Gold3, T. Phan4, M. Prentice5, G. Rosado6, and T. Damodaran7. 1Texas A&M University, College Station, TX; 2St. Mary’s University, San Antonio, TX; 3California State University, Los Angeles, CA; 4North Carolina State University, Raleigh, NC; 5Savannah State University, Georgia, GA; 6Universidad de Puerto Rico en Arecibo, Arecibo, PR; and 7North Carolina Central University, Durham, NC.

**#3063**  
**Poster Board Number** ................................................................. P194  
#3064  **Poster Board Number** ................................................................. P195  

#3065  **Poster Board Number** ................................................................. P196  

#3066  **Poster Board Number** ................................................................. P197  
**Bayesian Analysis and Data Availability to Improve Animal Welfare Ethics.**  L. D. Burgoon. Raptor Pharm & Tox Ltd., Apex, NC.

#3067  **Poster Board Number** ................................................................. P198  
**Determinants of Exposure to Potential Endocrine Disrupting Chemicals following Hurricane Harvey.**  S. M. Samon¹, D. Rohlman¹, L. Tidwell¹, P. Hoffman¹, A. Oluyomi², C. Walker², W. Hamilton³, G. Armstrong³, M. Bondy³, and K. Anderson¹. ¹Oregon State University, Corvallis, OR; ²Baylor College of Medicine, Houston, TX; and ³Stanford University, Stanford, CA.

#3068  **Poster Board Number** ................................................................. P199  

#3069  **Poster Board Number** ................................................................. P200  
**Novel Scientific Literacy Approaches to Facilitate Communication between Researchers, Clinicians, and E-cigarette Users.**  E. Hickman¹, N. Rice², J. Halladay¹, K. Gray¹, I. Jaspers¹, and D. Haine¹. ¹University of North Carolina at Chapel Hill, Chapel Hill, NC; and ²Mountain Area Health Education Center, Asheville, NC.

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**Wednesday, March 24, 1:00 PM to 2:45 PM**

**Poster Session: Neurotoxicity: Metals**

**Chair(s):** Nesta Bortey-Sam, University of Pittsburgh.

**Abstract #**

#3070  **Poster Board Number** ................................................................. P201  
**The Role of Environmental Stressors on a UNC13A Single Nucleotide Polymorphism in C. elegans and Motor Neuron Degeneration: A Possible Cause of Sporadic Amyotrophic Lateral Sclerosis.**  M. Flores¹, and W. Atchison². ¹St. Mary's University, San Antonio, TX; and ²Michigan State University, East Lansing, MI.

#3071  **Poster Board Number** ................................................................. P202  
**Methylmercury Induces Allodynia through Activation of Inflammatory Microglia in Spinal Cord and Subsequent Stimulation in Somatosensory Cortex of Rats.**  M. Fujimura¹, F. Usuki², and A. Nakamura¹. ¹National Institute for Minamata Disease, Ministry of the Environment, Minamata, Japan; and ²Joint Research Center for Human Retrovirus Infection, Kagoshima, Japan. Sponsor: M. Fujimura, Japanese Society of Toxicology.

#3072  **Poster Board Number** ................................................................. P203  
**Excessive Copper Impairs Adult Neurogenesis in Brain Subventricular Zone In Vitro.**  L. L. Liu, W. Jiang, and W. Zheng. Purdue University, West Lafayette, IN.
#3073
Poster Board Number ................................................................. P204
Distribution of Lead (Pb) and Selenium (Se) in Mouse Brain following Subchronic Pb Exposure by Using Synchrotron X-ray Fluorescence. A. Webb1, K. Spiers2, G. Falkenburg3, H. Gu1, S. Dwibhashyam1, Y. Du1, W. Zheng1, and L. Nie1. 1Purdue University, West Lafayette, IN; 2Deutsches Elektronen-Synchrotron DESY, Hamburg, Germany; and 3Indiana University School of Medicine, Indianapolis, IN.

#3074
Poster Board Number ................................................................. P205

#3075
Poster Board Number ................................................................. P206
Activity of the Manganese Efflux Transporter SLC30A10 in Catecholaminergic Neurons Protects against Manganese-Induced Motor Deficits. C. A. Taylor1, S. Hutchens2, T. Jursa2, W. Shawlot1, M. Aschner1, D. R. Smith2, and S. Mukhopadhyay1. 1University of Texas at Austin, Austin, TX; 2University of California Santa Cruz, Santa Cruz, CA; and 3Albert Einstein College of Medicine, Bronx, NY.

#3076
Poster Board Number ................................................................. P207
Sensitivity and Specificity of MRI Markers of Manganese Brain Deposition. H. Monsivais1, G. Francis1, S. Snyder1, J. Kuhn2, and U. Dydak1. 1Purdue University, West Lafayette, IN; and 2Purdue University Northwest, Westville, IN.

#3077
Poster Board Number ................................................................. P208
Pathogenic Role of Subchronic Lead Exposure in Cerebral Amyloid Angiopathy and Alzheimer’s Disease. H. Gu1, P. Territo1, W. Zheng1, and Y. Du1. 1Indiana University School of Medicine, Indianapolis, IN; and 2Purdue University, West Lafayette, IN.

#3078
Poster Board Number ................................................................. P209

#3079
Poster Board Number ................................................................. P210
Inducible and Conditional Stimulation of Adult Neurogenesis Rescues Mice from Cd-Impaired Cognition and Olfactory Memory. H. Wang, and Z. Xia. University of Washington, Seattle, WA.

#3080
Poster Board Number ................................................................. P211
SLC39A14 Knockout Mice—A Genetic Model of Manganese-Induced Dystonia-Parkinsonism. A. N. Rodichkin1, M. Edler2, J. L. McGlothlan1, and T. R. Guilarte1. 1Florida International University, Miami, FL; and 2Kent State University, Kent, OH.

#3081
Poster Board Number ................................................................. P212

#3082
Poster Board Number ................................................................. P213
LRRK2 GTPase-Binding Domain and 14-3-3 Protein Play a Role in Manganese-Induced Toxicity in Microglia. I. Nyarko-Danquah1, E. Pajarillo1, A. Digman1, M. Aschner2, and E. Lee1. 1Florida A&M University, Tallahassee, FL; and 2Albert Einstein College of Medicine, New York, NY.

#3083
Poster Board Number ................................................................. P214
The Transcription Factor REST in Astrocytes Attenuates Manganese-Induced Excitotoxic Dopaminergic Injury by Enhancing Astrocytic Glutamate Transporter GLT-1. E. B. Pajarillo1, I. Nyarko-Danquah1, A. Digman1, M. Aschner2, and E. Lee1. 1Florida A&M University, Tallahassee, FL; and 2Albert Einstein College of Medicine, New York, NY.

#3084
Poster Board Number ................................................................. P215
7,8-Dihydroxyflavone Reduces Hippocampal Network Hypersynchrony Caused by Chronic Pb2+ Exposure in the Rat. N. W. Schultheiss, J. L. McGlothlan, T. R. Guilarte, and T. A. Allen. Florida International University, Miami, FL.
#3085 Poster Board Number ................................................................. P216
**Longitudinal Follow-Up on Neuropsychological Assessment of Welders.** L. O. Stucky, H. Monsivais, S. Snyder, and U. Dydak. Purdue University, West Lafayette, IN.

#3086 Poster Board Number ................................................................. P217
**Inducible and Conditional Activation of Adult Neurogenesis Rescues Cadmium-Induced Hippocampus-Dependent Memory Deficits in a Mouse Model of Alzheimer's Disease.** M. T. Matsushita, and Z. Xia. University of Washington, Seattle, WA.

#3087 Poster Board Number ................................................................. P218
**Role of APL-1 in Manganese-Induced Toxicity in Caenorhabditis elegans and Potential Mitigation by An Iron Chelator.** A. C. Martins Jr1, B. Pannia Esposito2,1, T. Rios Rossi Lima1, A. B. Bowman1, and M. Aschner1. 1Albert Einstein College of Medicine, Bronx, NY; 2Universidade de São Paulo, São Paulo, Brazil; and 3Purdue University, West Lafayette, IN.

#3088 Poster Board Number ................................................................. P219
**Latent Alterations in Swimming Behavior by Developmental Methylmercury Exposure Are Modulated by cat-2 in Caenorhabditis elegans.** T. Ke1, L. M. Prince2, A. B. Bowman1, and M. Aschner1. 1Albert Einstein College of Medicine, Bronx, NY; and 2Purdue University, West Lafayette, IN.

#3089 Poster Board Number ................................................................. P220
**Developmental MeHg Exposure Persistently Alters In Vitro Human Cortical Glutamatergic Neuronal Differentiation.** L. M. Prince1, M. D. Neely2, S. Xie1, M. Henley1, M. Thomas1, H. Kim1, M. Aschner1, J. Thimmuparam1, and A. B. Bowman1. 1Purdue University, West Lafayette, IN; 2Vanderbilt University, Nashville, TN; and 3Albert Einstein College of Medicine, Bronx, NY.

#3090 Poster Board Number ................................................................. P221
**Essential Amino Acids Are Crucial for Manganese Potentiation of Insulin/IGF Dependent S6, but Not AKT Phosphorylation.** R. C. Balachandran1, M. Thomas3, X. Tang2, M. Aschner3, and A. B. Bowman4. 1Abt Associates Inc., Rockville, MD; 2Purdue University, West Lafayette, IN; 3Albert Einstein College of Medicine, Bronx, NY; and 4Purdue University, West Lafayette, IN.

#3091 Poster Board Number ................................................................. P222
**BTBD9, a Restless Legs Syndrome–Associated Gene, Regulates Manganese-Induced Toxicity.** P. Chen1, A. Bowman2, and M. Aschner1. 1Albert Einstein College of Medicine, Bronx, NY; and 2Purdue University, West Lafayette, IN.

**Wednesday, March 24, 1:00 PM to 2:45 PM**

**Poster Session: Neurotoxicity: Pesticides**

**Chair(s):** Nikolay Filipov, University of Georgia.

**Abstract #**

#3092 Poster Board Number ................................................................. P223
**Single Low Doses of Deltamethrin Cause ER Stress and Decrease Hippocampal Neurogenesis in Mice.** M. M. Hossain1, A. Belkadi1, and E. DiCicco-Bloom2. 1Florida International University, Miami, FL; and 2Rutgers, The State University of New Jersey, Piscataway, NJ.

#3093 Poster Board Number ................................................................. P224

#3094 Poster Board Number ................................................................. P225
**Investigating the Influence of CHD8 Haploinsufficiency on Pyrethroid-Induced Developmental Neurotoxicity.** J. A. Jimenez, and M. J. Zylka. University of North Carolina at Chapel Hill, Chapel Hill, NC.
#3095 Poster Board Number ................................................. P226
Prior Exposure to Stress Hormone Exacerbates the Neuroinflammatory Response to the Nerve Agent Sarin and Pesticide Dichlorvos in a Mouse Model of Gulf War Illness. L. T. Michalovicz1, K. A. Kelly1, D. B. Miller1, S. M. Lasley1, and J. P. O’Callaghan1. 1NIOSH, Morgantown, WV; and 2University of Illinois College of Medicine at Peoria, Peoria, IL.

#3096 Poster Board Number ................................................. P227
Comparative Analysis of the Mechanisms of Organophosphorus Pesticide Developmental Neurotoxicity in Freshwater Planarians. D. Ireland1, S. Zhang2, V. Bochenek1, C. Rabeler1, Z. Meyer1, and E. S. Collins1. 1Swarthmore College, Swarthmore, PA; and 2University of California San Diego, La Jolla, CA.

#3097 Poster Board Number ................................................. P228

#3098 Poster Board Number ................................................. P229
Long-Term Neurobiological Alterations Caused of Gulf War Illness–Related Chemicals in Mice Are Ameliorated by a Delayed Treatment with the Immunotherapeutic LNFPIII. J. M. Carpenter, H. D. Ludwig, J. J. Wagner, D. A. Harn, and N. M. Filipov. University of Georgia, Athens, GA.

#3099 Poster Board Number ................................................. P230
Neurotoxic Mechanisms of a Sarin Surrogate beyond Acetylcholinesterase Inhibition. C. Price, E. Meek, and J. Chambers. Mississippi State University, Mississippi State, MS.

#3100 Poster Board Number ................................................. P231
Lacto-N-Fucopentaose-III (LNFPIII) Ameliorates Acute Aberrations in Hippocampal Synaptic Plasticity and Transmission in a Gulf War Illness Animal Model. K. A. Brown1, C. J. Preston1, J. M. Carpenter1, H. D. Ludwig1, T. Norberg1, D. A. Harn1, N. M. Filipov1, and J. J. Wagner1. 1University of Georgia, Athens, GA; and 2Uppsala Universitet, Uppsala, Sweden.

#3101 Poster Board Number ................................................. P232

#3102 Poster Board Number ................................................. P233

#3103 Poster Board Number ................................................. P234
Dichlorodiphenyltrichloroethane Exacerbates Tau Protein Toxicity in Caenorhabditis elegans. V. Kalia1; J. Bradner1, F. Lau1, M. Bucher1, K. E. Manz2, Z. Coates Feuntes2, K. Pennell2, D. I. Walker3, M. Picard4, and G. W. Miller5. 1Columbia University Mailman School of Public Health, New York, NY; 2Brown University School of Engineering, Providence, RI; 3Icahn School of Medicine at Mount Sinai, New York, NY; and 4Columbia University Irving Medical Center, New York, NY.

#3104 Poster Board Number ................................................. P235
Epigenetic Modifications in a DFP-Based Rat Model for Gulf War Illness. A. Ribeiro, F. M. Jahr, E. Hawkins, J. L. McClay, and L. S. Deshpande. Virginia Commonwealth University, Richmond, VA.
**Poster Session: Pesticides**

**Chair(s):** Sheung (Alice) Ng, Syngenta.

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**Abstract #**

**#3105**

**Poster Board Number** ................................................................. P236

*In Vitro Study on the Effects of Combined Exposure to Chlorpyrifos or Chlorpyrifos Oxon on Profenofos Metabolism and Acetylcholine Esterase Inhibition.* I. Omwenga¹, I. M. Rietjens¹, and J. Louisse². ¹Division of Toxicology, Wageningen University and Research, Wageningen, Netherlands; and ²Wageningen Food Safety Research, Wageningen University and Research, Wageningen, Netherlands.

**#3106**

**Poster Board Number** ................................................................. P237


**#3107**

**Poster Board Number** ................................................................. P238


**#3108**

**Poster Board Number** ................................................................. P239

*Mancozeb Exposure Results in Disruption of Mitochondrial Complex III and IV Activity in Transformed Human Colon Cancer Cells.* A. Dhaneshwar, and D. Hardej. St. John's University, Queens, NY.

**#3109**

**Poster Board Number** ................................................................. P240

*Acute and Long Term Exposure Study of Human Metabolism of Organophosphorus Compounds.* G. Agarwal¹, T. Lane², S. Ekins², and C. McElroy¹. ¹Ohio State University, Columbus, OH; and ²Collaborations Pharmaceutical Inc., Raleigh, NC.

**#3110**

**Poster Board Number** ................................................................. P241

*Carboxylesterase Inactivation by Chlorpyrifos: Immunotoxic or Protective in the Murine Lung?* B. N. Szafran, A. Borazjani, R. Carr, M. K. Ross, and B. L. Kaplan. Mississippi State University, Starkville, MS.

**#3111**

**Poster Board Number** ................................................................. P242

*Adipocyte Differentiation and/or Lipid Accumulation Are Induced by Commonly Used Pesticides in Indiana.* F. Mesmar, and M. Bondesson. Indiana University Bloomington, Bloomington, IN.

**#3112**

**Poster Board Number** ................................................................. P243

*Multi-omics Phenotyping of the Gut-Liver Axis Allows Health Risk Predictability from Subchronic Toxicity Tests of a Low-Dose Pesticide Mixture in Sprague-Dawley Rats.* R. Mesnage¹, M. Teixeira², D. Mandrioli¹, L. Falcioni¹, Q. Ducarmo¹, R. Zwittink¹, C. Amiel¹, J. Panoff¹, E. Bourne¹, E. Savage², C. Mein², F. Belpoggi¹, and M. Antoniou¹. ¹King's College London, London, United Kingdom; ²Université de Caen Basse-Normandie, Caen Cedex, France; ³Istituto Ramazzini, Bologna, Italy; ⁴Leids Universitair Medisch Centrum, Leiden, Netherlands; and ⁵Queen Mary University of London, London, United Kingdom.
Poster Session: Safety Assessment: Pharmaceutical—Drug Discovery
Chair(s): Vijay Kale, Amgen Inc.

Abstract #

#3113 Poster Board Number .................................................. P244
Using Small Molecule Tool Inhibitors for Early Target Safety Assessment in Drug Discovery: VPS34

#3114 Poster Board Number .................................................. P245

#3115 Poster Board Number .................................................. P246

#3116 Poster Board Number .................................................. P247
Early Screens to Evaluate the Developmental Toxicity of Pyrimidine Biosynthesis Inhibitors. R. J. Brennan¹, B. Gauthier², and G. Zech³. ¹Sanofi, Waltham, MA; ²Sanofi, Montpellier, France; and ³Sanofi, Frankfurt, Germany.

#3117 Poster Board Number .................................................. P248
Mechanism of Hypocalcemia Caused by GSPT1 Degradation in Human Cereblon Knock-In Mice. K. Ghoreishi¹, L. Alvarado¹, R. Guzman¹, Y. Ren¹, K. Smith¹, T. Galvez¹, Y. Tang¹, J. Hansen¹, M. Nagy¹, M. Correa¹, J. Piccotti¹, and W. Korzun². ¹Bristol-Myers Squibb Company, San Diego, CA; and ²Virginia Commonwealth University, Richmond, VA.

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Thursday, March 25, 11:15 AM to 1:00 PM

Poster Session: Animal Models

Chair(s): Yongke Lu, Marshall University.

Abstract #

#3118 Poster Board Number ............................................. P101
A Comparative Study of Two β-Blockers, Atenolol and Nebivolol, against Diabetic Testicular Toxicity and Sperm DNA Damage in Male Rats. S. Kushwaha¹, and G. Jena². ¹Babasaheb Bhimrao Ambedkar University, Lucknow, India; and ²National Institute of Pharmaceutical Education and Research, Punjab, India.

#3119 Poster Board Number ............................................. P102

#3121 Poster Board Number ............................................. P104
Real-Time Neurological and Cognitive Effects of Inhalation Exposure to Single and Combined Chemicals in Rats. E. E. Phillips¹,², B. Sharits¹,², D. Holtzapple¹,³, B. Sweeney¹,², B. Terry¹,², J. Stricker¹,², M. T. Greenwood¹, E. Roberts¹,², M. Armstrong¹,³, T. Ethridge¹,⁴, S. M. McInturf¹, R. A. James¹,², K. L. Mums¹, and T. D. King¹. ¹Naval Medical Research Unit Dayton, Wright-Patterson AFB, OH; ²Parsons Corporation, Centreville, VA; ³Odyssey Systems Consulting Group Ltd., Wakefield, MA; and ⁴Oak Ridge Institute for Science and Education, Oak Ridge, TN.

#3122 Poster Board Number ............................................. P105

#3123 Poster Board Number ............................................. P106

#3124 Poster Board Number ............................................. P107
Parental Cadmium Exposure Increased Hepatocellular Carcinoma Risk of the Male Offspring. H. Men¹,², J. Young¹, W. Zhou¹,², L. Xiong¹, Y. Zheng¹, and L. Cai¹. ¹University of Louisville, Louisville, KY; and ²First Hospital of Jilin University, Changchun, China.

#3125 Poster Board Number ............................................. P108
Circadian Rhythms Modulate House Dust Mite–Induced Lung Immune-Inflammatory Response and Airway Remodeling in Mice. A. Srinivasan, and I. Sundar. University of Kansas Medical Center, Kansas City, KS.

#3126 Poster Board Number ............................................. P109

#3127 Poster Board Number ............................................. P110
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#3128
**Poster Board Number** ................................................................. P111
**Docosahexaenoic Acid (DHA) Suppresses Broad Spectrum of Inflammatory Proteins Elicited in a Murine Model of Silica-Triggered Lupus Flaring.** L. D. Rajasinghe1, M. A. Bates1, K. A. Wierenga1, A. Kirby1, A. Benninghoff2, A. Holian1, J. Harkema1, and J. Pestka1. 1Michigan State University, Lansing, Mi; 2Utah State University, Logan, UT; and 'University of Montana, Missoula, MT.

#3129
**Poster Board Number** ................................................................. P112
**Evaluation of Dermal Sensitization and Genetic Toxicity Induced by Dimethyl Amine Borane.** R. Frawley1, A. Watson1, K. Witt1, T. Guo2, W. Mangheng3, K. White Jr1, and D. Germolec1. 1NIEHS, Morrisville, NC; and 'Virginia Commonwealth University, Richmond, VA.

#3130
**Poster Board Number** ................................................................. P113
**Omega-3 Fatty Acid Docosahexaenoic Acid (DHA) Suppresses Proinflammatory Cytokine/Chemokine Secretion and Cell Death in Alveolar Macrophage–Like MPI Cells.** A. Kirby, L. D. Rajasinghe, K. A. Wierenga, and J. J. Pestka. Michigan State University, East Lansing, MI.

#3131
**Poster Board Number** ................................................................. P114

#3132
**Poster Board Number** ................................................................. P115
**Rapid Pulmonary Ectopic Lymphoid Neogenesis in Lupus-Prone NZBWF1 Mice following Acute Intranasal Exposure to Crystalline Silica.** P. S. Chauhan1, J. G. Wagner1, A. D. Benninghoff1, R. P. Lewandowski1, O. K. Favor1, K. A. Wierenga1, K. N. Gilley1, E. A. Ross1, J. R. Harkema1, and J. J. Pestka1. 1Michigan State University, East Lansing, MI; and Utah State University, Logan, UT.

#3133
**Poster Board Number** ................................................................. P116
**Gut Microbiome-Host Interactions in Driving Environmental Agent Trichloroethene-Mediated Autoimmune Hepatitis.** H. Wang, N. Banerjee, Y. Liang, G. Wang, and M. F. Khan. University of Texas Medical Branch at Galveston, Galveston, TX.

#3134
**Poster Board Number** ................................................................. P117
**Aberrant Expression of microRNAs in TCE-Mediated Autoimmune Response.** N. C. Banerjee, H. Wang, G. Wang, and M. F. Khan. University of Texas Medical Branch at Galveston, Galveston, TX.
Thursday, March 25, 11:15 AM to 1:00 PM

**Poster Session: Inflammation**

Chair(s): Lisa Miller, University of California Davis.

### Abstract 

**Poster Board Number**  
#3135  
**Cannabidiol Treatment in Experimental Autoimmune Encephalomyelitis Inhibits Production of the Pro-Inflammatory Cytokine IL-1β.** N. Dopkins, K. Wilson, K. Miranda, P. Nagarkatti, and M. Nagarkatti. University of South Carolina School of Medicine, Columbia, SC.

#3136  
**Cyp1b1-Derived Lipid Epoxides Modulate TRPA1 Activity in the SNL Model of Chronic Pain.** L. Sun, J. Zhang, C. Niu, C. E. Deering-Rice, R. Hughen, A. Light, and C. A. Reilly. University of Utah, Salt Lake City, UT.

#3137  

#3138  
**Chronic Organic Dust Exposure Induces Lung Inflammation and Cancer-Related Gene Expression Changes in Mice.** E. C. Dominguez, M. Nguyen, J. Velazquez, A. Ulu, and T. M. Nordgren. University of California Riverside, Riverside, CA.

#3139  
**Involvement of BK Potassium Channel in Silica-Induced Lysosome Membrane Permeability and NLRP3 Inflammasome Activity.** R. L. Kendall, and A. Holian. University of Montana, Missoula, MT.

#3140  
**Surface Translocator Protein 18 kDa (TSPO) Localization on Immune Cells upon Stimulation with Lipopolysaccharide and in ART-Treated HIV+ Subjects.** L. K. Blevins¹, R. B. Crawford¹, D. J. Azzam², T. R. Guilarte, and N. E. Kaminski. ¹Michigan State University, East Lansing, MI; and ²Florida International University, Miami, FL.

#3141  
**E-cigarette Use, Systemic Inflammation, and Depression.** K. R. Farrell¹, E. Karey¹, G. Gibbon¹, T. Gordon¹, and M. Weitzman¹. ¹New York University Grossman School of Medicine, New York, NY; ²New York University College of Global Public Health, New York, NY; and ³New York University School of Global Public Health, New York, NY.

#3142  
**Role of Hyperglycaemia in Ulcerative Colitis: Studies on Male and Female BALB/c Mice.** S. Singla, and C. Sahu. National Institute of Pharmaceutical Education and Research, Mohali, India.

#3143  
**Lipid Raft-Mediated Regulation of NADPH Oxidase: Vaping-Induced Inflammation.** R. Begum¹, D. P. Singh¹, S. Thota¹, D. Kambiranda², and S. Batra¹. ¹Southern University and A&M College, Baton Rouge, LA; and ²Southern University Agriculture Research and Extension Center, Baton Rouge, LA.

#3144  
**Cytochrome P450 (CYP) 2C8-Derived Linoleic Acid Metabolites Modulate the Inflammatory Response of Human Lung Epithelial Cells.** M. Almestica-Roberts, E. Rapp-Reyes, K. L. Burrell, L. Sun, C. Deering-Rice, and C. A. Reilly. University of Utah, Salt Lake City, UT.

#3145  
**Role of Carrageenan in the Development and Prevalence of Inflammatory Bowel Disease.** A. Crawford, K. Lum, K. Uh, and D. E. Johnson. University of California Berkeley, Berkeley, CA.
#3146  Poster Board Number ................................................................. P129
Mechanisms Driving Ectopic TRPV1 I585I/V-Induced TRPA1 Expression by Human Lung Epithelial Cells.

#3146a  Poster Board Number .......................................................... P129a
A Comparative Analysis of Salivary and Nasal Inflammation Biomarkers in Users of E-cigarettes, Hookah, and Cigarettes.  J. N. Hess1, E. Karey2, J. Shearston1, J. Eazor1, T. Reed2, I. Jaspers1, M. Weitzman2, and T. Gordon1. 1NYU Environmental Medicine, New York, NY; 2New York University Langone School of Medicine, New York, NY; 3Columbia University, New York, NY; and 4University of North Carolina at Chapel Hill, Chapel Hill, NC.

Thursday, March 25, 11:15 AM to 1:00 PM
PS  Poster Session: Natural Products
Chair(s): Jill Ryer-Powder, Verto Solutions LLC.

Abstract #

#3147  Poster Board Number ................................................................. P130
Quantitative Analysis of Quercetin in Hyperacanthus amoenus and Carissa bispinosa Foliages.

#3148  Poster Board Number ................................................................. P131
The Testing of Lovage Extract (Levisticum officinale) to Meet the Requirements of Chemical Regulations.

#3149  Poster Board Number ................................................................. P132
Activity and Cytotoxicity of Selected Medicinal and Alien Plants of South Africa against Wild-Type and Drug-Resistant Clinical Isolates of Major Causative Organism of Mastitis and Skin Ulcer.
E. C. Ogbuadike1, S. M. Nkadimeng1, C. C. Igwe2, I. Petzer1, and L. J. McGaw1. 1University of Pretoria, Pretoria, South Africa; and 2FFIRO, Lagos, Nigeria.

#3150  Poster Board Number ................................................................. P133
Virgin Coconut Oil Polyphenols Alter Epithelial-Mesenchymal Markers and the Migratory Potential of Melanocytes.  S. P. Illam1, S. P. Kandiyil1, S. V. Veetil1, R. M. Uppu2, and A. C. Raghavamenon1. 1Amala Cancer Research Center, Kerala, India; and 2Southern University and A&M College, Baton Rouge, LA.

#3151  Poster Board Number ................................................................. P134
In Vitro Toxicity and Metabolism of a Potentially Sustainable, Fungal Colourant—Dermorubin.
J. Ylöstö-Oyrä1, M. Herrala1, R. Juvonen1, M. Lehtonen1, R. Räisänen1, G. Umbuzeiro3, and J. Rysä1. University of Eastern Finland, Kuopio, Finland; 3University of Helsinki, Helsinki, Finland; and 4University of Campinas, Limeira, Brazil. Sponsor: M. Viluksela

#3152  Poster Board Number ................................................................. P135

#3153  Poster Board Number ................................................................. P136
Nephrohepato-Protective Ability of Fractions of Ageratum conyzoides in Carbon Tetrachloride–Induced Rats.
Poster Session: Oxidative Injury and Redox Biology

Chair(s): Lurdes Queimado, University of Oklahoma Health Sciences Center.

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#3154
Poster Board Number ................................................................. P137

#3155
Poster Board Number ................................................................. P138
Investigating the Effect of Clerodendrum volubile Extract on Doxorubicin-Induced Toxicities: In Vivo and In Silico Studies. O. R. Molehin1, K. A. Idowu1, A. B. Olaoye2, A. E. Fakayode3, and O. O. Adesua4. 1Ekiti State University, Ado-Ekiti, Nigeria; 2University of KwaZulu-Natal, Durban, South Africa; 3Federal Polytechnic Ado-Ekiti, Ado-Ekiti, Nigeria; and 4Obafemi Awolowo University, Ile-Ife, Nigeria.

#3156
Poster Board Number ................................................................. P139
Nrf2 Protects the Developmental Redox Status in the Liver of the Developing Zebrafish (Danio rerio) Embryo. E. S. Marques, A. Rastogi, E. Severance, S. M. Conlin, and A. R. Timme-Laragy. University of Massachusetts Amherst, Amherst, MA.

#3157
Poster Board Number ................................................................. P140
The Synergic Oxidative Stress in A549 Cells Induced by Arsenious Acid Solution As (III) and Cigarette Smoke Condensates. J. Zhao, P. Shang, C. Hua, F. Xie, and X. Li. Key Laboratory of Tobacco Chemistry, Zhengzhou Tobacco Research Institute of CNTC, Zhengzhou, China. Sponsor: R. Meng

#3158
Poster Board Number ................................................................. P141
Real-Time Monitoring of Redox Events in Human Airway Epithelial Cells Exposed to an Environmental Peroxide. E. R. Pennington1, S. Masood2, Z. Zhang3, A. Gold2, W. Wu1, Y. Yang1, and J. Samet4. 1Oak Ridge Institute for Science and Education, Oak Ridge, TN; 2University of North Carolina at Chapel Hill, Chapel Hill, NC; 3Xinxiang Medical University School of Public Health, Xinxiang, China; 4East China University of Science and Technology, Shanghai, China; and 4US EPA, Research Triangle Park, NC.

#3159
Poster Board Number ................................................................. P142
Elevation of Cellular Glutathione Inhibits Neuronal Hyperexcitability via Redox Regulation of mTOR. A. Sri Hari, L. Liang, J. Roede, and M. Patel. University of Colorado Anschutz Medical Campus, Aurora, CO.

#3160
Poster Board Number ................................................................. P143
An Effect-Based Comparison of Conventional Drinking Water Production and Pilot-Scale Ozonation and Granular Activated Carbon Filter Treatment: Special Focus on Oxidative Stress and Mutagenicity. M. Yu1, E. Lavonen2, A. Oskarsson1, and J. Lundqvist1. 1Sveriges lantbruksuniversitet, Uppsala, Sweden; and 2Veolia Water Technologies, Solna, Sweden.

#3161
Poster Board Number ................................................................. P144
Ethanol Perturbs Collagen Synthesis and Mineralization in Bone, Associated with Impaired Perilacunar-Canalicular Remodeling. A. Denys, K. B. Pedersen, C. Maimone, and M. J. Ronis. Louisiana State University Health Sciences Center, New Orleans, LA.

#3162
Poster Board Number ................................................................. P145
Reduced Osteoblast Function Is a Feature of Both Chronic and Binge Ethanol Exposure in Mice. A. R. Norman, A. Denys, K. B. Pedersen, C. Maimone, and M. J. Ronis. Louisiana State University Health Sciences Center, New Orleans, LA.
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#3163  Poster Board Number ................................................................. P146

_**Dioxin Disrupts Thyroid and Glucocorticoid Hormone Induction of klf9, a Master Regulator of Frog Metamorphosis.**_  D. T. Han, W. Zhao, and W. H. Powell. Kenyon College, Gambier, OH.

#3164  Poster Board Number ................................................................. P147


#3165  Poster Board Number ................................................................. P148


#3166  Poster Board Number ................................................................. P149

_**Flavonoids Are Nuclear Receptor 4A1 (NR4A1, Nur77) Ligands That Act as Inhibitors of Endometriosis.**_  K. Mohankumar1, S. J. Han2, R. Shrestha1, and S. Safe1. 1Texas A&M University, College Station, TX; and 2Baylor College of Medicine, Houston, TX.

#3167  Poster Board Number ................................................................. P150

_**Differential Roles of ARNT Isoforms During T Cell Activation.**_  A. Cooper, I. Muro, and C. Wright. University of Texas Medical Branch at Galveston, Galveston, TX.

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Thursday, March 25, 1:00 PM to 2:45 PM

**Poster Session: Emerging Technologies**

Chair(s): Mansi Krishan, Becton, Dickinson and Company.

Abstract #

#3168  Poster Board Number ................................................................. P151

_**Virucidal Activity of Chlorine Dioxide Gas for Reduction of Coronavirus on Surfaces and PPE.**_  J. Driver, G. Lukasik, M. Bourgeois, P. Tam, and R. Harbison. University of South Florida, Tampa, FL.

#3169  Poster Board Number ................................................................. P152

_**A Ribonucleoprotein Transfection Strategy for CRISPR/Cas9-Mediated Gene Editing in Rainbow Trout.**_  M. Zoppo1, N. Okoniewski1, S. Pantelyushin1, J. vom Berg2, and K. Schirmer1. 1Eawag, Dübendorf, Switzerland; and 2Universität Zürich, Zürich, Switzerland. Sponsor: K. Schirmer, Society of Environmental Toxicology and Chemistry

#3170  Poster Board Number ................................................................. P153

_**Novel Proteomic Biomarkers for the Prediction of Renal Recovery from Dialysis-Dependent AKI Patients.**_  L. Yu1, J. R. Daniels1, J. Z. Ma2, Z. Cao1, J. Sun1, R. D. Beger1, D. Choudhury3, P. M. Palevsky4, and D. Portilla2. 1US FDA/NCTR, Jefferson, AR; 2University of Virginia, Charlottesville, VA; 3Salem VA Medical Center, Salem, VA; and 4University of Pittsburgh, Pittsburgh, PA.


High Interlaboratory Reproducibility in Transfer of Duplex Sequencing Technology. S. Zhang1, R. R. Young1, S. Orozco1, F. Y. Lo2, C. C. Valentine3, and J. J. Salk3. 1MilliporeSigma, Rockville, MD; and 2TwinStrand Biosciences Inc., Seattle, WA.


Characterization of a Subcutaneous Injection of Tenofovir Alafenamide Long-Acting Formulations in Beagles. B. Singh1, A. Chester1, E. Nejati2, T. Ervin2, C. Mintie2, and J. Hartke1. 1Gilead Sciences Inc., Foster City, CA; and 2Covance Inc., Madison, WI.

Evaluation of Inter-individual Variability of KI Cytotoxicity with iPSC-CMs from Selected Donors of the HyperGEN Cohort. L. Pang1, L. Ren1, V. Srivinasasainagendra2, P. Aggarwal2, A. Matter1, K. Papineau1, Q. Shi1, M. White3, X. Yang1, L. Schnakenberg1, H. K. Tiwari3, W. Mattes1, and U. Broeckel1. 1US FDA/NCTR, Jefferson, AR; 2University of Alabama at Birmingham, Birmingham, AL; 3Medical College of Wisconsin, Milwaukee, WI; 4Arkansas College of Osteopathic Medicine, Fort Smith, AR; and 5US FDA/CDER, Silver Spring, MD.

Validation of the SafeDesign Reporter Assay for the Quantification of the Onset of Adverse Responses and to Reveal the Underlying Mode of Action. B. ter Braak1, L. Wolters1, G. Hendriks1, and B. van de Water2. 1Toxys B.V., Leiden, Netherlands; and 2Leiden Academic Centre for Drug Research, Universiteit Leiden, Leiden, Netherlands.

Safety Assessment of Seven Degradants from Over-the-Counter (OTC) Drugs. V. S. Bhat1, A. Rodrigues2, and D. Wikoff3. 1ToxStrategies Inc., Boston, MA; 2ToxStrategies Inc., Mission Viejo, CA; and 3ToxStrategies Inc., Asheville, NC.

Transcriptomic Profiling of In Vitro 2D and 3D Models to Predict Drug-Induced Liver Injury (DILI). P. Walker1, R. Fritsch2, A. Rosell-Hidalgo1, Y. Feng1, R. Rex1, M. Severo Witte2, T. Samatov2, A. Lavado1, S. Ryder1, R. Barton1, and C. Strock1. 1Cyprotex Discovery Limited, Macclesfield, United Kingdom; 2Evotec, Gottingen, Germany; and 3Cyprotex Discovery Limited, Watertown, MA.
Species Specific Urothelial Toxicity with an Anti-HIV Non-catalytic Site Integrase Inhibitor (NCINI) Is Related to Unusual pH-Dependent Physicochemical Changes. R. Roberts¹, R. C. Campbell², P. Sikakana¹, C. Sadler¹, M. Osier³, J. Feng¹, Y. Xu¹, A. Chester³, and L. Burns Naas³. ¹ApconX, Alderley Edge, United Kingdom; ²University of Manchester, Manchester, United Kingdom; and ³Gilead Sciences Inc., Foster City, CA.

6-pentadecyl Salicylic Acid Improves the Antineoplastic Effect and Decreases Myelosupression Caused by Chemotherapeutic Drugs. J. Galot-Linaldi, E. Estrada-Muñiz, and L. Vega. Cinvestav, Mexico City, Mexico.

Differences in Spontaneous Neoplastic Incidence in Crl:CD(SD) Rats and Crl:WI(Han) Rats. M. A. Morse¹, C. N. Papagianiss², and D. G. Stump¹. ¹Charles River Laboratories, Spencerville, OH; ²Charles River Laboratories, Mattawan, MI; and ³Charles River Laboratories, Ashland, OH.

Reproducibility of Survival and Spontaneous and NMU-Induced Neoplastic Incidence in CByB6F1-Tg(HRAS)2Jic (Tg.rasH2) Mice over the Last Decade. J. R. Ciallella, K. L. Bonnette, and M. A. Morse. Charles River, Spencerville, OH.


A Combined In Vitro Approach for the Dual Detection of Functional and Structural Cardiotoxicity. S. Ryder¹, S. Bevan¹, B. Park¹, A. Lavado¹, P. Walker¹, and C. Strock². ¹Cyprotex Discovery Limited, Macclesfield, United Kingdom; and ²Cyprotex Discovery Limited, Watertown, MA.


An Interactive, Open-Source Software Tool for Summarization and Visualization of an API’s Toxicological Profile across Species, Route of Administration, and Study Duration. M. Ali, and K. Snyder. US FDA, Silver Spring, MD. Sponsor: M. Ali, American College of Toxicology.


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