

## Sunday, March 12 - Day 1

### CC Levels 300 and 400, 8:15 a.m. to noon

#### **Continuing Education Course: Current Principles for Nonclinical Chronic Toxicity/Carcinogenicity Testing of Environmental Chemicals**

*Chairperson(s):* Kristen Ryan, NIEHS, Durham, NC; and Lynea Murphy, The Dow Chemical Company, Midland, MI.

#### **Introduction and Course Goals.**

Kristen Ryan, NIEHS, Durham, NC.

#### **Overview of Pathology for Chronic Toxicity and Carcinogenicity Studies in Rodents.**

Mark Cesta, NIEHS, Durham, NC.

### CC Levels 300 and 400, 8:15 a.m. to noon

#### **Continuing Education Course: Technologies and Applications of Stem Cells for Use in Toxicology**

*Chairperson(s):* Erik Tokar, NIEHS, Durham, NC; and Aaron Bowman, Vanderbilt University Medical Center, Nashville, TN.

#### **The Fundamentals of Stem Cells for Use in Toxicological Research.**

Erik Tokar, NIEHS, Durham, NC.

### Hilton Baltimore, Key Ballroom 4, noon to 1:15 p.m.

#### **Tox21: Current Progress, Next Steps and Exploring the Concept of a New Center of Excellence for Predictive Safety**

*Warren Casey, NIEHS; Reza Rasoulpour, Dow Agro Science; Nancy Beck, American Chemistry Council; Greg Akerman, U.S. Environmental Protection Agency*

### CC Levels 300 and 400, 1:15 to 5:00 p.m.

#### **Continuing Education Course: Developmental and Reproductive Toxicology (DART) and Risk Assessment of Environmental Chemicals: Applications, Complexities, and Novel Approaches**

*Chairperson(s):* Heather Lynch, Gradient, Cambridge, MA; and Natasha Catlin, NIEHS, Durham, NC.

### CC Levels 300 and 400, 1:15 to 5:00 p.m.

#### **Continuing Education Course: Read-Across: Case Studies, New Techniques, and Guidelines for Practical Application**

*Chairperson(s):* Kristie Sullivan, Physicians Committee for Responsible Medicine, Oakland, CA; and Mark Cronin, Liverpool John Moores University, Liverpool, United Kingdom.

#### **Improving Read-Across Using Biological Data and Quality Assessment.**

Nicole Kleinstreuer, National Toxicology Program Interagency Center for the Evaluation of Alternative Toxicological Methods (NICEATM), Research Triangle Park, NC.

### CC Ballroom III, 4:45 - 6:30 p.m.

## Awards Ceremony

### Distinguished Toxicology Scholar Award

Linda Birnbaum, Ph.D., NIEHS and NTP Director

Hilton Baltimore Holiday Ballroom 4, 7:30 - 9:30 pm.

### Student/Postdoctoral Scholar Mixer

## Monday, March 13 - Day 2

CC Room 325, 6:15 - 7:45 a.m.

### SOT Mentoring Breakfast

CC Ballroom 1, 9:30 a.m. - 12:15 p.m.

### Workshop Session: Fit for Purpose: Using Computational Models for Risk

*Chairperson(s):* John Wambaugh, US EPA, Research Triangle Park, NC; and Nisha Sipes, NTP/NIEHS, Research Triangle Park, NC.

#### Abstract 1042

11:04 a.m.

#### An Intuitive Approach toward Predicting Human Risk with the Tox21 10k Library.

N.S. Sipes<sup>1</sup>, J.F. Wambaugh<sup>2</sup>, R. Pearce<sup>2</sup>, S. Auerbach<sup>1</sup>, B. Wetmore<sup>2</sup>, and S. Ferguson<sup>1</sup>. <sup>1</sup>NTP/NIEHS, Research Triangle Park, NC; and <sup>2</sup>US EPA, Research Triangle Park, NC.

CC Exhibit Hall, 9:30 a.m. to 12:45 p.m.

### Poster Session: Carcinogenesis I

*Chairperson(s):* Jessica LaRocca, Dow AgroSciences, Indianapolis, IN; and Chad Brocker, NIH, Bethesda, MD.

#### Abstract 1066, Poster Board P101

**Tracing Androgen Metabolism with Inhibition of Aromatase in Breast Cancer: In Vitro Studies and Clinical Correlates.** L.N. Bottalico<sup>1,2</sup>, C. Mesaros<sup>1,2</sup>, D. Ciccimaro<sup>1,2</sup>, N. Snyder<sup>3</sup>, and I.A. Blair<sup>1,2</sup>. <sup>1</sup>University of Pennsylvania, Philadelphia, PA; <sup>2</sup>NIEHS Center of Excellence in Environmental Toxicology, Philadelphia, PA; and <sup>3</sup>Drexel University, Philadelphia, PA.

#### Abstract 1080, Poster Board P115

**MiR-31-Mediated Upregulation of CDK1 in Ginkgo biloba Extract-Induced Hepatocellular Carcinomas in B6C3F1/N Mice.** H. Yamashita<sup>1,2</sup>, S. Surapureddi<sup>1</sup>, S. Bhusari<sup>1</sup>, K.R. Shockley<sup>1</sup>, S.D. Peddada<sup>1</sup>, K.E. Gerrish<sup>1</sup>, C.V. Rider<sup>1</sup>, M.J. Hoenerhoff<sup>3</sup>, R.C. Sills<sup>1</sup>, and A.R. Pandiri<sup>1</sup>. <sup>1</sup>NIEHS, Research Triangle Park, NC; <sup>2</sup>Taisho Pharmaceutical Co. Ltd., Saitama, Japan; and <sup>3</sup>University of Michigan, Ann Arbor, MI.

#### Abstract 1091, Poster Board P126

**Stress Responses Controlled by Circadian Rhythm Is Associated with Susceptibility to Mammary Carcinogenesis.** M.

Fang, and H. Zarbl. NIEHS Center for Environmental Exposures and Disease, and Cancer Institute of New Jersey, Rutgers University, Piscataway, NJ.

**Poster Session: Carcinogenesis II**

*Chairperson(s):* Mark Miller, NIEHS, Research Triangle Park, NC; and Dhanraj Deshmukh, University of Maryland Baltimore, Baltimore, MD.

**Abstract 1103, Poster Board P138**

**Integrating the Low-Dose Mixture Hypothesis of Carcinogenesis into the Future of Cancer Research.** M. Miller<sup>1</sup>, W.H. Goodson<sup>2</sup>, L. Lowe<sup>3</sup>, M.H. Manjili<sup>4</sup>, N. Kleinstreuer<sup>1</sup>, and W.H. Bisson<sup>5</sup>. <sup>1</sup>NIEHS, Research Triangle Park, NC; <sup>2</sup>California Pacific Medical Center Research Institute, San Francisco, CA; <sup>3</sup>Getting to Know Cancer, Truro, NS, Canada; <sup>4</sup>Virginia Commonwealth University Massey Cancer Center, Richmond, VA; and <sup>5</sup>Oregon State University, Corvallis, OR.

**Poster Session: Reproductive Toxicology**

*Chairperson(s):* David Klein, Brown University, Providence, RI

**Abstract 1188, Poster Board P309**

**A Comparison of In Vivo Reproductive and Developmental Toxicity (DART) Endpoints for Bisphenol AF and Bisphenol A.** V. Sutherland<sup>1</sup>, B. McIntyre<sup>1</sup>, K. Pelch<sup>1</sup>, S. Waidyanatha<sup>1</sup>, J.M. Conley<sup>2</sup>, L.E. Gray<sup>2</sup>, and P.M. Foster<sup>1</sup>. <sup>1</sup>NIEHS, Research Triangle Park, NC; and <sup>2</sup>US EPA, Research Triangle Park, NC.

**Abstract 1196, Poster Board P317**

**Development of a UPLC-MS/MS Method to Quantitate 2,2'-Dimorpholinodiethyl Ether (DMDEE) in Rat Plasma, Amniotic Fluid, and Fetus.** V.G. Robinson. NIEHS, Research Triangle Park, NC.

**Abstract 1197, Poster Board P318**

**Low-Dose Developmental Tetrabromobisphenol-a Exposure and Metabolic Changes In Rats.** S.A. Gillera, A. Filgo, G. Kissling, L. Birnbaum, and S. Fenton. NIEHS, Research Triangle Park, NC.

**CC Exhibit Hall, 9:30 a.m. to 12:45 p.m.**

**Poster Session: Developmental and Juvenile Toxicity**

*Chairperson(s):* Daniel Spade, Brown University, Providence, RI; and Brian P. Johnson, University of Wisconsin–Madison, Madison, WI.

**Abstract 1228, Poster Board P352**

**The Dietary Supplement Dimethylaminoethanol Bitartrate Is Not Associated with Neural Tube Defects in Hsd:SD Rats.** B. McIntyre<sup>1</sup>, H. Cunny<sup>1</sup>, A. Stokes<sup>2</sup>, E. Mylchreest<sup>2</sup>, and P. Foster<sup>1</sup>. <sup>1</sup>NIEHS/National Toxicology Program, Research Triangle Park, NC; and <sup>2</sup>Southern Research, Birmingham, AL.

**Abstract 1233, Poster Board P357**

**Pilot Prenatal CD-1 Mouse Developmental Toxicity Studies with the AIDS Drugs Tenofovir Disoproxil Fumarate (TDF), Emtricitabine (FTC), and Efavirenz (EFV) Alone and in Combination: Suggestions of a Toxicokinetic Interaction?** A.L. Dzierlenga<sup>1</sup>, H. Cunny<sup>1</sup>, C. Hebert<sup>2</sup>, L. Miller<sup>2</sup>, and B.S. McIntyre<sup>1</sup>. <sup>1</sup>National Toxicology Program, Research Triangle Park, NC; and <sup>2</sup>Southern Research, Birmingham, AL.

**Abstract 1234, Poster Board P358**

**Application of Signaling Pathway-Based Adverse Outcome Pathways and High-Throughput Human Gestational**

**Toxicokinetic Models for Identification of Putative Developmental Cardiac Toxicants.** S. Hunter<sup>1</sup>, K. Grode<sup>1</sup>, M. Rosen<sup>1</sup>, D. Kapraun<sup>1</sup>, N. Sipes<sup>2</sup>, N.C. Baker<sup>3</sup>, R. Judson<sup>1</sup>, and T. Knudsen<sup>1</sup>. <sup>1</sup>US EPA, Research Triangle Park, NC; <sup>2</sup>NIEHS, Research Triangle Park, NC; and <sup>3</sup>Leidos, Research Triangle Park, NC.

**Poster Session: Liver: In Vitro and In Silico Approaches**

*Chairperson(s):* Sarah Thacker, University of North Carolina/IDSS, Research Triangle Park, NC; and Shraddha Thakkar, US FDA/NCTR, Jefferson, AR.

**Abstract 1242, Poster Board P402**

**Assessment of the Toxicological Effects of Phenolic Benzotriazoles in an In Vitro Liver Model.** P.E. Dunlap, C. Blystone, J. Rice, S. Ramaiahgari, W. Boyd, S. Ferguson, and M. DeVito. NIEHS, Research Triangle Park, NC.

**Abstract 1256, Poster Board P416**

**Integrating Adverse Outcome Pathways into Quantitative Structure-Activity Relationships for Improved Prediction of Drug-Induced Liver Injury.** L. Wu<sup>1</sup>, Z. Liu<sup>1</sup>, S. Auerbach<sup>2</sup>, R. Huang<sup>3</sup>, M. Chen<sup>1</sup>, K. McEuen<sup>1</sup>, J. Xu<sup>1</sup>, H. Fang<sup>1</sup>, and W. Tong<sup>1</sup>. <sup>1</sup>US FDA/NCTR, Jefferson, AR; <sup>2</sup>NIH/NIEHS, Research Triangle Park, NC; and <sup>3</sup>NIH, Rockville, MD.

**Abstract 1257, Poster Board P417**

**Computationally Predicted Adverse Outcome Pathway Networks for Liver-Related Diseases Using Publicly Available Data Sources: Case Studies and Lessons Learned.** N. Oki<sup>1,2</sup>, S. Bell<sup>3</sup>, M. Angrish<sup>2</sup>, C. Grant<sup>1,2</sup>, R. Wang<sup>4</sup>, and S. Edwards<sup>2</sup>. <sup>1</sup>Oak Ridge Institute for Science Education, Oak Ridge, TN; <sup>2</sup>US EPA, Research Triangle Park, NC; <sup>3</sup>ILS/Contractor Supporting NICEATM, Research Triangle Park, NC; and <sup>4</sup>US EPA, Cincinnati, OH.

CC Exhibit Hall, 9:30 a.m. - 12:45 p.m.

**Poster Session: Epidemiology and Public Health**

*Chairperson(s):* Yudan Wei, Mercer University School of Medicine, Macon, GA; and Lynne Haber, TERA Center, University of Cincinnati, Cincinnati, OH.

**Abstract 1297, Poster Board P520**

**Hypertension in Relation to Dioxins, Polychlorinated Biphenyls, and Pesticides from the Anniston Community Health Survey Follow-Up.** E. Yang<sup>1</sup>, L. Birnbaum<sup>2</sup>, and M. Pavuk<sup>1</sup>. <sup>1</sup>ATSDR, Atlanta, GA; and <sup>2</sup>NIH, Research Triangle Park, NC.

**Abstract 1298, Poster Board P521**

**Initial Analysis of Liver Disease in the Anniston Community Health Survey-II.** M.C. Cave<sup>1</sup>, H.B. Clair<sup>1</sup>, C.M. Pinkston<sup>1</sup>, K.C. Falkner<sup>1</sup>, L.S. Birnbaum<sup>2</sup>, and M. Pavuk<sup>3</sup>. <sup>1</sup>University of Louisville, Louisville, KY; <sup>2</sup>NCI/NIH, Research Triangle Park, NC; and <sup>3</sup>ATSDR, Atlanta, GA.

**Abstract 1299, Poster Board P522**

**Associations between PCB and Dioxin Exposures with Serum Cytokines in the Anniston Community Health Survey-II.** C.M. Pinkston<sup>1</sup>, F.A. Middleton<sup>2</sup>, P.F. Rosenbaum<sup>2</sup>, H.B. Clair<sup>1</sup>, K.C. Falkner<sup>1</sup>, M. Pavuk<sup>3</sup>, L.S. Birnbaum<sup>4</sup>, and M.C. Cave<sup>1</sup>. <sup>1</sup>University of Louisville, Louisville, KY; <sup>2</sup>SUNY Upstate Medical University, Syracuse, NY; <sup>3</sup>ATSDR, Atlanta, GA; and <sup>4</sup>NCI/NIH, Research Triangle Park, NC.

**Poster Session: Epigenetics**

*Chairperson(s):* Todd A. Townsend, US FDA/NCTR, Jefferson, AR; and Kathleen Gilbert, University of Arkansas for Medical Sciences, Little Rock, AR.

**Abstract 1337, Poster Board P628**

**Detection of Smoking-Associated DNA Methylation Changes in the AHRR Gene Using High-Resolution Melt**

**Method.** A.M. Keshava<sup>1,2</sup>, M. Wan<sup>2</sup>, C. Crowl<sup>2</sup>, M.R. Campbell<sup>2</sup>, G.S. Pittman<sup>2</sup>, X. Wang<sup>2</sup>, and D.A. Bell<sup>2</sup>. <sup>1</sup>Wake Early College of Health and Sciences, Raleigh, NC; and <sup>2</sup>NIEHS, Research Triangle Park, NC.

CC Room 340, noon to 1:00 p.m.

**Exhibitor-Hosted Session: Developing an Implementation Strategy for Toxicity Testing in the 21st Century**

*Presented by:* National Institute of Environmental Health Sciences

CC Room 310, 12:30 to 1:50 p.m.

**Informational Session: Supporting Open Data in Toxicology**

*Chairperson(s):* George M. Woodall, US EPA, Research Triangle Park, NC; and Gary W. Miller, Emory University, Atlanta, GA.

**Abstract 1326b**

12:35 pm.

**Open Data in Biomedical Science: Policy Drivers and Recent Progress.**

A. Dearry, NIEHS, Research Triangle Park, NC.

CC Exhibit Hall, 1:15 to 4:30 p.m.

**Poster Session: Bioinformatics and Tox Databases**

*Chairperson(s):* Scott Auerbach, NTP/NIEHS, Research Triangle Park, NC; and Michael Madden, US EPA, Research Triangle Park, NC.

**Abstract 1365, Poster Board P103**

**Literature Review of Chemical Factors Affecting Breast Cancer Risk.** J. Stanko, V. Walker, S. Holmgren, and S. Fenton. NIEHS, Research Triangle Park, NC.

**Abstract 1381, Poster Board P119**

**Chemical Effects in Biological Systems (CEBS) Database: Treatment-Related Findings** C. Martini<sup>1</sup>, A. Rashid<sup>1</sup>, A. Paleja<sup>1</sup>, I. Lea<sup>1</sup>, and J.M. Fostel<sup>2</sup>. <sup>1</sup>ASRC Federal Vistrionix, Durham, NC; and <sup>2</sup>NIEHS/NIH, Research Triangle Park, NC.

**Abstract 1389, Poster Board P127**

**CoMPARA: Collaborative Modeling Project for Androgen Receptor Activity.** K. Mansouri<sup>1</sup>, N. Kleinstreuer<sup>2</sup>, E. Watt<sup>1</sup>, J. Harris<sup>1</sup>, and R. Judson<sup>1</sup>. <sup>1</sup>US EPA, Research Triangle Park, NC; and <sup>2</sup>NIEHS, Research Triangle Park, NC.

**Poster Session: Endocrine Toxicology**

*Chairperson(s):* Jone A. Stanley, Texas A&M University, College Station, TX.

**Abstract 1499, Poster Board P508**

**Use of Text-Mining and Machine Learning Approaches to Survey the Literature on Environmental Chemicals and the Thyroid.** B. Kiros<sup>1</sup>, B.E. Howard<sup>2</sup>, S. Holmgren<sup>1</sup>, T. Zoeller<sup>3</sup>, and K.A. Thayer<sup>1</sup>. <sup>1</sup>NIEHS, Research Triangle Park, NC; <sup>2</sup>SciOme LLC, Research Triangle Park, NC; and <sup>3</sup>University of Massachusetts Amherst, Amherst, MA.

**Abstract 1502, Poster Board P511**

**Tetrabromobisphenol-A Promotes Early Adipogenesis and Lipogenesis in 3T3-L1 Cells.** V.A. Chappell<sup>1</sup>, A. Janesick<sup>2</sup>, B.

Blumberg<sup>2</sup>, and S.E. Fenton<sup>1</sup>. <sup>1</sup>NIEHS, Research Triangle Park, NC; and <sup>2</sup>University of California Irvine, Irvine, CA.

**Abstract 1506, Poster Board P515**

**Identifying Environmental Chemicals with Potential Adipogenic Activity Using In Vitro High-Throughput Screening**

**Data.** S.E. Fenton<sup>1</sup>, K.A. Thayer<sup>1</sup>, W.A. Boyd<sup>1</sup>, V.A. Chappell<sup>1</sup>, Y. Chen<sup>2</sup>, J. Pirone<sup>3</sup>, A. Tandon<sup>3</sup>, M.J. DeVito<sup>4</sup>, and D.G. Allen<sup>4</sup>. <sup>1</sup>NIEHS/NIH, Research Triangle Park, NC; <sup>2</sup>US FDA, Loral, MD; <sup>3</sup>SciOme, LLC, Research Triangle Park, NC; and <sup>4</sup>ILS, Research Triangle Park, NC.

**Abstract 1511, Poster Board P520**

**Androgen Receptor Agonist Identification and Characterization by Screening the Tox21 10K Compound Library.**

C. Lynch<sup>1</sup>, S. Sakamuru<sup>1</sup>, R. Huang<sup>1</sup>, D.A. Stavreva<sup>2</sup>, L. Varticovski<sup>2</sup>, G.L. Hager<sup>2</sup>, R.S. Judson<sup>3</sup>, K.A. Houck<sup>3</sup>, N.C. Kleinstreuer<sup>4</sup>, W. Casey<sup>4</sup>, R.S. Paules<sup>4</sup>, and M. Xia<sup>1</sup>. <sup>1</sup>NCATS, Rockville, MD; <sup>2</sup>National Cancer Institute, Bethesda, MD; <sup>3</sup>US EPA, Research Triangle Park, NC; and <sup>4</sup>NIEHS, Research Triangle Park, NC.

**CC Ballroom I, 1:30 - 2:30 p.m.**

**Meet the Directors: A Conversation with Linda S. Birnbaum and Robert J. Kavlock**

Linda S. Birnbaum, NIEHS, Research Triangle Park, NC; and Robert J. Kavlock, US EPA, Washington, DC.

**CC Room 321, 2:00 - 4:45 p.m.**

**Workshop Session: Modernizing Toxicological Risk Assessment for Compounds Released from Pharmaceutical, Consumer, Medical Device and Combination Products: Alternative Tools and Methods**

*Chairperson(s):* Richard Hutchinson, Johnson & Johnson, Somerville, NJ; and Alan Hood, US FDA, Silver Spring, MD.

**Abstract 1581**

**2:05 PM**

**Evaluation of the Potential Immunotoxicity Associated with Exposure to Perfluorooctanoic Acid (PFOA) with a Systematic Review Framework.** A. Rooney, V. Walker, A. Boyles, and K. Thayer. NIEHS/NTP, Research Triangle Park, NC.

**CC Room 308, 2:00 - 4:45 p.m.**

**Platform Session: Multi-Omic Connections in Chemical Toxicity**

*Chairperson(s):* Jennifer Freeman, Purdue University, IN; and Edward Perkins, US Army ERDC, Vicksburg, MS.

**Abstract 1589**

**3:32 p.m.**

**High-Dimensional Toxicological Assessment of Chemical Exposure on Physiologically Relevant 3D In Vitro**

**Models.** S.C. Ramaiahgari, S. Waidyanatha, D. Dixon, M.J. DeVito, R.S. Paules, and S.S. Ferguson. NIEHS, Durham, NC.

**Abstract 1590**

**3:55 p.m.**

**Organotypic HepaRG Cultures (384-well) and High-Throughput Transcriptomics with 112 Compounds to Model Human Liver and Characterize Compound-Induced Biological-Response “Space.”**

S. Ferguson, S. Ramaiahgari, J. Rice, P. Dunlap, S. Smith-Roe, K. Witt, S. Auerbach, A. Merrick, M. DeVito, and R. Paules. NIEHS/NIH, Research Triangle Park, NC.

## Tuesday, March 14 - Day 3

CC Room 308, 9:30 a.m. to 12:15 p.m.

### Platform Session: Endocrine Toxicology

*Chairperson(s)*: Chairperson(s): Suzanne E. Fenton, NIEHS/DNTP, Research Triangle Park, NC; and Majorie van Duursen, Utrecht University, Utrecht, Netherlands.

#### Abstract 1633

9:53 a.m.

#### Blinded Evaluation of Potential Obesogens in Murine 3T3-L1 Preadipocytes following Selection from Database

**Results.** M. Bharadwaj<sup>1</sup>, V.A. Chappell<sup>1</sup>, K.A. Thayer<sup>1</sup>, J. Rice<sup>1</sup>, D.G. Allen<sup>2</sup>, W.W. Polk<sup>3</sup>, and S.E. Fenton<sup>1</sup>. <sup>1</sup>NIEHS, Research Triangle Park, NC; and <sup>2</sup>Integrated Laboratory Systems, Inc., Durham, NC.

#### Abstract 1636

11:02 a.m.

**Identification of Androgen Receptor Antagonists Using Tox21 qHTS Data and the MARCoNI Assay.** A. Bone<sup>1</sup>, M. Xia<sup>2</sup>, S. Sakamuru<sup>2</sup>, R. Huang<sup>2</sup>, R. Houtman<sup>3</sup>, R. van Beuningen<sup>3</sup>, E. Watt<sup>1</sup>, N. Kleinstreuer<sup>4</sup>, R. Judson<sup>1</sup>, and K. Houck<sup>1</sup>. <sup>1</sup>US EPA, Research Triangle Park, NC; <sup>2</sup>National Center for Advancing Translational Sciences (NIH), Rockville, MD; <sup>3</sup>Pamgene, ertogenbosch, Netherlands; and <sup>4</sup>NTP Interagency Center for the Evaluation of Alternative Toxicological Methods (NIH), Research Triangle Park, NC.

CC Exhibit Hall, 9:30 a.m. to 12:45 p.m.

### Poster Session: Neurotoxicology: General Neurotoxicity

*Chairperson(s)*: Prasada S. Kodavanti, US EPA, Research Triangle Park, NC; and Jasmine Brown, US EPA, Research Triangle Park, NC.

#### Abstract 1724, Poster Board P209

**Dysregulation of Pro-Inflammatory and Anti-Inflammatory Activation in Murine Microglia following Arsenic Exposure.** C. McPherson, and J. Harry. NIEHS, Research Triangle Park, NC.

#### Abstract 1744, Poster Board P229

**Lipid Signaling Pathways Regulate Xenobiotic Efflux Transport Activity at the Blood-Brain Barrier.** R.E. Cannon, R.A. Evans, E. Mesev, and D.B. Banks. NIEHS, Research Triangle Park, NC.

CC Exhibit Hall, 9:30 a.m. to 12:45 p.m.

### Poster Session: Dose-Response Assessment and Toxicity Reference Value Derivation

*Chairperson(s)*: Anne E. Loccisano, Exponent, Alexandria, VA; and Mara Seeley, Gradient, Cambridge, MA.

#### Abstract 1828, Poster Board P402

**The Impact of Generalized Informative Priors on Benchmark Dose Estimation.** K. Shao<sup>1</sup>, and A. Shapiro<sup>2</sup>. <sup>1</sup>Indiana University, Bloomington, IN; and <sup>2</sup>National Toxicology Program, Research Triangle Park, NC.

### Poster Session: Exposure Assessment and Biomonitoring

**Abstract 1905, Poster Board P529**

**Hepatic, Cardiovascular, and Other Biomarkers Associated with Organics and Metals Exposure in Female Vietnamese Electronic Waste Workers and Comparisons.** A.J. Schecter<sup>1,2</sup>, J.S. Kincaid<sup>1</sup>, H. Clair<sup>1</sup>, M. Cave<sup>1</sup>, A. Bhatnagar<sup>1</sup>, D. Riggs<sup>1</sup>, and L. Birnbaum<sup>3</sup>. <sup>1</sup>University of Louisville School of Medicine, Louisville, KY; <sup>2</sup>University of Louisville School of Public Health and Information Sciences, Louisville, KY; and <sup>3</sup>National Cancer Institute, National Institutes of Health, Research Triangle Park, NC.

**Poster Session: Immunotoxicology**

*Chairperson(s):* Peer Karmaus, St. Jude Children's Research Hospital, Memphis, TN; and Jessica Meyers, University of Rochester, Rochester, NY.

**Abstract 1959, Poster Board P629**

**Immunotoxic Effects of Perfluoro-n-decanoic Acid on Female Harlan Sprague-Dawley Rats and B6C3F1/N Mice When Administered by Oral Gavage.** R. Frawley<sup>1</sup>, M. Smith<sup>2</sup>, M. Cesta<sup>1</sup>, S. Hayes-Bouknight<sup>3</sup>, C. Blystone<sup>1</sup>, G. Kissling<sup>1</sup>, and D. Germolec<sup>1</sup>. <sup>1</sup>NIEHS, Research Triangle Park, NC; <sup>2</sup>Richard Bland College of William and Mary, Petersburg, VA; and <sup>3</sup>Charles River Laboratories, Inc., Durham, NC.

**Abstract 1971, Poster Board P641**

**Immunotoxicity of Benzo(a)pyrene and Phenanthrene.** V.J. Johnson<sup>1</sup>, C.V. Rider<sup>2</sup>, M.I. Luster<sup>1</sup>, E. Mutlu<sup>2</sup>, S. Waidynatha<sup>2</sup>, G.R. Burleson<sup>1</sup>, F.G. Burleson<sup>1</sup>, and D.R. Germolec<sup>2</sup>. <sup>1</sup>Burleson Research Technologies, Inc., Morrisville, NC; and <sup>2</sup>National Toxicology Program, NIEHS, Research Triangle Park, NC.

**Abstract 1976, Poster Board P646**

**Assessment of Immunotoxicity in Female F344/N and Sprague Dawley Rats and Female B6C3F1 Mice Exposed to Hexavalent Chromium via the Drinking Water.** K.A. Shipkowski<sup>1</sup>, C.M. Sheth<sup>2</sup>, M.J. Smith<sup>3</sup>, M.J. Hooth<sup>1</sup>, and D.R. Germolec<sup>1</sup>. <sup>1</sup>National Toxicology Program, NIEHS Research Triangle Park, NC; <sup>2</sup>US FDA/CDER, Silver Spring, MD; and <sup>3</sup>Richard Bland College of William and Mary, Petersburg, VA.

**CC Room 324, noon to 1:15 p.m.**

**Postdoctoral Assembly Luncheon**

*Chairperson(s):* Gabriel Knudsen, National Cancer Institute at NIEHS, Research Triangle Park, NC.

**CC Exhibit Hall, 1:15 to 4:30 p.m.**

**Poster Session: Regulation and Policy**

*Chairperson(s):* Robinan Gentry, Ramboll Environ, Monroe, LA; and Bernard Gadagbui, Toxicology Excellence for Risk Assessment (TERA) Center, Cincinnati, OH.

**Abstract 2182, Poster Board P447**

**Replacing Animals for Acute Systemic Toxicity Testing: A US Strategy and Roadmap.** A. Lowit<sup>1</sup>, C. Schlosser<sup>1</sup>, A. Myska<sup>2</sup>, G. Patlewicz<sup>3</sup>, M. Paris<sup>4</sup>, A. Karmaus<sup>4</sup>, J. Strickland<sup>4</sup>, D. Allen<sup>4</sup>, N. Kleinstreuer<sup>5</sup>, and W. Casey<sup>5</sup>. <sup>1</sup>US EPA, Washington, DC; <sup>2</sup>DOD/DTRA, Ft. Belvoir, VA; <sup>3</sup>US EPA, Research Triangle Park, NC; <sup>4</sup>ILS, Research Triangle Park, NC; and <sup>5</sup>NIEHS, Research Triangle Park, NC.

**Poster Session: The Developmental Basis of Adult Disease**

*Chairperson(s):* Asok K. Dasmahapatra, University of Mississippi, University, MS; and Jessica S. Plavicki, Brown University, Providence, RI.



**Abstract 2226, Poster Board P541**

**Temporal Microvascular and Mitochondrial Implications of Prenatal Nano-TiO<sub>2</sub> Exposure.** P. Stapleton<sup>1</sup>, A. Abukabda<sup>2</sup>, C. Nichols<sup>3</sup>, Q. Hathaway<sup>2</sup>, S. Rellick<sup>2</sup>, C. McBride<sup>2</sup>, J. Yi<sup>2</sup>, J. Hollander<sup>2</sup>, and T. Nurkiewicz<sup>2</sup>. <sup>1</sup>Rutgers University, Piscataway, NJ; <sup>2</sup>West Virginia University, Morgantown, WV; and <sup>3</sup>NIEHS, Durham, NC.

**Abstract 2228, Poster Board P543**

**Differential Gene Expression and Pathway Analysis in an Adult Japanese Population Exposed to Inorganic Arsenic in Early Childhood.** E. Tokar<sup>1</sup>, A. Merrick<sup>1</sup>, D. Phadke<sup>1</sup>, R. Shah<sup>1</sup>, M. Waalkes<sup>1</sup>, P. Grandjean<sup>2</sup>, and T. Yorifuji<sup>3</sup>. <sup>1</sup>NIEHS, Research Triangle Park, NC; <sup>2</sup>Harvard School of Public Health, Boston, MA; and <sup>3</sup>Okayama University, Okayama, Japan.

**Poster Session: Biotransformation**

*Chairperson(s):* Hartmut Jaeschke, University of Kansas Medical Center, Kansas City, KS; and Marie C. Fortin, Colgate-Palmolive, Piscataway, NJ.

**Abstract 2236, Poster Board P551**

**Xenobiotic Metabolism Benchmarking of Tox21 Cell Lines.** W. Qu, M. DeVito, and S. Ferguson, NIEHS, Research Triangle Park, NC.

**CC Room 324, 1:20 to 2:40 p.m.**

**Career Exploration through Speed Informational Interviews**

*Chairperson(s):* Natasha Catlin, NIEHS-NTP, Research Triangle Park, NC; and Alexandra Noël, Louisiana State University, Baton Rouge, LA.

*Co-Chairperson(s):* Gabriel Knudsen, NCI, Research Triangle Park, NC; Samantha McNeal, University of South Carolina, Columbia, SC; Daniel Spade, Brown University, Providence, RI; Christopher Stewart, MPI Research, Mattawan, MI.

**CC Ballroom III, 2:00 to 4:45 p.m.**

**Symposium Session: Chemically-Induced Neuroinflammation and “Sickness Behavior” Disorders**

*Chairperson(s):* James O’Callaghan, CDC/NIOSH, Morgantown, WV; and G. Jean Harry, NIEHS/NIH, Research Triangle Park, NC.

**Abstract 2292**

**2:00 p.m.**

**Introduction.** G. Harry, NIEHS/NIH, Research Triangle Park, NC

**Abstract 2293**

**2:05 p.m.**

**Overview of Neuroinflammation and Sickness Behavior.** C.A. McPherson, NIEHS/NIH, Research Triangle Park, NC.

**CC Room 314, 2:00 to 4:45 p.m.**

**Platform Session: Particulate Matter and Cardiovascular Impairment**

*Chairperson(s):* William K. Martin, Oak Ridge Institute for Science and Education, Raleigh, NC; and John G. Lamb, University of Utah, Salt Lake City, UT.

**Abstract 2328**

**2:23 p.m.**

**Ambient Particulate Matter Induces Mouse Pulmonary Pathological Vascular Remodeling and Vascular Smooth Muscle Cell Dysfunctions.** P. Lin<sup>1</sup>, C. Ho<sup>1</sup>, Y. Chen<sup>1</sup>, H. Tsai<sup>1</sup>, M. Tsai<sup>1</sup>, and S. Yet<sup>2</sup>. <sup>1</sup>National Institutes of Environmental Health Sciences, National Health Research Institutes, Zhunan, Taiwan; and <sup>2</sup>Institute of Cellular and System Medicine, National Health Research Institutes, Zhunan, Taiwan.

CC Room 340, 3:00 to 4:00 p.m.

**Exhibitor-Hosted Session: Trends, Trials, and Triumphs in In Vitro Toxicology**  
*Presented by:* Charles River and National Institutes of Environmental Health Sciences

## Wednesday, March 15 - Day 4

CC Exhibit Hall, 9:30 a.m. to 12:45 p.m.

### Poster Session: Respiratory Toxicology

*Chairperson(s):* Kristen Ryan, National Toxicology Program, Durham, NC; and Alexandra Noël, Louisiana State University, Baton Rouge, LA.

#### Abstract 2399, Poster Board P123

**Comparative Respiratory Tract Toxicity and Carcinogenicity of Metalworking Fluids in Rats and Mice following Chronic Inhalation Exposure.** K.R. Ryan<sup>1</sup>, M. Cesta<sup>1</sup>, R. Herbert<sup>1</sup>, K. Janardhan<sup>2</sup>, G. Kissling<sup>3</sup>, and D.L. Morgan<sup>1</sup>. <sup>1</sup>NIEHS, Durham, NC; and <sup>2</sup>ILS Inc, Durham, NC.

#### Abstract 2404, Poster Board P128

**Acute Inhalation Toxicity of Trimethylsilyldiazomethane in Harlan Sprague Dawley Rats and B6C3F1/N Mice.** W.M. Gwinn<sup>1</sup>, S. Waidyanatha<sup>1</sup>, D. Dixon<sup>1</sup>, R. Barnewall<sup>2</sup>, K. Patton<sup>2</sup>, B. Hayden<sup>2</sup>, J. Richey<sup>2</sup>, and M.D. Stout<sup>1</sup>. <sup>1</sup>NIEHS, Research Triangle Park, NC; and <sup>2</sup>Battelle, Columbus, OH.

### Poster Session: Air Pollution

*Chairperson(s):* Andres Henriquez, University of North Carolina at Chapel Hill, Chapel Hill, NC; and Lance M. Hallberg, University of Texas Medical Branch, Galveston, TX.

#### Abstract 2442b, Poster Board P168

**Comparative Inhalation Toxicity of Ethyltoluene Isomers in Rats and Mice.** G.K. Roberts<sup>1</sup>, C.J. Willson<sup>2</sup>, D. Olivera<sup>3</sup>, D.E. Malarkey<sup>1</sup>, and D.L. Morgan<sup>1</sup>. <sup>1</sup>National Toxicology Program, Durham, NC; <sup>2</sup>Integrated Laboratory Systems, Inc., Durham, NC; and <sup>3</sup>Alion Science and Technology Corporation, Durham, NC.

### Poster Session: Persistent Organic Pollutants

*Chairperson(s):* Mary K. Walker, University of New Mexico, Albuquerque, NM.

#### Abstract 2464, Poster Board P224

**Identifying Responders to Tetrabromobisphenol A (TBBPA) Using Marker Genes following Repeat Oral Administration in Wistar Han Rats.** S.M. Hall, S.J. Coulter, G.A. Knudsen, and L.S. Birnbaum. National Cancer Institute, Research Triangle Park, NC.

#### Abstract 2477, Poster Board P237

**Polychlorinated Biphenyls and Relative Telomere Length in the Anniston Community Health Survey.** C.L. Callahan<sup>1</sup>, M. Pavuk<sup>2</sup>, X. Ren<sup>3</sup>, L.S. Birnbaum<sup>4</sup>, J.R. Olson<sup>3</sup>, and M.R. Bonner<sup>3</sup>. <sup>1</sup>National Cancer Institute, Bethesda, MD; <sup>2</sup>CDC, Atlanta, GA; <sup>3</sup>University at Buffalo, Buffalo, NY; and <sup>4</sup>NCI at NIEHS, Research Triangle Park, NC.

CC Exhibit Hall, 9:30 a.m. to 12:45 p.m.

**Poster Session: Disposition/Pharmacokinetics**

*Chairperson(s):* Daniel R. Dietrich, University of Konstanz, Konstanz, Germany; and Wei Qu, NIEHS, Research Triangle Park, NC.

**Abstract 2483, Poster Board P245**

**Toxicokinetics of Sulfolane in Male and Female Harlan Sprague Dawley Rats and B6C3F1/N Mice Following Oral Gavage Administration.** T.R. Fennell<sup>1</sup>, S. Black<sup>1</sup>, P. Patel<sup>1</sup>, T. Uenoyama<sup>1</sup>, B.L. Fletcher<sup>1</sup>, S.D. Cooper<sup>1</sup>, M.A. Rehder Silinski<sup>1</sup>, R.A. Fernando<sup>1</sup>, V. Godfrey Robinson<sup>2</sup>, C.R. Blystone<sup>1</sup>, and S. Waidyanatha<sup>1</sup>. <sup>1</sup>RTI International, Research Triangle Park, NC; and <sup>2</sup>National Toxicology Program/NIEHS, Research Triangle Park, NC.

**Abstract 2489, Poster Board P251**

**Maternal Pharmacokinetic and Fetal Disposition of Bisphenol Analogues in the CD-1 Mouse.** D.K. Tucker<sup>1</sup>, F. Lih<sup>2</sup>, and S.E. Fenton<sup>2</sup>. <sup>1</sup>University of North Carolina at Chapel Hill, Cary, NC; and <sup>2</sup>NIEHS, Research Triangle Park, NC.

**Abstract 2490, Poster Board P252**

**Tetrabromobisphenol A Disposition and Kinetics in Pregnant and Nursing Wistar Han Rats.** G.A. Knudsen, S.M. Hall, A.C. Richards, and L.S. Birnbaum. NCI, Research Triangle Park, NC.

**Poster Session: Liver 1: Mechanisms and Translational Biomarkers**

*Chairperson(s):* Hartmut Jaeschke, University of Kansas Medical Center, Kansas City, KS; and Anna Kopec, Michigan State University, East Lansing, MI

**Abstract 2503, Poster Board P310**

**Differential Expression of Novel lncRNAs after Genotoxicant Exposure.** B.A. Merrick<sup>1</sup>, D.P. Phadke<sup>2</sup>, and R.R. Shah<sup>2</sup>. <sup>1</sup>NIEHS, Research Triangle Park, NC; and <sup>2</sup>Sciome, LLC, Research Triangle Park, NC.

**Poster Session: Liver 2: Mechanisms and Translational Biomarkers**

*Chairperson(s):* James Luyendyk, Michigan State University, East Lansing, MI.

**Abstract 2541b, Poster Board P349**

**Gene Expression Profiling of Primary Human Hepatocyte Inter-Individual Variance in Adaptive Stress Response Activation.** S. Huppelschoten<sup>1</sup>, M. Niemeijer<sup>1</sup>, W. den Hollander<sup>1</sup>, A. Baze<sup>2</sup>, C. Parmentier<sup>2</sup>, R. Paules<sup>3</sup>, L. Richert<sup>2</sup>, and B. van de Water<sup>1</sup>. <sup>1</sup>Leiden University, Leiden, Netherlands; <sup>2</sup>Kaly Cell, Strassbourg, France; and <sup>3</sup>NIH/NIEHS, Research Triangle Park, NC.

CC Exhibit Hall, 9:30 a.m. to 12:45 a.m.

**Poster Session: Clinical and Translational Toxicology**

*Chairperson(s):* Shuaizhang Li, NIH/NCATS, Rockville, MD; and Meghan Rebuli, University of North Carolina at Chapel Hill, Chapel Hill, NC.

**Abstract 2542, Poster Board P351**

**Urinary Kidney Toxicity Biomarker Performance in an Outbred Mouse Population Exposed to Cisplatin.** H. Lin<sup>1</sup>, J.

Tobacyk<sup>1</sup>, S. Luo<sup>1</sup>, and A. Harrill<sup>1,2</sup>. <sup>1</sup>University of Arkansas for Medical Sciences, Little Rock, AR; <sup>2</sup>National Toxicology Program, Durham, NC.

**Poster Session: Natural Products**

*Chairperson(s)*: Nikolay M. Filipov, University of Georgia, Athens, GA.

**Abstract 2603, Poster Board P44**

**8A Toxicological Evaluation of Goldenseal In Vitro Using Primary Human Hepatocytes.** J.R. Rice, W.A. Boyd, P.E. Dunlap, J.K. Dunnick, S.S. Ferguson, S. Ramaiahgari, and M.J. Devito. NIEHS, Durham, NC.

**Poster Session: Pesticides**

*Chairperson(s)*: Puttappa Dodmane, CalEPA/DPR, Sacramento, CA; and Sean Gehen, Dow Agrosiences, Indianapolis, IN.

**Abstract 2658, Poster Board P551**

**Formulation Development and Validation of an Analytical Method for Analysis of Pyridine, 2-(1-methyl-2-(4-phenoxyphenoxy) ethoxy) (Pyriproxyfen) in Support of Rodent Toxicology Studies.** J.C. Blake<sup>1</sup>, J. Gilliam<sup>1</sup>, J. Thadani<sup>1</sup>, D.B. Browning<sup>1</sup>, R.A. Price<sup>1</sup>, R.A. Fernando<sup>1</sup>, V.G. Robinson<sup>2</sup>, B. McIntyre<sup>2</sup>, and S. Waidyanatha<sup>2</sup>. <sup>1</sup>RTI International, Research Triangle Park, NC; and <sup>2</sup>Division of the National Toxicology Program, Research Triangle Park, NC.

**Poster Session: Nanotoxicology: Carbon-Based Nanomaterials**

*Chairperson(s)*: Salik Hussain, NIEHS/NIH, Research Triangle Park, NC; and Alexei Basnakian, University of Arkansas for Medical Sciences, Little Rock, AR.

**Abstract 2709, Poster Board P637**

**Inhalation Exposure to Multi-Walled Carbon Nanotubes Reduces TH2 Immune Responses in a House Dust Mite Model of Asthma.** M.D. Ihrie<sup>1</sup>, A.J. Taylor<sup>1</sup>, G.L. Baker<sup>2</sup>, M.D. Stout<sup>3</sup>, K.S. Duke<sup>1</sup>, and J.C. Bonner<sup>1</sup>. <sup>1</sup>North Carolina State University, Raleigh, NC; <sup>2</sup>Battelle, West Jefferson, OH; and <sup>3</sup>National Toxicology Program, Research Triangle Park, NC.

**Abstract 2713, Poster Board P641**

**Pristine and Carboxylic Acid Functionalized Multi-Walled Carbon Nanotubes Induce Pulmonary Injury Through Distinct Mechanisms.** S. Hussain<sup>1</sup>, A. Taylor<sup>2</sup>, L. Miller-Degraff<sup>1</sup>, R. Snyder<sup>1</sup>, M. George<sup>1</sup>, J. Marshburn<sup>1</sup>, A. Rice<sup>1</sup>, J. Bonner<sup>2</sup>, and S. Garantziotis<sup>1</sup>. <sup>1</sup>NIEHS/NIH, Research Triangle Park, NC; and <sup>2</sup>North Carolina State University, Raleigh, NC.

**Abstract 2716, Poster Board P644**

**Impaired Ciliogenesis in Differentiating Human Bronchial Epithelia Exposed to Nontoxic Doses of Multi-Walled Carbon Nanotubes.** R.J. Snyder<sup>1</sup>, S. Hussain<sup>1</sup>, C.J. Tucker<sup>1</sup>, S.H. Randell<sup>2</sup>, and S. Garantziotis<sup>1</sup>. <sup>1</sup>NIEHS, Durham, NC; and <sup>2</sup>University of North Carolina Chapel Hill, Chapel Hill, NC.

CC Room 321, 12:30 to 1:20 p.m.

**Distinguished Toxicology Scholar Award Lecture — Dioxins and the Ah Receptor: Synergy of Discovery**

Presented by: Linda S. Birnbaum, NIEHS and NTP Director

CC Room 309, 12:30 to 1:50 p.m.

**Roundtable Session: Herbo-Metallic Mixtures in Traditional Medicines**

*Chairperson(s)*: J. Christopher States, University of Louisville, Louisville, KY; and Jie Jerry Liu, Zunyi Medical College, Zunyi, China.

**Abstract 2729**

**12:50 p.m.**

**Understanding Chemical and Biological Similarity across Complex Mixtures in Hazard Characterization of Botanical Dietary Supplements.** C.V. Rider. NIEHS-NTP, Research Triangle Park, NC.

**CC Room 310, 12:30 to 1:50 p.m.**

**Historical Highlights Session: NIEHS Superfund Research Program: A History of Cutting-Edge Science and Innovative Technologies**

*Chairperson(s):* Danielle Carlin, NIEHS, Research Triangle Park, NC; and Rebecca Fry, University of North Carolina-Chapel Hill, Chapel Hill, NC.

**Abstract 2732**

**12:30 p.m.**

**NIEHS Superfund Research Program: A History of Cutting-Edge Science and Innovative Technologies.** W. Suk. NIEHS, Research Triangle Park, NC.

**1:20 p.m.**

**Emerging Prevention Paradigms with Nutrition: The Impact of the NIEHS SRP.** B. Hennig. University of Kentucky, Lexington, KY.

**CC Exhibit Hall, 1:15 to 4:30 p.m.**

**Poster Session: Alternatives to Mammalian Models II**

*Chairperson(s):* Daniel R. Dietrich, University of Konstanz, Konstanz, Germany; and Tetyana Kobets, New York Medical College, Valhalla, NY.

**Abstract 2792, Poster Board P160**

**Toxicity Profiling Using a Battery of Assays in Zebrafish Embryos Including Teratogenicity, Behavior, Cardiotoxicity, Ototoxicity, and Hepatotoxicity.** C. Quevedo<sup>1</sup>, A. Alzualde<sup>1</sup>, A. Alday<sup>1</sup>, I. Irijalba<sup>1</sup>, O. Holgado<sup>1</sup>, A. Muriana<sup>1</sup>, K. Ryan<sup>2</sup>, R.S. Paules<sup>2</sup>, and M. Behl<sup>2</sup>. <sup>1</sup>BIOBIDE-Bionaturis Group, San Sebastian, Spain; and <sup>2</sup>NIEHS/NIH, Durham, NC.

**Poster Session: Quantitative Systems Toxicology**

*Chairperson(s):* Susanne Ramm, Harvard Medical School, Boston, MA; and Jason B. Harris, US EPA/ORISE, Knoxville, TN

**Abstract 2913, Poster Board P407**

**Comparative Genomic Dose Response Studies of Microcystin-LR and -LA.** T.O. Saddler<sup>1</sup>, M.J. Devito<sup>1</sup>, N.J. Walker<sup>1</sup>, N.J. Machesky<sup>2</sup>, M.K. Vallant<sup>1</sup>, and S.S. Auerbach<sup>1</sup>. <sup>1</sup>NIEHS, Research Triangle Park, NC; and <sup>2</sup>Battelle, Columbus, OH.

**Abstract 2915, Poster Board P409**

**Prediction of Skin Sensitization Potency Using Machine Learning Approaches.** J. Strickland<sup>1</sup>, Q. Zang<sup>1</sup>, M. Paris<sup>1</sup>, D. Lehmann<sup>2</sup>, S. Bell<sup>1</sup>, D. Allen<sup>1</sup>, J. Matheson<sup>3</sup>, A. Jacobs<sup>4</sup>, W. Casey<sup>5</sup>, and N. Kleinstreuer<sup>5</sup>. <sup>1</sup>ILS, Research Triangle Park, NC; <sup>2</sup>US EPA, Research Triangle Park, NC; <sup>3</sup>CPSC, Rockville, MD; <sup>4</sup>US FDA/CDER, Silver Springs, MD; and <sup>5</sup>NIEHS, Research Triangle Park, NC.

**Abstract 2918, Poster Board P412**

**Benchmark Dose Analysis of Chemical Effects in Biological Systems (CEBS) Datasets.** I. Lea<sup>1</sup>, L. Yang<sup>1</sup>, A. Rashid<sup>1</sup>, and J.M. Fostel<sup>2</sup>. <sup>1</sup>ASRC Federal Vistrionix, Durham, NC; and <sup>2</sup>NIEHS, Research Triangle Park, NC.

**Abstract 2919, Poster Board P41**

**Comparison of Metrics of Chemical Similarity in High-Throughput Assays.** F. Parham<sup>1</sup>, S. Auerbach<sup>1</sup>, J. Hsieh<sup>1</sup>, and D. Svoboda<sup>2</sup>. <sup>1</sup>NIEHS, Research Triangle Park, NC; and <sup>2</sup>Sciome, Research Triangle Park, NC.

**Abstract 2922, Poster Board P416**

**Evaluation of Parameter Settings in Genomic Benchmark Dose Analysis That Minimize False Discovery and Maximize Reproducibility.** S.S. Auerbach<sup>1</sup>, J. Phillips<sup>2</sup>, D.L. Svoboda<sup>2</sup>, L. Yang<sup>3</sup>, B. Kuo<sup>4</sup>, R.S. Thomas<sup>5</sup>, C.L. Yauk<sup>6</sup>, R.R. Shah<sup>2</sup>, and R.S. Paules<sup>1</sup>. <sup>1</sup>NTP/NIEHS, Research Triangle Park, NC; <sup>2</sup>Sciome LLC, Research Triangle Park, NC; <sup>3</sup>Vistrionix, Research Triangle Park, NC; <sup>4</sup>Health Canada, Ottawa, NC, Canada; <sup>5</sup>US EPA, Research Triangle Park, NC; and <sup>6</sup>Health Canada, Ottawa, ON, Canada.

**Abstract 2935, Poster Board P429**

**An Integrated Chemical Environment to Support 21st Century Toxicology.** S. Bell<sup>1</sup>, J. Phillips<sup>2</sup>, A. Sedykh<sup>2</sup>, C. Sprankle<sup>1</sup>, S. Morefield<sup>1</sup>, D. Allen<sup>1</sup>, W. Casey<sup>3</sup>, and N. Kleinstreuer<sup>3</sup>. <sup>1</sup>ILS, Research Triangle Park, NC; <sup>2</sup>Sciome, Research Triangle Park, NC; and <sup>3</sup>NIEHS, Research Triangle Park, NC.

**CC Room 337, 1:30 to 2:30 p.m.**

**Exhibitor-Hosted Session: ICCVAM Tools for Validation and Regulatory Application of Alternative Methods**

Presented by: National Institutes of Environmental Health Sciences and the National Toxicology Program

**CC Room 316, 2:00 to 4:45 p.m.**

**Symposium Session: Increasing Confidence in Safety Assessment Decisions: The Inclusion of Metabolism in Toxicity Testing Strategies**

*Chairperson(s):* Miyoung Yoon, ScitoVation, LLC, Research Triangle Park, NC; and Stephen Ferguson, NIEHS, Research Triangle Park, NC.

**Abstract 3069**

**3:06 p.m.**

**Incorporating Improved Physiological Relevance, Xenobiotic Metabolism, and Data-Rich Assay Approaches into Tox21 (Phase III).** S. Ferguson, and S. Ramaiahgari. NTP, NIEHS, Research Triangle Park, NC.

**CC Ballroom IV, 2:00 to 4:45 p.m.**

**Symposium Session: Novel In Vitro and In Silico Platforms for Modeling Developmental and Reproductive Toxicity**

*Chairperson(s):* Thomas B. Knudsen, US EPA, Research Triangle Park, NC; and Nicole C. Kleinstreuer, NIEHS, Research Triangle Park, NC.

**Abstract 3074**

**2:37 p.m.**

**Pathway Based Models to Predict Developmental and Reproductive Toxicities.** N.C. Kleinstreuer. NIEHS, Research Triangle Park, NC

**CC Ballroom II, 2:00 to 4:45 p.m.**

**Workshop Session: Is There a Concern for Neurotoxicity from Replacement Organophosphorus Flame-Retardants?: Insights Using Molecular Approaches, Systems Biology, and Human Exposure**

*Chairperson(s)*: Helena T. Hogberg, Johns Hopkins University, Baltimore, MD; and Mamta Behl, NTP/NIH, Research Triangle Park, NC.

**Abstract 3095**

**3:50 p.m.**

**Putting It into Perspective: Relating Experimental Data to Human Exposure—Is Neurotoxicity Really a Concern?** M. Behl, NTP/NIH, Research Triangle Park, NC.

**CC Room 314, 5:00 to 6:20 p.m.**

**Informational Session: Addressing Rigor and Transparency in Research and Journal Publications**

*Chairperson(s)*: Sally P. Darney, NIEHS, Research Triangle Park, NC; and Nancy B. Beck, American Chemistry Council, Washington, DC.

**Abstract 3097**

**5:00 p.m.**

**Addressing Rigor and Transparency in Research and Journal Publications. Introduction.** S.P. Darney. NIEHS, Research Triangle Park, NC.

**Abstract 3097**

**5:50 p.m.**

**Interdisciplinary Challenges for Rigor and Reproducibility in Environmental Health Research.** S.P. Darney. NIEHS, Research Triangle Park, NC.

## Thursday, March 16 - Day 5

**CC Ballroom I, 8:30 to 11:15 a.m.**

**Symposium Session: Evaluating the Reproductive and Developmental Effects of Botanical Dietary Supplements**

*Chairperson(s)*: Kembra L. Howdeshell, NIEHS/NTP, Research Triangle Park, NC; and Cynthia V. Rider, NIEHS/NTP, Research Triangle Park, NC.

**Abstract 3100**

**8:30 a.m.**

**Introduction.** K. Howdeshell. NIEHS, Research Triangle Park, NC.

**Abstract 3103**

**9:39 a.m.**

**Embryo-Fetal Toxicity in the Rat and Rabbit as a Result of Dietary Supplement Exposure: Vinpocetine as a Case Study.** N. Catlin. NIEHS/NTP, Research Triangle Park, NC.

**CC Room 321, 8:30 to 11:15 a.m.**

**Symposium Session: Quantitative Systems Toxicology for Chemical Safety Assessment**

*Chairperson(s)*: Bob van de Water, Leiden University, Leiden, Netherlands; and Richard S. Paules, NIEHS, Research Triangle Park, NC.

**Abstract 3114****9:05 a.m.****Implementing Approaches for Moving Tox21 towards Quantitative Systems Toxicology.** R.S. Paules. NIEHS, Research Triangle Park, NC.**11:05 a.m.****Concluding Remarks.** R.S. Paules. NIEHS, Research Triangle Park, NC.

CC Hall A, 8:30 to 11:45 a.m.

**Poster Session: Alternatives to Mammalian Models III***Chairperson(s):* Michael Fasullo, SUNY Polytechnic Institute, Albany, NY; and Michelle Angrish, US EPA, Cary, NC.**Abstract 3159, Poster Board P118****Development of a Curated Database of In Vivo Developmental Toxicity Data.** P. Ceger<sup>1</sup>, N. Choksi<sup>1</sup>, J. Hamm<sup>1</sup>, J. Truax<sup>1</sup>, A. Daniel<sup>1</sup>, D. Allen<sup>1</sup>, V. Sutherland<sup>2</sup>, B. McIntyre<sup>2</sup>, P. Foster<sup>2</sup>, E. Maull<sup>2</sup>, and W. Casey<sup>2</sup>. <sup>1</sup>ILS, Research Triangle Park, NC; and <sup>2</sup>NIEHS, Research Triangle Park, NC.**Abstract 3160, Poster Board P119****Evaluating Defined Approaches to Testing and Assessment of Skin Sensitization Potential.** N. Kleinstreuer<sup>1</sup>, J. Strickland<sup>2</sup>, V. Zuang<sup>3</sup>, A. Lowit<sup>4</sup>, J. Matheson<sup>5</sup>, D. Allen<sup>2</sup>, W. Casey<sup>1</sup>, and M. Whelan<sup>3</sup>. <sup>1</sup>NIEHS, Research Triangle Park, NC; <sup>2</sup>ILS, Research Triangle Park, NC; <sup>3</sup>European Commission, Ispra, Italy; <sup>4</sup>US EPA, Washington, DC; and <sup>5</sup>CPSC, Rockville, MD.**Abstract 3161, Poster Board P120****SEAZIT: The National Toxicology Program's Systematic Evaluation of the Application of Zebrafish in Toxicology.** J. Hamm<sup>1</sup>, P. Ceger<sup>1</sup>, E. Maull<sup>2</sup>, S. Padilla<sup>3</sup>, E. Perkins<sup>4</sup>, A. Planchart<sup>5</sup>, D. Stedman<sup>6</sup>, T. Tal<sup>7</sup>, R. Tanguay<sup>8</sup>, D. Volz<sup>9</sup>, G. Baker<sup>10</sup>, M. Stout<sup>2</sup>, and N. Walker<sup>2</sup>. <sup>1</sup>ILS, Research Triangle Park, NC; <sup>2</sup>NIEHS, Research Triangle Park, NC; <sup>3</sup>US EPA, Research Triangle Park, NC; <sup>4</sup>US Army Engineer R&D Center, Vicksburg, MS; <sup>5</sup>North Carolina State University, Raleigh, NC; <sup>6</sup>Pfizer, Inc, Groton, CT; <sup>7</sup>US EPA, Research Triangle Park, NC; <sup>8</sup>Oregon State University, Corvallis, OR; <sup>9</sup>University of California Riverside, Riverside, CA; and <sup>10</sup>Battelle, West Jefferson, OH.**Abstract 3163, Poster Board P122****Identification of Environmental Chemicals with Potential Roles in Obesity and Diabetes Using Animal Studies from US EPA and NTP Toxicological Databases.** W.A. Boyd<sup>1</sup>, J.R. Pirone<sup>2</sup>, M.P. Shaw<sup>3</sup>, N.C. Kleinstreuer<sup>1</sup>, M.T. Martin<sup>1</sup>, A. Rashid<sup>3</sup>, J.M. Foster<sup>1</sup>, and K.A. Thayer<sup>1</sup>. <sup>1</sup>NIEHS, Research Triangle Park, NC; <sup>2</sup>Sciome LLC, Research Triangle Park, NC; <sup>3</sup>ASRC Federal Vistrionix, Morrisville, NC; and <sup>4</sup>US EPA, Research Triangle Park, NC.**Poster Session: Biological Modeling***Chairperson(s):* Elaina M. Kenyon, US EPA, Durham, NC; and Robin McDougall, AstraZeneca, Waltham, MA.**Abstract 3185, Poster Board P144****Open Source Workflows for In Vitro to In Vivo Extrapolation.** X. Chang<sup>1</sup>, S. Bell<sup>1</sup>, J. Pirone<sup>2</sup>, D. Allen<sup>1</sup>, W. Casey<sup>3</sup>, and N. Kleinstreuer<sup>3</sup>. <sup>1</sup>ILS, Research Triangle Park, NC; <sup>2</sup>ARA, Raleigh, NC; and <sup>3</sup>NIEHS, Research Triangle Park, NC.

CC Hall A, 8:30 to 11:45 a.m.



**Poster Session: Emerging Technologies**

*Chairperson(s):* Laura M. Patrone, Bristol-Myers Squibb, New Brunswick, NJ.

**Abstract 3205, Poster Board P173**

**Assessment of In Silico-Designed Probes for Rat Whole Exome Sequencing.** J.F. Foley<sup>1</sup>, R.R. Shah<sup>2</sup>, D.P. Phadke<sup>2</sup>, A. Cua<sup>3</sup>, S. Hardy<sup>3</sup>, V. Miller<sup>3</sup>, G.G. Solomon<sup>1</sup>, A.R. Pandiri<sup>1</sup>, R.A. Herbert<sup>1</sup>, R.C. Sills<sup>1</sup>, and B.A. Merrick<sup>1</sup>. <sup>1</sup>NIEHS, Research Triangle Park, NC; <sup>2</sup>Sciome, LLC, Research Triangle Park, NC; and <sup>3</sup>Agilent Technologies, Santa Clara, CA.