Scientific Program Overview

THEMATIC APPROACH

The Scientific Program Committee has devised a thematic approach that encompasses five themes of topical interest. The Sunday CE course and Monday–Thursday session titles related to each theme are color-coded in this Program Overview.

- Advancing Clinical and Translational Toxicology
- Approaches for Protecting Vulnerable Populations
- Epigenomic Influences in Toxicological Responses
- Safety Assessment Approaches for Product Development
- Strategies for Exposure and Risk Assessments

A page reference follows the course or session information.

Sunday, March 23

7:00 AM to 7:45 AM

SUNRISE CONTINUING EDUCATION COURSE

1. New Horizons in Chemical Carcinogenesis: Advances in Mode of Action and Mechanism of Cancer Pathogenesis (p102)

8:15 AM to 12:00 Noon

MORNING CONTINUING EDUCATION COURSES

- 2. An Introduction to the Exposome (p102)
- 3. Demystifying Mixtures: From Study Design Selection to Risk Assessment Application (p103)
- 4. Safety Evaluation of CNS Administered Therapeutics—Study Design, Dose Routes, and Data Interpretation (p103)
- 5. The Future of Developmental and Reproductive Toxicology—Building a Bridge to the Animal Free Zone (p104)*
- 6. The New World of Cancer Immunotherapy: Challenges in Bench to Bedside Translation (p104)*
- 7. Toxicology and Regulatory Considerations for Combination Products (p105)

1:15 PM to 5:00 PM

AFTERNOON CONTINUING EDUCATION COURSES

- 8. Advances in Safety Assessment of Medical Devices (p105)
- 9. Interpretation of Cardiovascular Safety Data in Toxicology Studies (p106)*
- 10. Is Synthetic Biology the Future of Toxicology? (p106)
- 11. Skeletal System Endocrinology and Toxicology (p107)
- 12. Strategies in Investigative Toxicology in a Pharmaceutical Setting (p107)

Morning Webcasts:
- AM05—The Future of Developmental and Reproductive Toxicology—Building a Bridge to the Animal Free Zone
- AM06—The New World of Cancer Immunotherapy: Challenges in Bench to Bedside Translation
(Both webcasts begin at 8:15 am US Pacific Time)

Afternoon Webcasts:
- PM09—Interpretation of Cardiovascular Safety Data in Toxicology Studies
(Both webcasts begin at 1:15 pm US Pacific Time)

Monday, March 23

8:00 AM to 9:00 AM

PLENARY OPENING LECTURE

Life at the Speed of Light
Lecturer: J. Craig Venter, J. Craig Venter Institute (p134)

9:15 AM to 12:00 Noon

SYMPOSIUM SESSIONS

- New and Emerging Tobacco Products—Biomarkers of Exposure and Injury (p135)
  - The Role of Connexin-Based Channels in Toxicity (p135)

WORKSHOP SESSIONS

- Environmental Exposures and Alzheimer’s Disease: Epidemiology, Mechanisms, and Future Strategies (p136)
- Friend or Foe—Challenges and Perspectives for Nonclinical Development of Antibody-Drug Conjugates (p136)
- Linking Early-Life Stages: The First Step toward Lifecourse Risk Assessment (p137)
  - The US Tox21 Collaboration: Advances Made and Lessons Learned (p137)
- Toxicological Epigenomics: The Interface between the Environment and Human Health (p138)
- Transporters As Gatekeepers for Chemical Exposure in Reproductive Tissues (p138)

PLATFORM SESSION

- Disposition and Pharmacokinetics (p139)

If found, please return to:

Contact Telephone:

Name:
9:30 AM to 12:30 PM
POSTER SESSIONS
- Alternatives to Mammalian Models I—Cardio, Neuro, Developmental (p152)
- Biotransformation and Cytochrome P450 (p140)
- Developmental Neurotoxicology—In Vitro Screening (p154)
- Developmental Neurotoxicology—Nonmammalian Models (p153)
- Ecotoxicology (p160)
- Inflammation in Disease (p145)
- Inflammation: Methods and Mechanisms (p146)
- Liver (p142)
- Metals (p157)
- Nanotoxicology, General, Environmental, Metals (p155)
- Nonpharmaceutical Safety Assessment
- Persistent Organic Pollutants (p162)
- Pharmacogenomics and Genetic Polymorphisms (p142)
- Risk Assessment I (p149)
- Stem Cell Biology in Toxicology Research (p163)

12:00 Noon to 1:30 PM
RESEARCH FUNDING SESSION
Research Funding Luncheon: Multiple Perspectives on the Grant Process (p166)

12:10 PM to 1:30 PM
ROUNDTABLE SESSIONS
- Addressing Potential Age-Related Sensitivity to Neurotoxicity of Pyrethroids (p166)
- Confronting and Overcoming the Barriers to Sharing Toxicological Research Data for Risk Assessment in the 21st Century (p167)

INFORMATIONAL SESSION
- Toxicological Application of Studies Funded by California Stem Cell Research and Cures Act (Prop 71) (p167)

EDUCATION-CAREER DEVELOPMENT SESSION
- Adaptive Leadership: Anticipating, Initiating, and Responding to Change (p168)

12:30 PM to 1:20 PM
MERIT AWARD LECTURE
Chronicles of Particles: From Micro- to Nano-Particles
Lecturer: Günter Oberdörster, University of Rochester Medical Center (p169)

1:00 PM to 4:30 PM
POSTER SESSIONS
- Alternatives to Mammalian Models II—Skin, Eye, Liver (p169)
- Autoimmunity/Hypersensitivity (p185)
- Biological Modeling (p190)
- Biomonitoring and Exposure Assessment (p174)
- Cell Death and Apoptosis (p178)
- Developmental Neurotoxicology—Stem Cells (p185)
- Epidemiology (p193)
- Genetic Toxicology I (p176)
- Liver and Models (p188)
- Natural Products (p172)
- Ocular Toxicology (p172)
- Pharmaceutical Safety: Large Molecule Case Studies (p182)
- Pharmaceutical Safety: Small Molecule Case Studies (p183)
- Risk Assessment II (p180)

1:30 PM to 2:30 PM
MEET THE DIRECTORS
A Conversation with Linda Birnbaum and Jim Jones
Lecturers: Linda Birnbaum, NIEHS; and Jim Jones, US EPA (p194)

2:00 PM to 4:45 PM
SYMPOSIUM SESSIONS
- Cardio-Oncology Concerns Encourage Novel Approaches to Pharmaceutical Risk Assessment (p195)
- Immunostimulant Cancer Treatments: Toxicology Programs with an Autoimmune "Twist" (p196)
- Nrf2 Signaling Pathways in Model Systems: A Master Regulator of Neurotoxicity and a Potential Therapeutic Target (p196)

2:45 PM to 6:00 PM
SYMPOSIUM SESSIONS
- Alternative Models to Study Classical Toxicants: A Mechanistic View (p205)
- Immune Responses to Different Classes of Inhaled Particulates: Unique vs. Shared Responses and Mechanisms (p205)
- Local and Systemic Toxicity from Cobalt and Chromium-Containing Hip Prostheses (p206)

WORKSHOP SESSIONS
- Evaluating and Quantifying Stress for Inclusion in Cumulative Risk Assessment (p197)
- Infant Formula Nutrition: Regulatory and Safety Evaluation of Ingredients (p197)
- Pulmonary Toxicity of Graphene Nanomaterials: An Emerging Concern in Manufacturing and Applications? (p198)

9:00 AM to 11:45 AM
WORKSHOP SESSIONS
- Considering Pharmacokinetics As the Mechanistic Basis to Link Chemical Exposures to Adverse Outcome Pathways (p206)
- Regulatory Neurodevelopmental Testing: New Guiding Principles for Harmonization of Data Collection and Analysis (p207)
- The EDSP Screening Battery: A Work in Progress for Prioritizing Compounds for Quantitative Risk Assessment (p208)
- Understanding and Communicating Uncertainty in Hazard Assessment and Dose Response (p208)

9:00 AM to 12:00 Noon
FRONTIERS FOR TOXICOLOGY SESSION

Tuesday, March 24
8:00 AM to 8:50 AM
TRANSLATIONAL IMPACT AWARD LECTURE
How to Make a (Translational) Impact
Lecturer: Jefferey Burgess, University of Arizona (p203)

9:00 AM to 12:00 Noon
FRONTIERS FOR TOXICOLOGY SESSION

9:00 AM to 11:45 AM
SYMPOSIUM SESSIONS
- Alternative Models to Study Classical Toxicants: A Mechanistic View (p205)
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### POSTER SESSIONS
- Alternatives to Mammalian Models (p229)
- Biomarkers (p231)
- Carcinogenesis I (p217)
- Educational Activities and Outreach (p225)
- Food Safety, In Vitro (p212)
- Gene Regulation and Signal Transduction (p223)
- Genetic Toxicology II (p221)
- Immunotoxicity I (p226)
- In Vitro Cardiovascular Safety (p228)
- Juvenile Toxicity (p221)
- Neurotoxicology, Metals—Lead and Others (p216)
- Neurotoxicology, Metals—Manganese (p215)
- Neurotoxicology, Metals—Mercury (p214)
- Oxidative Injury and Redox Biology (p219)
- Pharmaceutical Safety: Models and Methods (p209)
- Safety Testing (p242)
- Systems Biology and Toxicology (p211)

### SYMPOSIUM SESSIONS

#### Incorporating In Vitro Pharmacokinetic Data and Tools into Toxicity Testing and Risk Assessments: State of the Science (p262)
- New Developments in the Management of Nerve Agent Poisoning (p262)
- Where the Metal Meets the Bone… (p263)

#### PLANNED SESSIONS

- Investigating Mode of Action in Chemical Carcinogenesis (p265)
- Prudent Animal Usage in Pharmaceutical Safety Testing (p266)

### RESEARCH FUNDING INFORMATION ROOM

- Grant Writing and Career Development
- SOT Funding Information Room

### POSTER SESSIONS
- Animal Models of Disease (p282)
- Animal Models: Measurements, Validations, and Historical Data (p283)
- Animal Models: Methods (p284)
- Cardiovascular Toxicology and Hemodynamics (p280)
- Developmental Neurotoxicology (p278)
- Developmental Toxicology I (p274)
- Developmental Toxicology II (p276)
- Fetotoxicity and Developmental Toxicology (p276)
- General and Developmental Neurotoxicology of Therapeutic Agents and Drugs of Abuse (p279)
- Medical Devices: Risk Assessment and Test Methods (p294)
- Metals—As, Cd, Hg (p292)
- Nanotoxicology, In Vitro (p289)
- Risk Assessment III (p285)

### WORKSHOP SESSIONS

- Current Understanding of Immune-Mediated Adverse Drug Reactions (p264)
- In Vitro Microphysiological Systems—Developing Confidence in Predictive Ability (p264)

### PLATFORM SESSIONS

- Investigating Mode of Action in Chemical Carcinogenesis (p265)
- Prudent Animal Usage in Pharmaceutical Safety Testing (p266)

### RESEARCH FUNDING SESSION

- Research Funding Information Room (p234)

### POSTER SESSIONS
- Cigarettes, E-Cigarettes, and Hookah (p256)
- Clinical and Translational Toxicology (p239)
- Computational Toxicology and Data Integration (p241)
- Endocrine Toxicology (p252)
- Food Safety, In Vivo (p247)
- Immunotoxicity II (p243)
- Inhalants and Cardiopulmonary (p257)
- Nanotoxicology, Carbon-Based Nanomaterials (p236)
- Neurotoxicology, Neurodegenerative Disease—Alzheimer’s Disease and Others (p224)
- Neurotoxicology, Neurodegenerative Disease—Parkinson’s Disease (p255)
- Particulate Matter (p260)
- Reproductive Toxicology I (p248)
- Reproductive Toxicology II (p250)
- Skin (p238)
- Toxicity of Chemical Mixtures (p245)

### SYMPOSIUM SESSIONS

- Role of the Gut Microbiome in the Host Response to Xenobiotics (p269)

### WORKSHOP SESSIONS

- An Experiment in Collective Wisdom: Utilizing Real-Time Audience Input: Weight-of-Evidence Assessment for Chemical-Specific Modes of Action Utilizing Two Case Studies (p270)
- Application of High-Throughput In Vitro Assays in Assessing Small Molecule Safety (p270)
- Deciphering Clinical and Experimental Retinal Toxicology: An Eye on the Present and Future (p271)
- Evaluating Similarity across Related Complex Mixtures: The Challenge of Herbal Supplements (p271)

### REGIONAL INTEREST SESSION

- Some Like It Hot: Impacts of Wildfires on Human Health (p272)

### PLATFORM SESSIONS

- Animal Models of Disease (p282)
- Animal Models: Measurements, Validations, and Historical Data (p283)
- Animal Models: Methods (p284)
- Cardiovascular Toxicology and Hemodynamics (p280)
- Developmental Neurotoxicology (p278)
- Developmental Toxicology I (p274)
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- Fetotoxicity and Developmental Toxicology (p276)
- General and Developmental Neurotoxicology of Therapeutic Agents and Drugs of Abuse (p279)
- Medical Devices: Risk Assessment and Test Methods (p294)
- Metals—As, Cd, Hg (p292)
- Nanotoxicology, In Vitro (p289)
- Risk Assessment III (p285)

### RESEARCH FUNDING SESSION

- Research Funding Information Room (p296)

### ROUNDTABLE SESSIONS

- Should Respiratory Sensitizers Be Listed as Substances of Very High Concern (SVHC) under REACH? (p297)
- Will Generally Recognized As Safe (GRAS) Become an Endangered Species? (p298)

### INFORMATIONAL SESSION

- Risk Communication and Management in the Era of Social Media and the Internet: Serving Society’s Needs with Accurate Information (p298)

### EDUCATION-CAREER DEVELOPMENT SESSION

- What Toxicologist Do You Wanna Be? The Role of Toxicologists across Diverse Organizations (p299)
Thursday, March 26

8:30 AM to 12:00 Noon

POSTER SESSIONS

• Late-Breaking Poster Session
  Access via Mobile Event App or Online Planner.

9:00 AM to 11:45 AM

SYMPOSIUM SESSIONS

† Chromatin Structure, Genomics, and Transcriptional Responses to Environmental Insults (p332)

• Comprehensive Analysis of Nano Silver Toxicity Profiles: Known, Unknown, and Surprises! (p332)

† Epigenetics, Developmental Programming, and Immune Function: Where Do We Go from Here? (p333)

› Exposure Assessment in the 21st Century: Needs and Challenges Facing High-Throughput Exposure Modeling (p334)

12:30 PM to 1:20 PM

DISTINGUISHED TOXICOLOGY SCHOLAR AWARD LECTURE

Allergic Sensitization: Defining Molecular Mechanisms and Characterizing Hazard and Risk

Lecturer: Ian Kimber, University of Manchester (p296)

1:00 PM to 4:30 PM

POSTER SESSIONS

• Bioinformatics (p311)

• Carcinogenesis II (p301)

• Chemical and Biological Weapons (p303)

• Computational Toxicology and Data Integration II (p312)

• Disposition and Pharmacokinetics: Drugs, Chemicals, and Transporters (p305)

• Epigenetics (p314)

• Kidney (p317)

• Nanotoxicology, In Vivo (p322)

• Neurotoxicology, General (p306)

• Neurotoxicology, Pesticides (p307)

• Pesticides (p309)

• Receptors (p319)

› RNA-Based Biomarkers (p300)

1:30 PM to 4:15 PM

SYMPOSIUM SESSIONS

• Adult Neurogenesis in Chemical-Induced Neurotoxicities: A New Frontier in Toxicological Mechanistic Investigations, Biomarker Research, and Therapeutic Targeting (p324)

○ Advanced Approaches for Quantitative Risk Assessment Using Human Data with Applications across Disciplines (p324)

WORKSHOP SESSIONS

• Genomics of Nonrodent Mammalian Species and Impacts on Nonclinical Safety Evaluation of Pharmaceuticals and Clinical Translation (p325)

• Increasing Interest and Engagement in Toxicology and STEM Disciplines: The Multiple Modalities and Impact of Research and Internship Opportunities for High School and Undergraduate Students (p325)

• Integrating Gene Expression Profiling into High-Throughput Toxicity Testing (p326)

• Strengths and Weaknesses of Mouse Models in Studies of Immunological Effects of Drugs and Chemicals (p326)

• The Carcinogenicity of Outdoor Air Pollution: A Review of the IARC Evaluation of Outdoor Air Pollution and Particulate Matter in Polluted Air As Group 1 (Known) Human Lung Carcinogens and Possible Bladder Carcinogens (p327)

• Windfall or Pitfall: Is There a Need for Modification of Developmental and Reproductive Toxicology Studies When Endocrine Disruption Is the Mode of Action? (p328)

4:30 PM to 5:50 PM

ROUNDTABLE SESSIONS

• Epigenetics and Chemical Safety Assessment: Are We Ready? (p329)

• The Future of Carcinogenicity Testing (p330)

EDUCATION-CAREER DEVELOPMENT SESSION

• Crafting High-Impact Manuscripts: The Process from Hypothesis through Review and Publication (p330)