

Scientific Program Overview



Sunday, March 25

7:00 AM–7:45 AM

CONTINUING EDUCATION

SUNRISE MINI-COURSE

1. REACH: A New Framework for the Regulation of Chemicals (p67)

8:15 AM–12:00 NOON

CONTINUING EDUCATION

MORNING COURSES

2. Concepts, Methods and Applications of Discovery and Investigative Toxicology (p67)
3. Genomics: From Novice to Expert, From Challenges to Promises (p68)
4. Allergy and Allergic Disease: A Primer for Toxicologists (p68)
5. Fundamentals of Human Health Risk Assessment with a Case Study Approach (p69)
6. Toxicology and Molecular Biology of Tissue Repair (p69)
7. The Biology and Toxicology of the Peri- and Post-Natal Development Period (p70)

1:15 PM–5:00 PM

CONTINUING EDUCATION

AFTERNOON COURSES

8. Concepts, Methods and Applications of Discovery and Investigative Toxicology (p70)
9. Genomics: From Novice to Expert, From Challenges to Promises (p71)
10. Toxicological Evaluation of Chemical and Drug Mixtures (p71)
11. Physiologically Based Pharmacokinetic Modeling for Risk Assessment Applications (p72)
12. Protein Therapeutics: Assessment and Impact of Immunogenicity on Study Design and Interpretation (p72)
13. Rodent Imaging Overview for the Toxicologist (p73)

Monday, March 26

8:15 AM–9:15 AM

PLENARY OPENING LECTURE

The Impact of Human Activities on the Atmosphere
Nobel Laureate Mario Molina (p76)

9:30 AM–12:15 PM

SYMPOSIA

Application of Humanized Mouse Lines to Toxicological and Pharmacological Studies (p76)
Genomics and Dose-Response Modeling (p77)

WORKSHOPS

Environmental Risk Factors for Autism (p77)
The Future of Risk Assessment in Environmental Health—Can Current Approaches Fulfill Public Health Needs? (p78)
Health Risks of Carbon Nanotubes: What Can We Learn from Mineral Fibers or Ultra-Fine Particulates? (p79)
Methods for Investigating Skin Irritation (p79)

PLATFORM SESSIONS

Ah Receptor—Mechanisms of Action (p80)
Developmental Toxicity: Genomic and Non-Genomic Bases (p80)
Immunotoxicology: Immune Modulation and Cell Specific Responses (p81)
Mechanisms of Arsenic Toxicity (p82)

9:30 AM–12:30 PM

POSTER SESSIONS

Apoptosis (p98)
Biomarkers of Effect (p94)
Chemical and Biological Weapons (p88)

Endocrine System (p85)
Neurotoxicity: Metals (p82)
Oxidative Stress I: *In Vivo* Studies (p90)
Oxidative Stress II: *In Vitro* Studies (p91)
Pharmaceuticals (p96)

12:30 PM–1:20 PM

MERIT AWARD LECTURE

The Use of Biomarkers to Inform Mechanisms of Carcinogenesis and Risk Assessment
2007 Honoree James A. Swenberg (p100)

1:00 PM–4:30 PM

POSTER SESSIONS

Biological Modeling (p106)
Biomarkers of Exposure (p108)
Biotransformation (p103)
Cardiotoxicity (p104)
Developmental Toxicity and Teratology (p109)
Ecotoxicology (p116)
Immunotoxicology (p100)
Kidney 1 (p111)
Reproductive System: Focus on Development (p119)
Respiratory Tract Toxicity: Models and Safety Assessment (p113)

1:30 PM–4:15 PM

SYMPOSIA

Non-Classical Mechanisms of Receptor-Mediated Transcription (p120)
Understanding the Linkages Between Environmental Toxicity and Human Disease: From Observation to Mechanistic Insight and from Insight to Therapeutics (p121)

WORKSHOPS

Advances and Challenges in Incorporation of Mode of Action in Human Health Risk Assessment (p121)
Alternative and Integrated Approaches to Skin Sensitization Testing (p122)
Thyroid Hormone Disruption: From Kinetics to Dynamics (p123)

INFORMATIONAL SESSION

Animal Rights Extremism and the Responsible Use of Animals in Research: The Past, Present, and Future (p123)

PLATFORM SESSIONS

Carcinogenesis: Chemoprevention by Xenobiotics (p124)
Gene Regulation (p124)
Mechanisms of Liver Toxicity (p125)
Metals Toxicity (p126)
Nanoparticles: Aquatic Species to Mammals (p126)

4:30 PM–5:50 PM

ROUNDTABLES

Approaches for Management of Ethical Conflicts in Research (p127)
Beyond the Single Point: The Use of Dose and Time in Genomic Data for Mechanistic-Based Risk Assessment (p128)

INFORMATIONAL SESSIONS

Grantsmanship Forum: Funding Opportunities by NIH (p128)
Undergraduate Research as a Springboard into Research Careers (p129)

Tuesday, March 27

7:30 AM–8:50 AM

ROUNDTABLE

Novel Computational Strategies for Reducing Chemical Residues in Food of Animal Origin (p130)

HISTORICAL HIGHLIGHT

Fluoridation: Science Meets Policy (p131)

INFORMATIONAL SESSION

New Frontiers in Environmental Sciences and Human Health: Implementation Update on the NIEHS Strategic Plan (p131)

8:00 AM–8:50 AM**DEBATE**

SOT/EUROTOX Debate: Children Are More Vulnerable to Chemical Toxicity (p131)

9:00 AM–11:45 AM**SYMPOSIA**

Air Pollution and Atherosclerosis: Impact of Inhaled Agents on Vascular Remodeling, Dyslipidemia, and Oxidative Stress (p132)
 Application of New Concepts in Immunology to Old Problems in Immunotoxicology (p133)
 Mechanistic Biomarkers and Innovative Methodologies to Detect Acute Kidney Injury (p133)
 Pigs and the Public's Health: An Assessment of Hog Farming in North Carolina (p134)

9:00 AM–11:45 AM**WORKSHOPS**

Advances in the Efficacy of Chelation Treatment to Alleviate Neurocognitive Effects of Lead and Autistic Spectrum Disorders (p134)
 Environmental Influences on the Ovary and Hypothalamic Pituitary Gonadal Axis (p135)
 How Can Biologically-Based Modeling of Arsenic Kinetics and Dynamics Inform the Risk Assessment Process? (p136)

PLATFORM SESSIONS

Alternatives to Mammalian Models of Determining Compound Toxicity (p136)
 Exposure Assessment (p137)
 Food Safety/Nutrition (p138)

9:00 AM–12:30 PM**POSTER SESSIONS**

Carcinogenesis I (p140)
 Children's Health/Juvenile Toxicity and Animal Models (p142)
 Liver I: Chemical-Induced Organ Injury (p148)
 Neurotoxicity: Pesticides (p150)
 Persistent Organic Pollutants (p146)
 Respiratory Tract: Airway Injury and Inhalation Dosimetry (p144)
 Safety Evaluation 1 (p154)
 TCDD and AHR (p152)
 Toxicogenomics I: Liver (p138)
 Xenobiotic Metabolism (p156)

12:00 NOON–1:20 PM**FEATURED SESSION**

Town Hall Meeting—The Future of SOT: Science, Communications, and Member Services (p158)

ISSUES SESSION

Scientific and Ethical Considerations in Human Exposure Studies (p158)

SPECIAL SESSION

Medical Toxicology Session (p158)

1:00 PM–4:30 PM**POSTER SESSIONS**

Alternatives to Mammalian Models 1 (p174)
 Alternatives to Mammalian Models 2 (p172)
 Bioinformatics (p176)
 Computational Toxicology (p165)
 Hypersensitivity (p170)
 Liver II: *In Vivo/In Vitro* Models (p159)
 Metals (p166)
 Nanoparticles: Respiratory Tract (p168)
 Nervous System: Mechanisms *In Vitro* (p163)
 Regulatory/Policy (p178)
 Toxicogenomics II: Non-Liver Studies (p161)

1:30 PM–4:15 PM**SYMPOSIA**

Critical Roles of Coactivators and Corepressors During Transcriptional Activation by Xenobiotic Receptors (p179)
 Emerging Technologies in Imaging for Toxicology (p180)
 Immune Biomarkers in Alternative Species: Implications for Risk Assessment (p180)

Physiological Parameters and PBPK Modeling for Children's Risk Assessment (p181)

The Vascular System as a Target of Metal Toxicity (p181)

WORKSHOPS

Women's Health Initiative: Lessons Learned and Future Directions (p182)

INFORMATIONAL SESSION

Communicating Science: Writing for Technical and Lay Audiences (p183)

PLATFORM SESSIONS

Kidney (p183)
 Risk Assessment (p184)
 Skin Toxicology (p184)

Wednesday, March 28**7:30 AM–8:50 AM****ROUNDTABLES**

Advances in Health Assessment in U.S. EPA's Integrated Risk Information System (IRIS) Program (p186)
 Relevance and Follow-Up of Positive Results from *In Vitro* Genetic Toxicity Testing: Strategies to Integrate Results into Risk Assessment (p186)

INFORMATIONAL SESSION

Toxicology Consultant: A Perspective (p187)

8:00 AM–8:50 AM**KEYNOTE MRC LECTURE**

The Genetic Control of Programmed Cell Death in The Nematode *Caenorhabditis Elegans*
 Nobel Laureate Robert Horvitz (p187)

9:00 AM–11:45 AM**SYMPOSIA**

Biliary Hyperplasia and Cholestasis: Relevance to Human Risk Assessment (p188)
 Epigenetic Regulation in Development, Reproduction and Disease: Implications for Toxicology (p188)
 Modeling a Mixture: PBPK/PD Approaches for Predicting Chemical Interactions (p189)

WORKSHOPS

Advances in Causation, Diagnosis and Therapy of Parkinson and Parkinson-Like Movement Disorders: Views from Toxicologists and Clinicians (p190)
 Approaches to Assessing Whether a Carcinogen is Acting *via* a Genotoxic Mode of Action (p190)
 Can Species and Strain Differences in Dioxin Sensitivity Be Explained by Differences in the Ah Receptor? (p191)
 Current Considerations in Setting Exposure Guidance for Sensory and Respiratory Tract Irritation (p192)

PLATFORM SESSIONS

Cardiovascular Toxicity (p192)
 Hypersensitivity: Th1 and Th2 Responses (p193)
 Immunotoxicology: Apoptosis and TCDD (P193)
 Toxicogenomics (p194)

9:00 AM–12:30 PM**POSTER SESSIONS**

Arsenic Toxicity (p200)
 Food Safety/Nutrition (p198)
 Genetic Polymorphisms (p209)
 Nanoparticles: Ecological and Health Effects (p195)
 Nervous System: Effects and Mechanisms *In Vivo* (p202)
 Receptors (p196)
 Risk Assessment 1 (p205)
 Safety Assessment: Non-Pharmaceutical (p203)
 Signalling and Gene Regulation (p208)

12:00 NOON–1:20 PM**HISTORICAL HIGHLIGHT**

SOT Presidents' Perspective on Mixtures Toxicology (p211)

SPECIAL SESSION

Meet the Directors Session—A Dialogue with NIEHS (p211)
 Soapbox Session (p212)

1:00 PM–4:30 PM

POSTER SESSIONS

- Genotoxicity and DNA Repair (p215)
- Immunotoxicology: Methods and Compound Specific Assessments (p221)
- Natural Products (p222)
- Neurotoxicity: Developmental (p225)
- PBPK Modeling (p218)
- Risk Assessment 2 (p212)
- Safety Evaluation 2 (p219)

1:30 PM–4:15 PM

SYMPOSIA

- Cardiovascular Effects of Inhaled Ultra-Fine and Fine Particles in Human Volunteers (p228)
- Current Issues in Developmental Immunotoxicology (p228)
- Developments in Exposure-Based Quantitative Risk Assessment (QRA) for Induction of Dermal Sensitization for Fragrance Ingredients (p229)

WORKSHOPS

- The Safety Assessment of Improved Food and Feed Crops Developed with Gene Suppression Technology (p229)
- Target-Based Toxicity of Novel Pharmaceutical Targets (p230)
- Toxicogenomics is a Team Sport (p231)

1:30 PM–4:15 PM

PLATFORM SESSIONS

- Biomarkers of Nephrotoxicity (p231)
- Carcinogenesis: Factors Modulating Breast Cancer Susceptibility (p232)
- Chemical Weapons—Mechanisms (p233)
- Reproductive System: New Approaches to Old Problems (p233)
- Signal Transduction (p234)

4:30 PM–5:50 PM

ROUNDTABLE

- Can a Single Experimental Model Predict the Respiratory Sensitization Potential of Chemicals and Proteins? (p235)

INFORMATIONAL SESSIONS

- K–12 Education: Investing in the Future of Toxicology (p235)
- You Just Can't Focus on the Science: A Primer of Strategies to Be Successful in Your New Position (p235)

Thursday, March 29

7:30 AM–8:50 AM

ROUNDTABLE

- Chemical Mixtures: Is the "Problem" Solvable? (p237)

8:30 AM–12:00 NOON

POSTER SESSIONS

- Cadmium, Mercury & Metallothionein (p239)
- Carcinogenesis II (p241)
- Cytochromes P450 (p237)
- Disposition/Pharmacokinetics (p246)
- Drug Metabolizing Enzyme Expression (p238)
- Epidemiology/Exposure Assessment (p244)
- Gene Expression and Regulation (p255)
- Pesticides (p243)
- Reproductive System: Focus On Adults (p249)
- Skin (p251)
- Vascular and Blood Cell Toxicity (p253)

9:00 AM–11:45 AM

SYMPOSIA

- Aging as a Modulator of Chemical Toxicity (p256)
- Gene Expression and Immune System Susceptibility (p256)
- Impact of the Qualification of Novel Safety Biomarkers on Drug Development and Regulatory Review: Role of the Predictive Safety Testing Consortium (p257)

WORKSHOPS

- Air Pollution, Oxidative Stress, and Neurodegeneration (p258)
- Molds, Mycotoxins and Damp-Building Related Illnesses (p258)
- Safety of Dietary Supplements Used for Weight Reduction: Lessons Learned (p259)

SPECIAL EVENTS Sponsored by the SOCIETY OF TOXICOLOGY

Friday, March 23

- 9:00 AM–1:00 PM** *Paracelsus* Goes to School Student Workshop (p74)

Saturday, March 24

- 2:00 PM–5:00 PM** Committee Chair Orientation (p74)
- 4:00 PM–7:00 PM** Registration Desk Opens
- 5:30 PM–9:00 PM** Undergraduate Education Program (p74)

Sunday, March 25

- 8:00 AM–5:00 PM** Undergraduate Education Program (p75)
- 5:15 PM–6:30 PM** Awards Ceremony (p75)
- 6:30 PM–7:30 PM** Welcoming Reception (p75)
- 7:00 PM–8:00 PM** 25-Year (or More) Member Reception (p75)
- 7:30 PM–8:30 PM** Student/Postdoctoral Fellow Mixer (p75)

Monday, March 26

- 7:00 AM–8:30 AM** Regional Chapter Student Representatives Meeting (p76)
- 7:30 AM–2:15 PM** Undergraduate Education Program (p76)
- 9:30 AM–11:15 AM** Poster Session for Visiting Students (p76)
- 12:15 PM–1:30 PM** *In Vitro* Toxicology Lecture for Students (p100)
- 12:15 PM–1:30 PM** Specialty Section Meetings/Luncheons: Comparative and Veterinary, Toxicologic and Exploratory Pathology (p100)
- 4:30 PM–6:00 PM** Specialty Section Presidents Meeting (p129)
- 4:30 PM–7:30 PM** Korean Toxicologist Association in America Special Interest Group Meeting/Reception (p129)
- 5:00 PM–6:30 PM** American Association of Chinese in Toxicology Special Interest Group Lecture, Business Meeting, and Reception (p129)
- 6:00 PM–7:30 PM** Specialty Section Meetings/Receptions: Inhalation and Respiratory, Mechanisms, Mixtures, Regulatory and Safety Evaluation, Reproductive and Development, Risk Assessment (p130)
- Various Times** Regional Chapter Meetings/Receptions (Refer to *Event Calendar*) (p130)

Tuesday, March 27

- 7:00 AM–8:30 AM** Regional Chapter Presidents Meeting (p130)
- 7:00 AM–8:30 AM** Specialty Section Student Representatives Meeting (p130)
- 8:00 AM–4:00 PM** *Paracelsus* Goes to School Teacher Workshops (p132)
- 12:00 NOON–1:30 PM** Specialty Section Meetings/Luncheons: Nanotoxicology, Occupational and Public Health (p158)
- 12:00 NOON–4:30 PM** DESTINY Science Bus (p158)
- 4:30 PM–6:00 PM** SOT Annual Business Meeting (p185)
- 5:00 PM–6:00 PM** Hispanic Organization for Toxicologists Special Interest Group Meeting/Reception (p185)
- 6:00 PM–7:30 PM** Specialty Section Meetings/Receptions: Dermal, Ethical, Legal, and Social Issues, Immunotoxicology, *In Vitro*, Molecular Biology (p185)
- 6:00 PM–7:30 PM** Women in Toxicology Special Interest Group Meeting/Reception (p185)
- Various Times** Regional Chapter Meetings/Receptions (Refer to *Event Calendar*) (p185)

Wednesday, March 28

- 12:00 PM–1:15 PM** Postdoctoral Assembly Luncheon (p212)
- 4:45 PM–5:15 PM** Public Forum for Student and Postdoctoral Fellows with SOT Council (p236)
- 6:00 PM–7:30 PM** Specialty Section Meetings/Receptions: Biological Modeling, Carcinogenesis, Drug Discovery, Food Safety, Metals, Neurotoxicology (p236)
- Various Times** Regional Chapter Meetings/Receptions (Refer to *Event Calendar*)