



49TH Annual Meeting and ToxExpo™

SOT | Society of
Toxicology

SALT LAKE CITY

March 7–11, 2010



Abstract submissions accepted August 1–October 3, 2009

www.toxicology.org/2010

www.ToxExpo.com

2010 Annual Meeting

The Society of Toxicology (SOT) Annual Meeting is the largest toxicology meeting and exhibition in the world, attracting approximately 6,500 scientists from industry, academia, and government. The program includes several plenary and other special lectures, symposia, workshops, roundtable discussions, and platform and poster presentations. The meeting also offers Continuing Education courses ranging from basic to advanced levels. In addition, the Society presents annual awards to recognize outstanding achievements in toxicology.

Get up-to-the-minute details at www.toxicology.org/2010

- Abstract Submission (Deadline: October 3, 2009)
- Award Nominations (Deadline: October 9, 2009)
- Continuing Education Courses
- Housing Information
- Meeting Registration (Early Bird Deadline: January 22, 2010)
- *Preliminary Program* and Itinerary Planner (available January–April 2010)
- Ride and Room Sharing Programs
- ToxExpo™ Exhibit Information at www.toxexpo.com
- Satellite Meeting Information
- SOT Membership Application (apply by September 1 or January 1 to register for the meeting at the discounted member rate)
- SOT Career Development Resources and Job Bank Center
- Scientific Sessions

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Why Attend the Annual Meeting?

Cutting-Edge Science and Perspectives

The SOT Annual Meeting provides the most comprehensive coverage of toxicology. The scheduled scientific sessions and poster and platform presentations will present the latest cutting-edge research.

Depth of Analysis

Six scientific themes will allow attendees to gain depth of analysis on Cell Signaling, Gene-Environment Interactions, Metabolic Disease, Mitochondrial Basis of Disease, Toxicity Testing in the 21st Century, and Translational Toxicology. Continuing Education courses highlight two additional target areas, Biologicals and Cytokine Biology.

Networking

The SOT Annual Meeting, toxicology's largest meeting, allows you to network with colleagues and other leading scientists from around the world.

Value

The SOT Annual Meeting is cost-effective, with low registration fees, inexpensive high-quality Continuing Education courses, and exposure to the very latest advances in science. International attendees benefit from the good exchange rate.

ToxExpo™

SOT's Exhibition, ToxExpo™, is the profession's largest trade show of its kind anywhere. Attendees and exhibitors from around the globe gather to exchange ideas and debut cutting-edge products, services, and technologies. Toxicologists and industry professionals have the unparalleled opportunity to gain first-hand knowledge on the latest advances from more than 350 exhibitors during this unique three-day exhibition. Visit www.ToxExpo.com for more information.



ToxExpo™ ... not just a trade show—the on-line resource for scientific products and services

Join SOT
at www.toxicology.org

Membership Benefits Include:

- **Reduced Meeting Registration**
- **Reduced Subscription Rate to *Toxicological Sciences Journal***
- **Collaboration and Leadership Opportunities**
- **Free Job-Seeker Access to the SOT Job Bank**

Salt Lake City, Utah—Join Your Society of Toxicology Colleagues in This Beautiful and Extraordinary City

SALT LAKE CITY, UTAH, is the host city for the Society of Toxicology's 49th Annual Meeting and ToxExpo™. Scientific Sessions and exhibitions will be held at the Salt Palace Convention Center during the week of March 7–11, 2010.

Nestled against the Wasatch Mountains, this Rocky Mountain town and the capital of Utah, offers an urban oasis just minutes away from alpine escapes. A beautiful, safe, and vibrant city, Salt Lake combines unparalleled access to natural recreation, a bustling economy, lively nightlife, remarkable history, warm hospitality, and Utah's Greatest Snow on Earth™.

Mormon settlers laid out the city in 1847 when their prophet Brigham Young proclaimed it the “right place” for new settlement. Many residents and visitors would still agree, and today the city has evolved into a bustling urban center, welcoming millions of visitors each year.

The city also offers a spectrum of cultural and entertainment options. Salt Lake is home to the world-famous Mormon Tabernacle Choir, several professional theater and dance companies, five professional sports teams, and 30 golf courses.

For those bringing the family, you'll be pleased to know that Salt Lake City has a number of family-friendly activities, including museums, shopping, and the most resource-rich Family History Library in the world. The city also is the culinary capital of Rocky Mountain Cuisine, with over 140 restaurants and cafes in the downtown convention district alone.

The perfect gateway for some of the world's most acclaimed outdoor escapades, Salt Lake puts you within a few hours drive of 21 national parks and monuments. The region also hosted the 2002 Winter Olympic Games and remains a winter sports paradise, with seven world-class ski resorts within a 45-minute drive of the valley.

Join your Society of Toxicology colleagues in this beautiful and extraordinary city! Consider bringing the family along and extending your stay by a few days to fully experience Salt Lake City and beyond. For more information about Salt Lake City, visit www.visitsaltlake.com.



Annual Meeting & ToxExpo™

Scientific Themes

CELL SIGNALING

Cell signaling encompasses the broad range of pathways involved in how cells detect and respond to external stimuli and communicate with other cells. Key cellular responses regulated by cell signaling include cell death, differentiation, and cell motility. Understanding the contribution of cell signaling pathways to toxicity is often key to determining mechanisms of toxicity or the pathogenesis of biological responses elicited by chemicals or pharmaceuticals. Sessions in this theme highlight mechanistic roles for cell signaling pathways in toxic responses and disease pathogenesis.

GENE-ENVIRONMENT INTERACTIONS

It is clear that disease susceptibility cannot be attributed only to variations in the human genome. The environment is major among the additional variables that define individual susceptibility to disease. A more precise determination of the influence of environmental exposures within a given genetic background on disease processes will be required to significantly improve the ability to predict, detect, treat, and monitor disease progression and disease response. The Gene-Environment Interaction theme has been selected to highlight recent advances in this field that are relevant to the toxicological sciences.

METABOLIC DISEASE

Metabolic dysfunction, either acquired or inherited, affects biochemical reactions resulting in metabolic diseases. The incidence of acquired metabolic diseases is rising at an alarming rate. Perturbation of lipid and glucose metabolic pathways increases the risk of developing a number of chronic conditions such as obesity, diabetes, fatty liver disease, and cardiovascular disease. While genetic variability plays a role in individual susceptibility, there is evidence that environmental agents, drugs, and other toxicants are contributing factors. This theme will focus on the mechanistic changes in glucose and lipid metabolism induced by toxicants and the relationship to disease progression.

MITOCHONDRIAL BASIS OF DISEASE

Mitochondrial dysfunction has been found to be an important component in the progression of numerous human disease states. In addition, the mitochondrial genome is susceptible to oxidative stress and mutation due to the high percentage of coding DNA and its small size. Therefore, the mitochondria are a suspected target organelle of xenobiotics in different model organisms. This thematic area will highlight studies that evaluate the effect of xenobiotic exposure on mitochondrial function and the connection to the progression of disease.

TOXICITY TESTING IN THE 21ST CENTURY

The NRC's 2007 report "Toxicity Testing in the Twenty-first Century: A Vision and a Strategy" articulated the critical need for development and validation of predictive high-throughput assays to replace current expensive and time-consuming animal tests. This theme includes applications of genomics and *in vitro* tests to identify pathways of toxicity and methods for using advanced computer power that make it feasible to analyze large volumes of complex data and use common data platforms to link existing and new exposure and effects databases.

TRANSLATIONAL TOXICOLOGY

In most settings, translational science is described by the term "Bench to Bedside." Translational Toxicology can be described as the transition of basic toxicology related-research into strategies to improve the performance of the science of toxicology. Thus, translational toxicology may be best described by the term "discovery to application." Sessions involving the translation of fundamental mechanistic observations into bioassays, biological models and other novel approaches that can be applied to toxicology research, and studies that describe the supporting biologic or mechanistic qualification of endpoints and detailed assay validation are highlighted in this theme.



Get up-to-the-minute details at
www.toxicology.org/2010

Society of Toxicology

Creating a Safer and Healthier World by Advancing the Science of Toxicology

Scientific Sessions

Monday, March 8–Thursday, March 11

SYMPOSIUM SESSIONS

- Aging As a Determinant of Xenobiotic Toxicity
- Bile Salt Transport and Liver Injury
- Faster Science for Better Decisions: Characterizing Environmental Contaminant Risk from High-Throughput Data
- Gender Divergent Xenobiotic Responses
- Genotoxic Impurities in Drugs and Drug Products: What Is the Right Way to Deal with Impurities in R&D *Versus* Regulatory Guidance?
- Mechanisms of Chemical-Induced Liver Cancer: Putting the Pieces Together
- Mechanistic Role of Reactive Intermediate Protein Covalent Binding in Target Organ Toxicity: Past, Present, and Future
- Neurological Responses after Exposure to Inhaled Metal Particles
- Ovarian Toxicity: Current Concepts in Toxicology, Pathology, and Mechanisms
- Phthalate Reproductive and Developmental Toxicity and Risk Assessment
- Silica and Asbestos Immunotoxicity: Mechanisms to Fibrosis, Autoimmunity, and Modified Tumor Resistance
- The Fetal Basis of Adult Disease
- Zebrafish Models for Developmental Neurobehavioral Toxicology

Thematic Track

CELL SIGNALING

- Alterations in Regulatory T Cells: Novel Pathways to Immunotoxicology
- It's Not Your Father's Aryl-Hydrocarbon Receptor: New Biological Roles for a Misunderstood Receptor
- MAP Kinase Signaling: A Common Target in Different Tissues
- TRPing the Sensor: The Role of TRP Channel Signaling in Cardiopulmonary Toxicity

GENE-ENVIRONMENT INTERACTIONS

- Genetics: The Link between Exposures, Gene x Environment Interaction, and Toxicity

METABOLIC DISEASE

- Metabolic Syndrome and Increased Sensitivity to Drug-Induced Liver Injury (DILI): Nonclinical Models and Clinical Implications
- Recent Knowledge of Critical Regulators of Lipid Homeostasis in Metabolic Disease
- Signaling Mechanisms for Metabolic Dysfunction Following Low Level Arsenic Exposures: From Mouse to Man
- Zinc, Copper, and Their Metabolic Effect: Myths and Musts

MITOCHONDRIAL BASIS OF DISEASE

- Emerging Roles for Mitochondrial Uncoupling Proteins in Metabolic Disease and Xenobiotic Toxicity
- Mitochondrial Toxicity in Disease and Death
- Molecular Determinants of Mitochondrial Disease

TRANSLATIONAL TOXICOLOGY

- Anti-Drug Antibody-Mediated Toxicity in Nonclinical Toxicity Studies: Impact and Relevance to Human Safety

(Scientific Sessions continued on following page)



WORKSHOP SESSIONS

- Blood-Based Genomic Profiles As Biomarkers of Exposure and Effect
- Current Thinking and Experiences Related to Developmental and Reproductive Safety Assessment of Biotherapeutics
- Determination of the Contributions of Individual Stressors in Cumulative Risk Assessments
- Heart Smart: Innovative Approaches for Improving Cardiovascular Safety through Collaboration
- Immunotoxicity and Other Safety Considerations in the Development of Therapeutic Vaccines
- Minerals and Metals: Pros and Cons of Deliberate Exposure
- Research Advances and Enduring Needs in Children's Environmental Health Protection
- The Process of Defining Risk for Environmental Chemicals Having Significant Skin Exposure and Absorption Potential
- Toxicological Challenges in Green Product Development
- Understanding Nonlinearities at the Low End of the Dose-Response Curve: Insights from Molecular Network Analysis
- Widely Varying Strategies Implemented in Discovery to Reduce the Failure Rate of Clinical Lead Candidates in Development

Thematic Track CELL SIGNALING

- 'Omics Profiling of Cell and Tissue Interactions of Nanomaterials: Insight into Mechanisms of Action
- Systems Biology Approaches to Understanding Cell Signaling in Dermal and Ocular Toxicology

TOXICITY TESTING IN THE 21ST CENTURY

- High-Throughput Electrophysiology—21st Century Toxicity Testing Approaches with Functional Outcomes
- Opportunities to Modify Current Regulatory Testing Guidelines and Advance the Assessment of Carcinogenicity Risk in the 21st Century
- Toxicity Testing in the 21st Century for Ecotoxicology
- Toxicology in the 21st Century: Stem Cells in Drug Discovery and Development

TRANSLATIONAL TOXICOLOGY

- Humanized Models in Toxicology and Their Application to Hazard Characterization and Risk Assessment
- Low-Dose Linearity from Interaction of Agents with Background Disease Causes: A Conversation About Statistical and Toxicological Principles
- Novel Research Approaches, Animal Models, and Clinical Examples in Translational Toxicology
- Translation of Nonclinical Models to Clinical Risk Management Strategies of Severe Infectious Diseases with Immunomodulatory Drugs

ROUNDTABLE SESSIONS

- Chemical Forms of Metals Underlying Potential Toxicity of Metal-Containing Traditional Medicines
- Combination Toxicology Studies for Pharmaceutical Agents: Design Considerations and Impact on Clinical Development
- Inhaled Particles: From the Nose to the Brain?
- Melamine Contamination of Infant Formulas: Lessons Learned
- Overview of Current Regulatory Expectations for Oligonucleotide-Based Therapeutics: Case Studies for Different Classes of ONDs
- Safety of Vitamins and Minerals: Controversies and Perspectives
- The Evolution of the Extended One-Generation Study Design for Agricultural and Industrial Chemical Hazard Identification
- Weighing Complex Data in Risk Decisions: Concepts of Evidence-Based Toxicology
- Women's Health: Toxicology and Safety of Complementary and Alternative Medicine

Thematic Track TRANSLATIONAL TOXICOLOGY

- Can Animal Neurotoxicity Predict Human Dysfunction?
- The Yin and Yang of Immunomodulatory Biopharmaceuticals: What Have We Learned since MABEL and How Close Are We to the Clinical Dose?

(Scientific Sessions continued on following page)



HISTORICAL HIGHLIGHTS SESSION

Thematic Track

TRANSLATIONAL TOXICOLOGY

- Translating Toxicology to Public Health Protection: Lessons Learned from Superfund

INFORMATIONAL SESSIONS

- Impact of Tungsten and Tungsten Alloys on Health Risk
- Life-Stage Adjustment Five Years Later—Experiences from the Cancer Risk Assessment Field
- Recent Advances in Pulmonary Surfactant Toxicological Assessment and Therapeutics
- Seeking Funding for Undergraduate Research
- The 2009 Tennessee Fly Ash Spill: An Environmental Emergency Case Study

Thematic Track

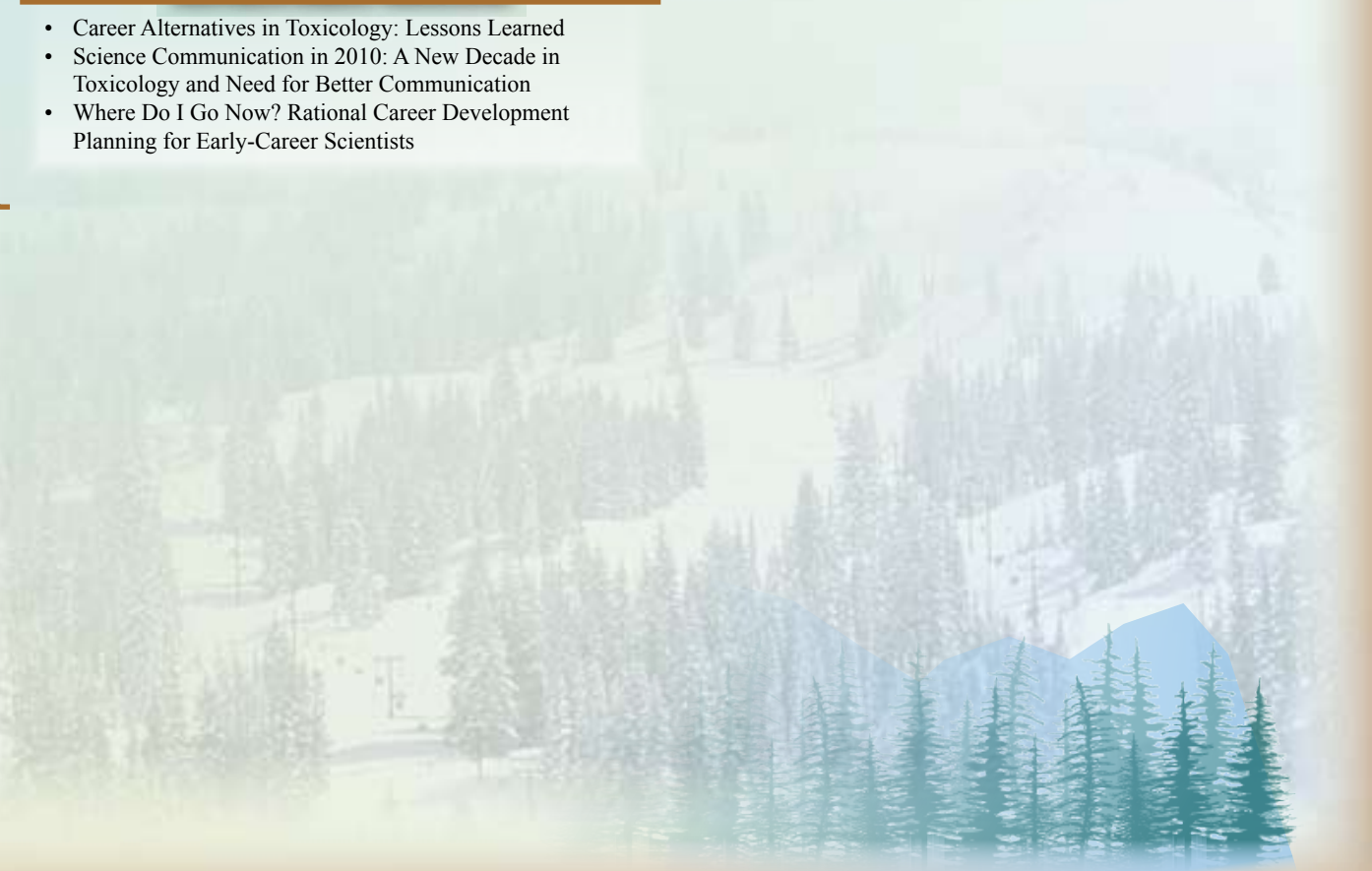
TOXICITY TESTING IN THE 21ST CENTURY

- Human Hepatocytes Derived from Embryonic Stem Cells: A New Tool for *In Vitro* Toxicity Testing
- The Tox21st Community and the Future of Toxicology Testing

TRANSLATIONAL TOXICOLOGY

- Measuring Immune Responses in Monkeys for Drug Development: Opportunities and Challenges for Predicting Human Efficacy and Immunotoxicity

EDUCATION/CAREER DEVELOPMENT SESSIONS

- Career Alternatives in Toxicology: Lessons Learned
 - Science Communication in 2010: A New Decade in Toxicology and Need for Better Communication
 - Where Do I Go Now? Rational Career Development Planning for Early-Career Scientists
- 

CE Target Areas

BIOLOGICALS

This topic provides an integrated discussion of the regulatory and risk assessment processes for the development of human monoclonal antibodies, siRNA molecules, vaccines, and other biological materials to be used as new disease modifying therapies, including the evolving and emerging regulations for FDA approval and regulatory aspects of biologicals vs. small molecules.

CYTOKINE BIOLOGY

Cytokines, molecules important in mediating toxicant-induced responses, emanate from multiple sources. Their release is in response to different stimuli and they interact to produce distinct and defined cellular and organismic responses. These responses are deterministic in autoimmune diseases and in response to toxicant exposure. This theme includes elucidation of their roles in diseases (including cancer), response to injury from exposure to chemical or biological agents (including infections), analytical approaches for quantification of cytokine release, presentation of examples of cytokine involvement in toxic responses, cytokine effects on xenobiotic metabolism, and emerging issues in the area.

Continuing Education Courses—Sunday, March 7

SUNRISE COURSE

- SRO1—Biological Pathway Analysis: An Introduction to the Pathway Knowledge Bases for Toxicological Research

MORNING COURSES

- AM02—Biologicals: Introduction to Drug Development (Basic)
TARGET AREA: BIOLOGICALS
- AM03—Comparative Biology of the Lung (Basic)
- AM04—Cytokines: Balancing Therapeutic Utility and Immune System-Mediated Toxicities (Basic)
TARGET AREA: CYTOKINE BIOLOGY
- AM05—Nuclear Receptors: Role in Chemical Mode-of-Action and Targets for Toxicity Testing (Basic)
THEME: CELL SIGNALING
- AM06—Predictive Power of Novel Technologies (Cells to ‘Omics): Promises, Pitfalls, and Potential Applications (Basic)
- AM07—Reproduction and Regulatory Impact (Basic)

AFTERNOON COURSES

- PM08—Assessment of Ocular Toxicity in Toxicology Studies Conducted for Regulatory Purposes (Basic)
- PM09—Gene-Environment Interactions Influence Cytokine Biology in Immunotoxicity and Disease: Genomic, Genetic, and Epigenetic Perspectives (Advanced)
THEME: GENE-ENVIRONMENT INTERACTIONS
TARGET AREA: CYTOKINE BIOLOGY
- PM10—Mitochondrial Toxicity: Animal Models and Screening Methods in Drug Development (Basic)
THEME: MITOCHONDRIAL BASIS OF DISEASE
- PM11—ICH Initiatives for Conducting Pharmaceutical Preclinical Safety Studies: New and Revised Guidelines and Challenges (Advanced)
- PM12—Segment-Specific Renal Pathology for the Non-Pathologist (Basic)
- PM13—Technologies and Tools for Toxicity Testing in the 21ST Century (Basic)
THEME: TOXICITY TESTING IN THE 21ST CENTURY

Invitation to Submit Abstracts—Deadline: October 3, 2009

Why Submit Abstracts?

- Contribute your toxicologic research to the leading international forum for toxicologists.
- Present cutting-edge research that could potentially have a significant impact on the practice of toxicology.
- Provide attendees with the opportunity to learn about emerging fields and how they apply to toxicology.
- Open dialogue among your scientific colleagues to effectively develop strategies for active involvement in other areas of toxicology.
- Gain recognition among your peers by having your research published in *The Toxicologist*.

Submission Guidelines

Abstracts are submitted electronically *via* a user-friendly interface on the Web site. The fee for submission is \$50. Submissions can be entered until 11:59 PM (Eastern Daylight Savings Time) on October 3, 2009. A confirmation receipt is e-mailed after submission. Please print this for your records.

The Scientific Program Committee reviews each abstract that is submitted. The scientific quality of the abstracts presented contributes substantially towards making the SOT Annual Meeting the leading international forum for new toxicologic research. As such, there is a minimum standard for abstract acceptance. Please refer to the abstract content rules and guidelines on the Web site.

For Additional Information

If you have questions about submitting an abstract, please check the Annual Meeting section of the Web site at www.toxicology.org/2010. Contact SOT Headquarters at (703) 438-3115 or by e-mail at sothq@toxicology.org.

SOT | Society of Toxicology

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