

Selected Events Related to Cellular and Computational Toxicology

SOT 2016 Annual Meeting

Sunday, March 13

CONTINUING EDUCATION

7:00 AM—7:45 AM

Basic Principles and Practices for Applying Epigenetics in Mechanistic Toxicology

Chairpersons: Shaun D. McCullough, US EPA and Ronald N. Hines, US EPA

8:15 AM—12:00 Noon

Adverse Outcome Pathway (AOP) Development and Evaluation

Chairpersons: Stephen Edwards, US EPA; and Andrea Terron, EFSA (European Food Safety Agency)

Next-Generation Sequencing in Toxicogenomics

Chairpersons: Weida Tong, National Center for Toxicological Research, US FDA and Jos Kleinjans, Maastricht University

1:15 PM—5:00 PM

Exploring Chemical Space in the New Toxicity Testing Paradigm: From Data Curation to Computational Simulations

Chairpersons: Cecilia Tan, US EPA and Daniel Chang, Chemical Computing Group, Inc.

Genetics and Population Variability in Chemical Toxicity: The What, the How, and So What?

Chairpersons: Ivan Rusyn, Texas A&M University and Barbara A. Wetmore, The Hamner Institutes for Health Sciences

Monday, March 14

8:00 AM—9:20 AM

PLENARY: Regenerative Medicine and Tissue Engineering

Great Hall A

Building a Heart: From Cells to Tissues to Organs

Doris Taylor, Texas Heart Institute

From 3D Microchip to Human Organ Culture Models: Trachea, Bronchi/Bronchiole and Lung Biomimetic Models for Disease Modeling, Drug Discovery and Toxicology Evaluation

Joan Nichols, Galveston National Laboratory

9:30 AM—12:15 PM

SCIENTIFIC SESSIONS

Opening the Black Box: Understanding the Molecular Mechanisms of Developmental Toxicity

Scientific Reproducibility: Does This Pose a Problem for 21st Century Toxicology?

Investigating Mode of Action in Chemical Carcinogenesis

10:00 AM—11:00 AM

Trainee Discussion with Plenary Presenters Drs. Taylor and Nichols (Ticket required)

11:30 AM—1:00 PM

In Vitro Toxicology Lecture and Luncheon (Ticket Required)

La Nouvelle Orleans Ballroom B

Multicellular Model Systems for In Vitro Toxicity Testing—Strengths and Challenges

Norbert E. Kaminski, Michigan State University

12:30 PM—1:20 PM

AWARD LECTURE

Room R08

Forty-Five Years Modeling Dose-Response Relationships: An Unanticipated Career!

Melvin Andersen, The Hamner Institutes for Health Sciences

1:30 PM—2:30 PM

A Conversation with Linda Birnbaum,
NIEHS and Pamela McInnes, NCATS

Room 220

2:00 PM—4:45 PM

SCIENTIFIC SESSIONS

The Promise and Reality of Alternative
Methods in Inhalation Toxicology and
the Development of Inhaled
Therapeutics

Moving Beyond Prioritization towards
True *In Vitro*-Based Safety
Assessment

Using 21st Century Approaches to
Evaluate Endocrine-Active Compounds

The Role of the Epigenome in
Exposure Effects, Susceptibility, and
Public Health

Pluripotent Stem Cells in
Cardiovascular Research

4:45 PM—6:00 PM

Great Hall B

Preclinical (Safety) Toxicology Testing
Predicts the Clinical Outcome

SOT Debater: Thomas M. Monticello,
Amgen, Inc.

EUROTOX Debater: Ruth Roberts,
ApconiX Ltd

5:00 PM—6:00 PM

ANCILLARY MEETING

Hilton New Orleans Riverside, Belle
Chasse Room

Priorities and Opportunities for
Replacement of Animal Tests: A
Discussion with NICEATM and
ICCVAM Leadership

6:00 PM—7:30 PM

SPECIALTY SECTIONS

Biological Modeling
Dermal Toxicology
Regulatory/Safety Evaluation
Stem Cells

Tuesday, March 15

6:30 AM—8:00 AM

SPECIALTY SECTIONS

Room R01

Regulatory and Safety Evaluation
Specialty Section Global Regulations
Breakfast—Next Stop: China
Regulatory Landscape in China
Speaker: Dr. Qing-li Wang, Executive
Director, Pharmacology and Toxicology,
Center for Drug Evaluation, China Food
and Drug Administration, Beijing, China

9:30 AM—12:15 PM

SCIENTIFIC SESSIONS

Bioactivity-Based Margin of Exposure
Safety Assessment: The Next Step
along the Road to 21st Century Safety
Assessments

Multi-Omics in Predictive Toxicology:
Development and Application in
Environmental Monitoring Programs

Scientific and Regulatory Advances in
Safety Evaluation of Heavy Metals in
Food

2:00 PM—4:45 PM

SCIENTIFIC SESSIONS

Read-Across: Building Scientific
Confidence in the Development and
Evaluation of Read-Across for
Regulatory Purposes Using Tox21
Approaches

Safety Assessment of Topically
Exposed Cosmetic Ingredients:
Lessons Learned

Qualification of “New” DART Tools for
Hazard Identification

5:00—7:00 PM

ANCILLARY MEETING

Hilton New Orleans Riverside, Belle
Chasse Room

Hands-On Seminar: Creating an
Adverse Outcome Pathway in the AOP
Wiki *pre-registration required to
ksullivan@pcrm.org*

6:00 PM—7:30 PM

SPECIALTY SECTIONS

Molecular and Systems Biology
Ocular Toxicology

Wednesday, March 16

9:30 AM—12:15 PM

SCIENTIFIC SESSIONS

Patient-Specific Stem Cells As Models for Gene, Drug, and Environment Interactions in Disease

Paradigm Change in Toxicology: What Will It Take to Bring Advances in the Science of Toxicology into Regulatory Use?

Screening Chemicals for Neurotoxicity Outcomes—Using Large Datasets and Multiple Endpoints to Develop “Toxicity Profiles”

Tox21 Challenge To Build Predictive Models of Nuclear Receptor and Stress Response Pathways As Mediated by Exposure to Environmental Toxicants and Drugs

12:15 PM—1:45 PM

SPECIALTY SECTIONS

In Vitro and Alternative Methods

12:30 PM—1:50 PM

SCIENTIFIC SESSIONS

Updating FDA’s Redbook: The Importance of Stakeholder Involvement

2:00 PM—4:45 PM

SCIENTIFIC SESSIONS

High-Content Imaging for Predictive Toxicology: Discriminating between Adverse and Adaptive Outcomes

Use of the Adverse Outcome Pathway (AOP) Concept to Link Epidemiological to Mechanistic Data on the Correlation of Pesticide Exposures and Parkinson’s Disease

In Vitro Dosimetry of Engineered Nanomaterials: Too Complicated to Consider, Too Important to Ignore

6:00 PM—7:30 PM

SPECIALTY SECTIONS

Risk Assessment

3D or Not 3D: That is the [Predictive Toxicology] Question...

Hosted by: Elaine Faustman, University of Washington and Barbara Klieforth, US Environmental Protection Agency

Thursday, March 17

9:30 AM—12:15 PM

SCIENTIFIC SESSIONS

Beyond Benchmark Dose: Advancing Probabilistic and Bayesian Approaches in Hazard Characterization

Which Human Cell Lines Should I Use? Choosing the Appropriate Biological Systems for High-Throughput Toxicity Testing

SATELLITE MEETINGS

12:30 PM—4:00 PM

Hilton New Orleans Riverside,
Jefferson Ballroom

Updates on Activities Related to 21st Century Toxicology and Related Efforts: Invited Presentations and Open Microphone

Hosted by: Thomas Hartung, Johns Hopkins Center for Alternatives to Animal Testing (CAAT)

1:00 PM—5:00 PM

Room 213

1:00 PM—6:00 PM

Room 205

A Toxicology User's Guide to the Roadmap Epigenomics and ENCODE Data Resources

Hosted by: Ivan Rusyn, Texas A&M University and Lisa Chadwick, NIEHS

EXHIBITOR-HOSTED SESSIONS

Monday

In Vitro Proximal Tubule Cell Monolayers
As a Predictive Tool for Nephrotoxicity:
Investigating Time- and Dose-Dependent
Renal Toxicity using Clinically Relevant
Biomarkers
Room 211

Monday, March 14, 9:00 AM to 10:00 AM
Presented by: SOLVO Biotechnology

US EPA and Unilever Present New
Research Collaboration to Advance
Nonanimal Approaches for Chemical Risk
Assessment
Room 205

Monday, March 14, 9:00 AM to 10:00 AM
*Presented by: US Environmental
Protection Agency*

Advantages in Utilizing an Integrated *In
Silico* Solution for ICH M7 Expert Review
Room 212

Monday, March 14, 10:30 AM to 11:30 AM
Presented by: Lhasa Limited

Stakeholder Session: US EPA Endocrine
Disruptor Screening Program (EDSP) and
the Use of High Throughput Assays and
Predictive Models to Screen for Endocrine
Activity

Room 212

Monday, March 14, 12:00 PM to 1:00 PM

*Presented by: US Environmental
Protection Agency*

XposeALI—Setting a New Standard for ALI
Cell Exposures

Room 211

Monday, March 14, 12:00 PM to 1:00 PM

*Presented by: Inhalation Sciences Sweden
AB*

CASE Ultra: Combining Statistical and
Rule Based Methodologies

Room 211

Monday, March 14, 3:00 PM to 4:00 PM

Presented by: MultiCASE Inc

Cryopreserved Human Enterocytes and
Hepatocytes for the Evaluation of Adverse
Drug Properties

Room 205

Monday, March 14, 3:00 PM to 4:00 PM

*Presented by: In Vitro ADMET
Laboratories LLC*

Multiplexed Assays for Flow Cytometry:

Case Example of Mode of Action
Determination for Genotoxic Agents

Room 213

Monday, March 14, 3:00 PM to 4:00 PM

Presented by: Litron Laboratories

Functional Assays for Assessing
Mitochondrial Toxicants and Other Energy
Metabolism Disruptors in Live Cells
Room 211

Monday, March 14, 4:30 PM to 5:30 PM

*Presented by: Seahorse Bioscience, a part
of Agilent Technologies*

Pharmacological Assessment of CIPA
Reference Compound Effects using
Simultaneous Impedance and Extracellular
Field Potential Recordings from iPSC-
derived Cardiomyocytes

Room 213

Monday, March 14, 4:30 PM to 5:30 PM

Presented by: Nanion Technologies Inc.

Use of 3D InSight™ Human Liver
Microtissues As a Tool for Prediction of
Drug-Induced Liver Injury

Room 205

Monday, March 14, 4:30 PM to 5:30 PM

Presented by: InSphero Inc.

Tuesday

Advances in the Use of Bioprinted 3D
Human Liver Tissues for the Assessment
of Drug Induced Liver Toxicity

Room 212

Tuesday, March 15, 9:00 AM to 10:00 AM

Presented by: Organovo

Combining Real-Time Measurement of Cell Viability and Extraction of RNA from the Same 3D Spheroids
Room 205
Tuesday, March 15, 10:30 AM to 11:30 AM
Presented by: Promega Corporation

Corning HepatoCells and 3D Organotypic Spheroid Culture Systems for Predicting Drug Induced Liver Toxicity
Room 211
Tuesday, March 15, 10:30 AM to 11:30 AM
Presented by: Corning Life Sciences

Combining xCELLigence® CardioECR Technology and iPSC Cardiomyocytes for Relevant Frontline and Mechanistic Cardiotoxicity Screening
Room 213
Tuesday, March 15, 12:00 PM to 1:00 PM
Presented by: ACEA Biosciences and FUJIFILM Company

Stakeholder Session: US EPA Endocrine Disruptor Screening Program (EDSP) and the Use of High Throughput Assays and Predictive Models to Screen for Endocrine Activity
Room 212
Tuesday, March 15, 12:00 PM to 1:00 PM
Presented by: US Environmental Protection Agency

The Next Generation of Cardiomyocyte Contractility, Cell Migration, and Cell Viability Assays using the Sony SI8000 Live Cell Imaging Platform
Room 205
Tuesday, March 15, 12:00 PM to 1:00 PM
Presented by: Sony Biotechnology Inc.

Evolution of the Spheroid: Advanced 3D Microtissue Models As a Versatile Tool for More Physiologically Relevant Efficacy and Safety Assessment
Room 213
Tuesday, March 15, 1:30 PM to 2:30 PM
Presented by: InSphero Inc.

Genomics—The Future of Sensitization Testing and Safety Assessment
Room 211
Tuesday, March 15, 1:30 PM to 2:30 PM
Presented by: SenzaGen

Evaluation of the Human Renal Proximal Tubule Epithelial Cell Line, SA7K, in a Multiplexed qHTS Platform for Investigating Nephrotoxicity and a 3D Organ-on-a-Chip OrganoPlate™ Platform for Measuring Renal Clearance
Room 213
Tuesday, March 15, 3:00 PM to 4:00 PM
Presented by: BioReliance

Practical Application of a Human Stem Cell Assay for Developmental Toxicity Testing
Room 211

Tuesday, March 15, 3:00 PM to 4:00 PM
Presented by: Stemina Biomarker Discovery

The Use of iPSC-Derived Cells As *In Vitro* Models for Toxicity Screening
Room 212
Tuesday, March 15, 3:00 PM to 4:00 PM
Presented by: Axol Bioscience

Implementation of ICH M7 Recommended (Q)SAR Analyses
Room 205
Tuesday, March 15, 4:30 PM to 5:30 PM
Presented by: Leadscope, Inc., Lhasa Limited and MultiCASE Inc.

KnowledgeScan™, a New Approach to Target Safety Assessment
Room 213
Tuesday, March 15, 4:30 PM to 5:30 PM
Presented by: Instem

Protecting Life's Circuitry-*In Vitro*, Functional Evaluation of Neurotoxicity and Cardiotoxicity using the Maestro Multiwell Microelectrode Array (MEA) Platform
Room 211
Tuesday, March 15, 4:30 PM to 5:30 PM
Presented by: Axion BioSystems
Stem-Cell Derived Cardiomyocyte Preparations in Single Cell, 2D and 3D Tissue Systems: Their Role in Cardiotoxicology and Novel Lead Investigation

Room 212
Tuesday, March 15, 4:30 PM to 5:30 PM
Presented by: Clyde Biosciences

Wednesday

In Vitro Toxicology and Integrated
Toxicology—What Are These?
Room 212
Wednesday, March 16, 9:00 AM to 10:00
AM
Presented by: Charles River

Use of Long-Term Micropatterned Primary
Human Hepatocyte Cultures (HepatoPac)
to Assess Efficacy and Tolerability of
Antisense Oligonucleotides
Room 205
Wednesday, March 16, 9:00 AM to 10:00
AM
Presented by: Hepregen Corporation

Utilizing Long-Enduring Primary Hepatic
Co-Culture Models to Gain Improved,
Mechanism-Specific Insights on
Cholestasis and Reactive Metabolites
Room 212
Wednesday, March 16, 10:30 AM to 11:30
AM
Presented by: Hurel Corporation

DRAGON ONLINE: A Web-Based Tool for
Systematic Literature Review
Room 212
Wednesday, March 16, 12:00 PM to 1:00
PM
Presented by: ICF International

High-Throughput Imaging and Kinetic
Endpoints for Toxicity Testing in iPSC-
Derived (iCell) Cardiomyocytes and
Hepatocytes in 2D and 3D Spheroid
Cultures
Room 213
Wednesday, March 16, 12:00 PM to 1:00
PM
*Presented by: Cellular Dynamics Intl, a
FUJIFILM Company & Molecular Devices*

Human iPS Cell-Derived Hepatocytes with
Drug Metabolizing Function and High
Specificity to Hepatotoxins for Utilization in
Toxicity Screening Applications
Room 211
Wednesday, March 16, 1:30 PM to 2:30
PM
*Presented by: Clontech Laboratories, Inc.,
a Takara Bio Company*