



## **45<sup>th</sup> Annual Symposium / Le 45<sup>e</sup> symposium annuel**

December 3 – 5, 2013  
Ottawa Convention Centre  
55 Colonel By Drive  
Ottawa, Ontario

### **Mechanistic Paradigms for Toxicological Regulation**

### **Les Paradigmes Mécanistes pour la Réglementation Toxicologique**

Organised by / Organisé par  
SOCIETY OF TOXICOLOGY OF CANADA  
LA SOCIÉTÉ DE TOXICOLOGIE DU CANADA

Programme Committee / Comité du programme  
Jayadev Raju, Health Canada, Chair  
Andrew Winkley, Vertex Pharmaceuticals, Member  
Christopher Nicol, Queen's University, Member

## Tuesday Dec 3 PM

- 2:00 – 5:00** STC Board meeting - University of Ottawa, Desmarais Building, 55 Laurier East, 10<sup>th</sup> floor, room 10143
- 7:00** Student mentoring session – Room 1826 The Westin Ottawa

## Mechanistic Paradigms for Toxicological Regulation

## Wednesday Dec 4 AM

- 7:30** Registration / Continental Breakfast
- 8:30** **Louise Winn**, Queen's University, STC President  
Opening remarks and Introduction
- Session I: Pragmatic Approaches for Carcinogenicity Testing**  
*Chairperson: Jayadev Raju, Health Canada*
- 8:40** **Samuel Cohen**, University of Nebraska Medical Center, Omaha, NE  
Short term screening based on mode of action
- 9:10** **Genevieve Bondy**, Health Canada, Ottawa, ON  
P53 Knockout rodent models: Lessons learned from chronic mycotoxin feeding studies using the TRp53 heterozygous mouse
- 9:40** **Rebecca Clewell**, Hamner Institute, Research Triangle Park, NC  
Implementing Toxicity Testing in the 21st Century (TT21C) in the DNA damage pathway: assays, modeling, and in vitro-in vivo extrapolation (IVIVE)
- 10:15** **Coffee Break and Poster Session (Judging)**
- 11:00** **PLENARY LECTURE: Linda Birnbaum, Director, NIEHS/NTP**  
Research Triangle Park, NC  
Does Dose Make the Poison? A current assessment of nonmonotonicity
- 12:00** **Lunch and Poster Viewing (No Judging)**

## Wednesday Dec 4 PM

### Selected Highlights from the Abstracts

- 1:00**      **Subramanian Karthikeyan**, Health Canada, Ottawa, ON  
Abstract #20: Biological potency of ambient urban particulate matter collected at three different locations across Canada: impact of location, season and particle size
- 1:15**      **Shaimaa Ahmed**, University of Toronto, Toronto, ON  
Abstract #39: Zinc finger nuclease-mediated knockout of Ahr or ArNT in human breast cancer cells abolishes basal and ligand-dependent regulation of CYP1B1 and differentially affects estrogen receptor- $\alpha$  transactivation
- Session II:      Genome, Epigenome and Exposome: Future Roles in Carcinogenesis and Toxicity**  
*Chairperson:* Andrew Winkley, Vertex Pharmaceuticals, MA
- 1:30**      **Scott Auerbach**, NIEHS, Research Triangle Park, NC  
Characterization and application of toxicogenomic perturbation space
- 2:00**      **Bette Meek**, University of Ottawa, Ottawa, ON  
Evolution of mode of action/adverse outcome pathway analysis: Implications for toxicity testing and risk assessment
- 2:30**      **Coffee Break and Poster Session (Judging if necessary)**
- 3:00**      **Igor Pogribny**, NCTR, Jefferson, AR  
The emerging role of epigenetics in carcinogen detection and cancer risk assessment
- 3:30**      **Dean P. Jones**, Emory University, Atlanta, GA  
Sequencing the human exposome: A call to action
- 4:00**      **Vendor Workshop (Room 214)**  
**Mathieu Larivière**, Field Application Scientist, Life Technologies, Canada  
Targeted gene, whole exome sequencing, whole transcriptome - Applications for toxicogenomics
- 4:00**      **Annual Business Meeting (Room 211)**
- 6:00**      **President's Reception & STC awards**  
Heart and Crown, ByWard Market, 67 Clarence Street  
*ToxTrivia* – Challenge your knowledge of toxicology, risk assessment and the posters at STC-2013

## Thursday Dec 5 AM

**8:30** Continental Breakfast

**Session III: Molecular Toxicology: Mapping the Pathways**  
*Chairperson:* Christopher Nicol, Queen's University

**9:00** **Stelvio Bandiera**, University of British Columbia, Vancouver, BC  
Hepatic biotransformation of PCBs and PBDEs by cytochrome P450 enzymes

**9:30** **Thomas A. Gasiewicz**, University of Rochester, NY  
The Ah receptor in hematopoietic stem cells (HSCs): Regulation of signaling pathways associated with HSC function

**10:00** **Coffee Break and Poster Viewing**

**10:30** **Rachel Tyndale**, University of Toronto, ON  
Neurotoxin metabolism within the brain: Mechanisms and manipulations

**11:00** **Bonnie Deroo**, University of Western Ontario, London, ON  
Expression of extracellular matrix components is disrupted in the immature estrogen receptor beta-null mouse ovary

### **Selected Highlights from the Abstracts**

**11:30** **Hongyan Dong**, Health Canada, Ottawa, ON  
Abstract #24: Genomic response to low doses of the carcinogen furan in rat livers

**11:45** **Jeanne E. Mulder**, Queen's University, Kingston, ON  
Abstract #41: Deletion of 8-oxoguanine glycosylase does not affect aflatoxin B1-induced oxidative DNA damage or tumourigenesis

**12:00** **Lunch**

## Thursday Dec 5 PM

**Session IV: Toxicokinetics: Perspectives from Academia, Industry and Regulation**  
*Chairperson:* Angela Hofstra, Sygenta Canada Inc.

- 1:00**      **Kannan Krishnan**, Université de Montréal, QC  
The biological mechanisms underlying toxicokinetic data
- 1:30**      **Rory Conolly**, US-EPA  
Toxicokinetics to identify nonlinearities in dose-response and implications for risk assessment
- 2:00**      **Coffee Break**
- 2:15**      **Claire Terry**, DOW AgroSciences  
Industrial perspective on the use of toxicokinetic data
- 2:45**      **Andy Nong**, Health Canada, Ottawa, ON  
Assessing chemical exposure and biomonitoring for the Canadian population using toxicokinetics
- 3:15**      **Louise Winn**, Queen's University, President STC  
Concluding remarks