



Toxicogenomics and Its Relevance to Support Hazard Assessment

Co-Chair: Stephen Edwards, RTI International
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Overview

The Society of Toxicology in conjunction with the US FDA Center for Food Safety and Applied Nutrition (CFSAN) have partnered to provide this colloquia series. The series presents scientific information that is high-quality, cutting-edge, future-oriented toxicological science to provide a well-grounded foundation to inform the work of US FDA employees. These webcasts are open to the public at no charge. These events are not a public forum for discussion of toxicology regulatory issues.

Toxicogenomics uses genomic technologies to gain mechanistic understanding of biological effects induced by exposure to chemicals and may provide more sensitive biomarkers for the prediction and assessment of their toxicity, thus contributing significantly to toxicology. With recent technological innovations such as next generation sequencing (NGS), toxicogenomics now provides an unprecedented opportunity for improved, animal-free risk assessment of chemicals. Nonetheless, challenges remain in many aspects of toxicogenomics to meet regulatory needs. This colloquium will present the state of the science in toxicogenomics and its relevance to support hazard assessment of chemicals. Recent technological innovations in toxicogenomics are covered, and case studies of toxicogenomics application in risk assessment and toxicity prediction of chemicals related to food and cosmetics are highlighted. The colloquium will also discuss current challenges facing regulatory application and provide perspectives on future directions of toxicogenomics.

Schedule (All times are Eastern US, UTC -4)

9:00 AM–9:10 AM	Welcome from FDA Steven M. Musser, Deputy Director of Scientific Operations, CFSAN
	Welcome from SOT Michael Aschner, SOT President

- 9:10 AM–9:15 AM Overview and Speaker Introductions
Stephen Edwards, Colloquium Co-chair, RTI International
- 9:15 AM–10:00 AM Overview of Toxicogenomics and Its Contribution to Toxicological Science
Carole L. Yauk, University of Ottawa/Health Canada, Ottawa, Canada
- 10:00 AM–10:40 AM High-Throughput Transcriptomics for Chemical Bioactivity Screening and Tiered Hazard Evaluation
Joshua A. Harrill, US EPA, Research Triangle Park, NC
- 10:40 AM–10:50 AM Break
- 10:50 AM–11:30 AM Toxicogenomics to Support Hazard Assessment
Russell Thomas, US EPA, Research Triangle Park, NC
- 11:30 AM–12:10 PM Application of Toxicogenomics in Toxicity Assessment of Chemicals in Food and Cosmetics
Jorge Naciff, Procter & Gamble Company, Mason, OH
- 12:10 PM–1:00 PM Roundtable Discussion
Moderator: Jason Aungst
Co-Chairs and all speakers