



51st Annual Symposium / Le 51^e symposium annuel

Optimizing testing strategies and exploring novel mechanisms of human and environmental toxicants

December 2-4, 2019

Shaw Centre

Ottawa, ON

Program Outline

SOCIETY OF TOXICOLOGY OF CANADA
LA SOCIÉTÉ DE TOXICOLOGIE DU CANADA

President: Angela Hofstra, Syngenta Canada Inc.

Vice President: Geraldine Delbes, INRS

Past President: Michael Wade, Health Canada

Program Committee / Comité du programme:

Ella Atlas, Health Canada

Joanne Wan, Intertek Canada

Isabelle Plante, INRS

Monday December 2

7:00 pm Welcome Reception

Tuesday December 3

7:30 am Registration Shaw Centre

8:50 am Welcome and Opening Remarks: Angela Hofstra, STC President (Syngenta Canada, Guelph, ON)

9:00 am Session 1: Alternative models for predicting human toxicity

Rocky Goldsmith (Lead Computational Discovery Chemistry, Bayer Crop Science, USA): In silico models for evaluating mode of action of toxicants.

Margaret Magdesian (CEO Ananda Devices, Montreal, Canada): Neurons - on a chip can we better predict neurotoxicity?

Coffee break and poster viewing

Kessen Patten (Institut National de la Recherche Scientifique, Montreal, Canada): Zebrafish models of human neurological diseases and drug discovery.

Alisa Vespa (Health Canada): Replacement of the rodent carcinogenesis 2 year study – what are the alternatives

Lunch and poster viewing

1:15 pm Session 2: Transgenerational Effects – “You are what your grandfather ate”

Janice Bailey (Laval University, Canada): Reproductive effects of Arctic pollutants.

Francesco Marchetti (Health Canada) Standardized testing for transgenerational mutagens.

Vance Trudeau (University of Ottawa): Exposure to the antidepressant fluoxetine (Prozac) and transgenerational effects in zebrafish.

Coffee Break and Poster viewing

Keynote Lecture: Jodi Flaws (University of Illinois at Urbana-Champaign, USA) Epigenetic germline effects of environmental pollutants.

Student Mentoring Event & STC Annual Business Meeting

Co-Chairs: Yen Tran, Carleton University (Ottawa ON) & Lorrie Boisvert, University of Ottawa (Ottawa ON)

Theme: Take the Initiatives!

Mentor panellists:

Andrew Beck, Director, Risk Management Bureau, Health Canada (Ottawa ON)

Dr. Moazzam Khan, Senior Toxicologist, Existing Substances Risk Assessment Bureau, Health Canada (Ottawa ON)

Dr. Laurie Chan, Professor and Canada Research Chair in Toxicology and Environmental Health, Department of Biology, University of Ottawa (Ottawa ON)

Dr. Leanne Bedard, Principle and Consultant, Bedard ADME-Tox Solutions (Montreal QC)

6:00 pm President's Reception and STC Awards**Wednesday December 4****8:00 am Registration****8:30 am Session 3: Thinking outside the reproductive organs: novel toxicity mechanisms of EDCs.**

Jenny Bruin (Carleton University, Ottawa, Canada): Dioxin effects on human primary pancreatic beta cells generated from stem cells.

Vian Peshdary (Health Canada): Dechlorane Plus inhibits insulin signalling in mice.

Errol Thomson (Health Canada): Health Effects of Air Pollution are mediated through changes in HPA axis.

Coffee break and poster viewing**Session 4: Plaa Award Presentation and Lecture****Session 5: Invited Trainee (Students/Postdoctoral Fellows) Platform Presentations****Lunch and poster takedown****Session 6: Assessment of effects of environmental pollutants on humans & other species**

Valerie Langlois (Institut National de la Recherche Scientifique; Montreal, Canada): Biomarkers of toxicity in frogs or toxicity of bitumen in fish.

Doug Crump (Environment and Climate Change Canada): How to predict EDC effects in Wild birds.

Beverley Hale (University of Guelph, Canada): Nickel; risk assessment on exposure from soil.

Closing Remarks

Biosketches:

Jodi Flaws

Rocky Goldsmith

Margaret Magdesian

Kessen Patten

Alisa Vespa

Janice Bailey

Francesco Marchetti

Vance Trudeau

Jenny Bruin is an Assistant Professor at Carleton University in the Department of Biology and Institute of Biochemistry, since September 2016. Her lab studies the pathogenesis of diabetes with a focus on islet biology, pancreas development, and toxicology. From 2010 to 2016, Dr. Bruin was a postdoctoral fellow in Dr Tim Kieffer's laboratory at the University of British Columbia, where she studied the development of human embryonic stem cells into pancreatic insulin-producing beta cells as a potential cell therapy for patients with diabetes. Dr Bruin obtained her BSc in Biomedical Toxicology at the University of Guelph in 2005 and her PhD in Medical Sciences with Dr. Alison Holloway at McMaster University in 2009.

Vian Peshdary

Errol Thomson

Valerie Langlois

Doug Crump

Beverley Hale

Andrew Beck obtained his B.Sc. in Biology and Environmental Sciences from Trent University in Peterborough, ON, and a Graduate Diploma in Ecotoxicology from Concordia University in Montreal, QC. Andrew began his public service career in 1999 with the New Substances Program at Health Canada: he held numerous positions within the organization including Biologist, Section Head, and Acting Director. During this time Andrew gained extensive experience in exposure, hazard and risk assessment of new chemicals, polymers, products of biotechnology, nanotechnology and the environmental assessment of food and drug substances. In 2012, Andrew joined the Hazardous Materials Information Review Commission (HMIRC) as Director of the MSDS Compliance Division. He led the effort to integrate the independent commission into the Health Canada Portfolio and to introduce the implementation of the Globally

Harmonized System of Classification and Labelling of Chemicals (GHS). In 2015, Andrew was appointed Director of the Risk Management Bureau (RMB) within the Safe Environments Directorate of Health Canada whose mandate is to promote and protect the health of Canadians by developing, implementing and communicating strategies to manage risks to human health associated with exposure to existing substances in use in Canada.

Dr. Leanne Bedard obtained her M.Sc. in Chemistry from Carleton University in Ottawa, ON, in 1999, and her PhD in Pharmacology and Toxicology at Queen's University in Kingston, ON, in 2004. Leanne's career began in 2006 in drug research and development at Merck Frosst in Montréal as a Senior Research Scientist in Preclinical Drug Metabolism and Pharmacokinetics (DMPK). She advanced several drug discovery projects for respiratory and infectious diseases; her work reduced late-stage attrition of drug candidates due to poor DMPK properties. In 2010, Leanne received the Special Achievement Award for her team's discovery of PIFELTRO™/DELSTRIGO™, a non-nucleoside reverse transcriptase inhibitor now marketed for HIV/AIDS treatment. In 2011, Leanne joined AstraZeneca R&D Montréal as DMPK Drug Design Leader; she worked closely with drug discovery teams to solve ADME-Tox issues in lead compounds and series for the treatment of central nervous system (CNS) disorders. Since 2012, Leanne worked as an independent consultant specializing in drug metabolism, pharmacokinetics, and nonclinical toxicology. Leanne assisted client companies in problem-solving of ADME-Tox issues and in the design and data interpretation of nonclinical pharmacokinetic and Investigational New Drug (IND)-enabling toxicology studies. Leanne worked with over 40 biotech and small pharmaceutical companies in the US and in Canada. She supported the discovery, nonclinical development and successful regulatory filing for several small molecule drug candidates in jurisdictions worldwide and across multiple therapeutic areas including oncology, infectious diseases, inflammatory diseases, pain, hematological and CNS disorders. Leanne currently holds board certifications granted by the American Board of Toxicology (DABT) and the Regulatory Affairs Professionals Society (RAC).

Dr. Laurie Chan was born in Hong Kong and obtained his B.Sc. and M.Phil. at the University of Hong Kong, and his Ph.D. in Toxicology at the University of London. Previously, he held faculty positions at McGill University and the University of Northern British Columbia before he joined the University of Ottawa as Professor and Canada Research Chair (Tier 1) in Toxicology and Environmental Health. For more than 25 years, Dr. Chan has been a world-renowned expert in mercury toxicology and has worked with Indigenous populations. His research in environmental and nutritional toxicology spans from the lab developing new techniques for contaminant analysis, to participatory research in the community on the risk and benefits of traditional foods and impact of environmental change on food security. He has published over 200 peer-reviewed scientific papers and supervised over 80 graduate students. Furthermore, Dr. Chan has also served as an advisor for international and national governments and organizations and numerous Indigenous communities on environmental health issues.

He is recognized as a Fulbright Scholar and a Fellow of the Canadian Academy of Health Sciences.

Dr. Moazzam Khan experienced highly diverse research training at prestigious institutions in the United States and Canada. His training includes a Doctor of Veterinary Medicine (DVM), MSc in Veterinary Pathology, MS in Veterinary Medical Sciences, and a PhD degree in Toxicology. Through these experiences, he developed expertise in endocrine disruption, toxicogenomics, veterinary medical sciences, pathology, and chemical risk assessment. After his graduate degree program from the University of Illinois at Urbana-Champaign, USA, Dr. Khan completed post-doctoral trainings at the United States Environmental Protection Agency (US EPA) and Health Canada (HC). Over the past 10 years, Dr. Khan has been working as Senior Evaluation Officer (Toxicologist) at Health Canada, where he conducts risk assessment of chemicals prioritised under the Canadian government's mandate. He has provided expert advice to colleagues and senior management, and engaged with various stakeholders from government, academia and industry. He has mentored staff and many co-op students, as well as participated in the examination or interview of potential scientific staff. Throughout his career, Dr. Khan has led many projects, published research work and won several international fellowships.