



**55<sup>th</sup> Symposium / 55<sup>e</sup> Symposium**

**3 – 5 December/Décembre, 2023**

DoubleTree by Hilton Montreal  
1255 Jeanne-Mance St, Montreal, Quebec H5B 1E5

Montréal

**ADVANCES AND INNOVATIONS IN INTEGRATED AND TRANSLATIONAL  
TOXICOLOGY**

**AVANCÉES ET INNOVATIONS EN TOXICOLOGIE INTÉGRÉE ET  
TRANSLATIONNELLE**

**Organized by / Organisé par:**

SOCIETY OF TOXICOLOGY OF CANADA  
LA SOCIÉTÉ DE TOXICOLOGIE DU CANADA

**Programme Committee / Comité du Programme**

Albert Licollari, Nucro-Technics, Chair, Industry Member

Ed Krol, University of Saskatchewan, Academic Member

Clotilde Maurice, Health Canada, Government Member

## Table of Contents / Table des Matières

Table of Contents / Table des Matières .....	1
STC Welcome Message/Message de Bienvenue de STC .....	2
Sponsors Acknowledgement/Remerciement des Sponsors.....	4
Hotel Maps/Cartes de l'hôtel.....	7
Symposium Programme .....	9

## STC Welcome Message

On behalf of the Society of Toxicology of Canada (STC) Board of Directors and Programme Committee, it is our pleasure to welcome you to the 55<sup>th</sup> STC Symposium, entitled “Advances and Innovations in Integrated and Translational Toxicology”. We are excited to present a hybrid in-person and virtual meeting, and discuss existing and emerging topics in the field of toxicology with perspectives from the three sectors of academia, government and industry.

This meeting will provide an in-depth analysis of new testing alternatives, and explore the integration of multiple research technologies and methodologies to establish effective health strategies and pathways that comply with regulatory requirements. This event will feature distinguished speakers across all sectors who will focus on emerging toxicology topics, such as artificial intelligence and machine-learning tools, microphysiological models, safety biomarkers, and predictions, as well as food chemical safety. We extend our sincere thanks to all the speakers for agreeing to present their advanced research at this symposium.

Our keynote speaker, Dr. Hartung from the Bloomberg School of Public Health, Johns Hopkins University, will give a plenary talk titled “From Toxicity Testing for the 21<sup>st</sup> Century to a Human Exposome Project”. He will lead a discussion on the use of the Human exposome approach for future toxicity testing perspectives.

We also want to express our immense gratitude towards our sponsors, whose support has been instrumental in bringing us to where we are today.

In addition, we extend our gratitude to all those who chose to showcase their work at our meeting. Based on feedback received, we have brought back the Flash-talk session for the STC/INTERTEK graduate research award finalists, both MSc and PhD, to present highlights of their research, included select short Oral presentations from other trainees also conducting exciting research, and expanded the time available to interact with poster presenters. We encourage everyone to take advantage of these opportunities to engage and encourage all our trainees, who are eager to discuss their research and connect with their peers.

This symposium will provide you with the opportunity to learn, connect, and share your research with others. Additionally, this symposium will contribute to the advancement of toxicology, safety assessment and the integration of safety prediction for the next generation of toxicologists.

Sincerely,

Albert Licollari, DVM, PhD, DABT  
Chair, Program Committee, 55<sup>th</sup> Annual STC Symposium

Director of Toxicology Laboratories  
Nucro-Technics

## Message de Bienvenue de STC

Au nom du conseil d'administration et du comité de programme de la Société de toxicologie du Canada (STC), nous avons le plaisir de vous accueillir au 55e symposium de la STC, intitulé « Avances et innovations en toxicologie intégrée et translationnelle ». Nous sommes ravis de présenter une réunion hybride en personne et virtuelle et de discuter de sujets existants et émergents dans le domaine de la toxicologie avec les perspectives des trois secteurs universitaire, gouvernemental et industriel.

Cette réunion fournira une analyse approfondie des nouvelles alternatives de test et explorera l'intégration de multiples technologies et méthodologies de recherche pour établir des stratégies et des voies de santé efficaces qui sont conformes aux exigences réglementaires. Cet événement réunira des conférenciers éminents de tous les secteurs qui se concentreront sur des sujets émergents en toxicologie, tels que l'intelligence artificielle et les outils d'apprentissage automatique, les modèles microphysiologiques, les biomarqueurs de sécurité et les prédictions, ainsi que la sécurité chimique alimentaire. Nous remercions sincèrement tous les conférenciers d'avoir accepté de présenter leurs recherches avancées lors de ce symposium.

Notre conférencier principal, le Dr Hartung de la Bloomberg School of Public Health de l'Université Johns Hopkins, donnera une conférence plénière intitulée « Des tests de toxicité pour le 21e siècle à un projet d'exposome humain ». Il dirigera une discussion sur l'utilisation de l'approche de l'exposome humain pour les futures perspectives d'essais de toxicité.

Nous souhaitons également exprimer notre immense gratitude envers nos sponsors, dont le soutien a été déterminant pour nous amener là où nous en sommes aujourd'hui.

De plus, nous exprimons notre gratitude à tous ceux qui ont choisi de présenter leur travail lors de notre réunion. Sur la base des commentaires reçus, nous avons ramené la session Flash-talk pour les finalistes des bourses de recherche supérieures STC/INTERTEK, tant MSc que PhD, afin de présenter les points saillants de leurs recherches, y compris une sélection de courtes présentations orales d'autres stagiaires menant également des recherches passionnantes, et élargi le temps disponible pour interagir avec les présentateurs d'affiches. Nous encourageons tout le monde à profiter de ces opportunités pour s'engager et encourageons tous nos stagiaires, désireux de discuter de leurs recherches et d'entrer en contact avec leurs pairs.

Ce symposium vous offrira l'occasion d'apprendre, de vous connecter et de partager vos recherches avec d'autres. De plus, ce symposium contribuera à l'avancement de la toxicologie, à l'évaluation de la sécurité et à l'intégration des prévisions de sécurité pour la prochaine génération de toxicologues.

Sincèrement,

Albert Licollari, DMV, PhD, DABT  
Président, Comité du Programme, 55e Symposium Annuel de STC

Directeur des Laboratoires de Toxicologie  
Nucro-Techniques

## Sponsors Acknowledgement

We would like to extend our sincere thanks to the following organizations for their valuable contributions to the Society of Toxicology of Canada. We are grateful for your generosity and commitment to help us fulfill our mission of promoting and advancing the field of toxicology in Canada. Your partnership is truly appreciated, and we look forward to continuing our collaboration in the future.

## Remerciements des Sponsors

Nous souhaitons exprimer nos sincères remerciements aux organisations suivantes pour leurs précieuses contributions à la Société de toxicologie du Canada. Nous sommes reconnaissants de votre générosité et de votre engagement à nous aider à remplir notre mission de promouvoir et de faire progresser le domaine de la toxicologie au Canada. Votre partenariat est vraiment apprécié et nous sommes impatients de poursuivre notre collaboration à l'avenir.

**GOLD SPONSORS:**



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Robin Walker  
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## FRIENDS AND EXHIBITORS:

The logo for the International Journal of Environmental Research and Public Health, featuring a globe with a caduceus symbol in the center.

International Journal of  
*Environmental Research  
and Public Health*  
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The logo for Bedard ADME-Tox Solutions, featuring a stylized orange and red graphic above the text.

Bedard ADME-Tox Solutions

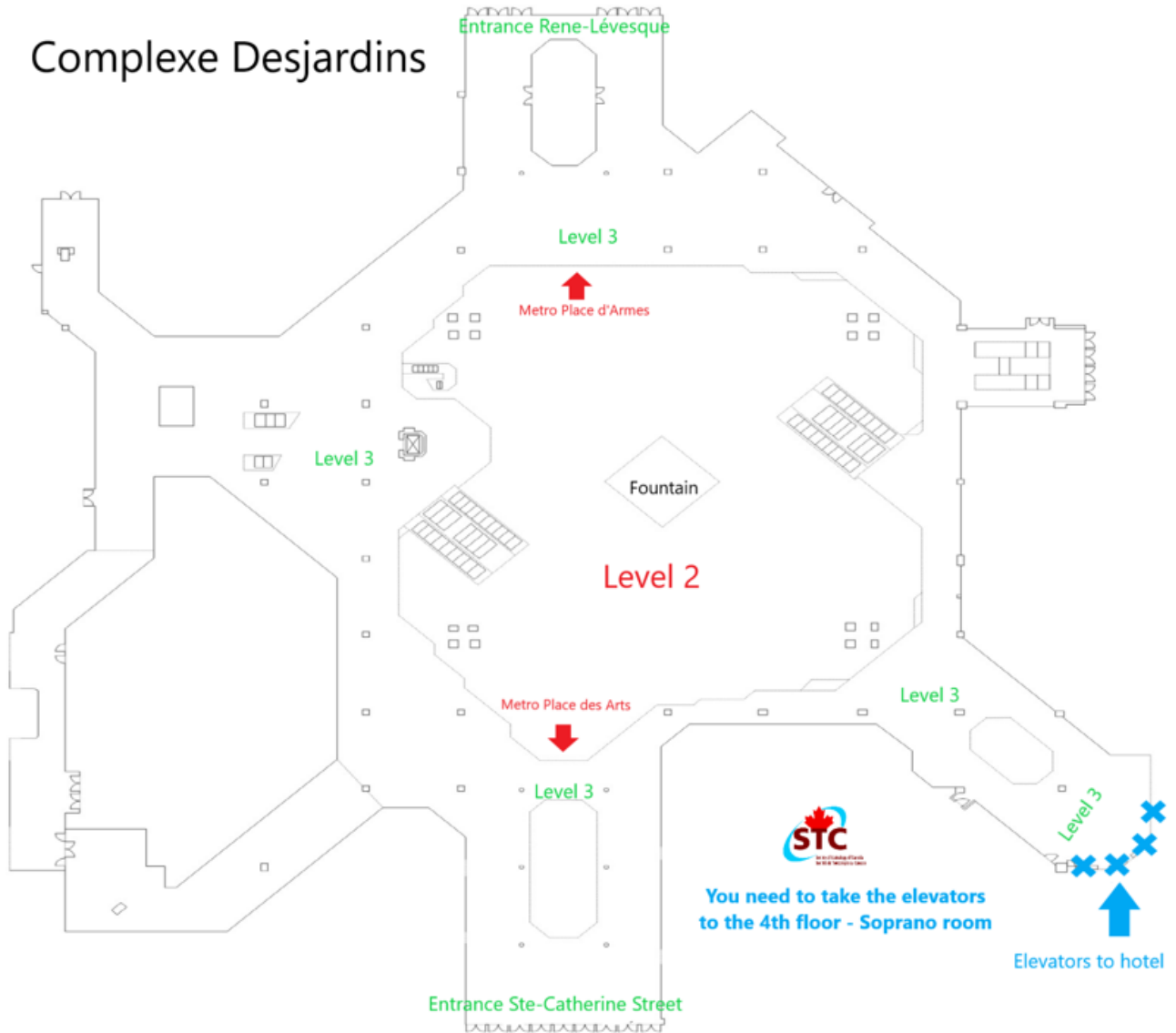
The logo for ITR, featuring a globe with the letters "ITR" in the center.The logo for toxics, featuring a purple square with a white skull and crossbones symbol.

*toxics*  
an Open Access Journal by MDPI

# Hotel Map / Carte de l'hôtel 1

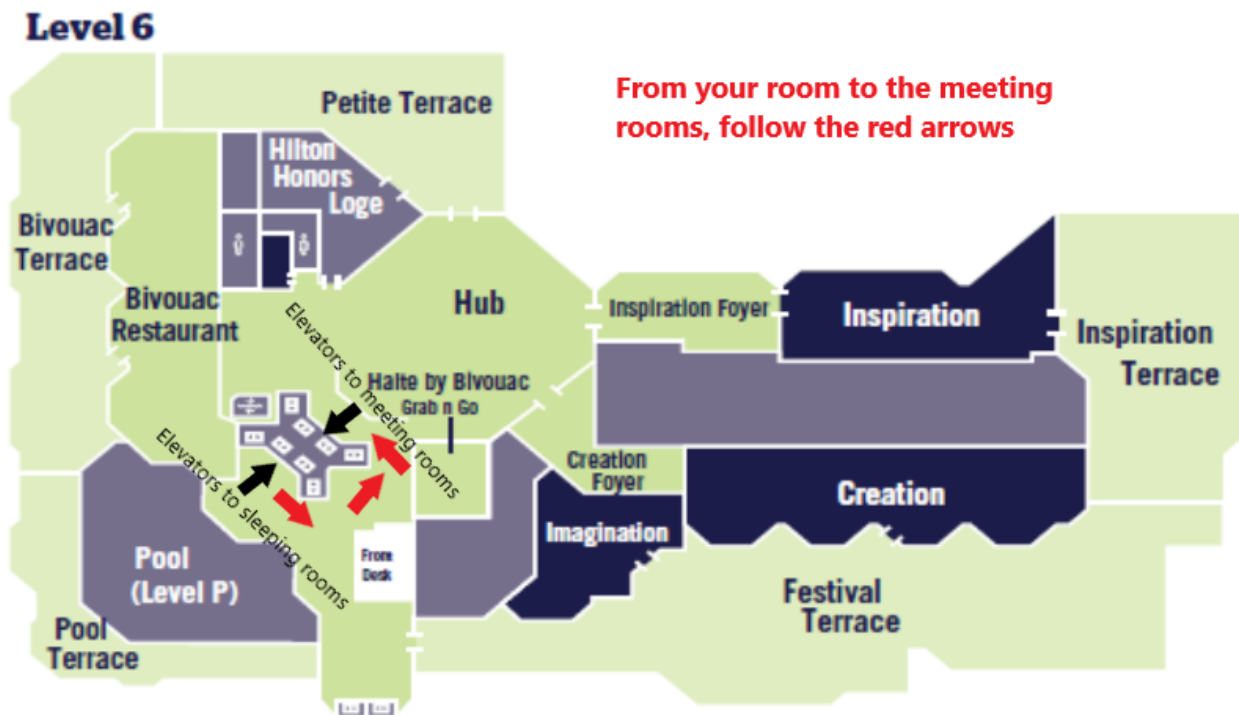


## Complexe Desjardins





## Hotel Map / Carte de l'hôtel 2



## SYMPOSIUM PROGRAMME

### DAY/JOUR 1 – 3<sup>rd</sup> December/Décembre, 2023

- 2:00–3:30 PM      **STC Board of Directors Meeting**, *STC Board Members Only*  
3:30–5:00 PM      **ICT-2028 Vancouver Meeting**, *ICT Planning Committee Members Only*
- 6:00-10:00 PM      **Meet & Greet Reception, All Registrants**  
**La Cage Aux Sports, Complexe Desjardins**  
**150 Sainte-Catherine O local 201C, Montréal, QC H5B 1B3**  
*Appetizers provided, Cash Bar*
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### DAY/JOUR 2 – 4<sup>th</sup> December/Décembre, 2023

- 7:00-8:15 AM      **Continental breakfast provided**
- 8:15                **Land Acknowledgement, Welcome and Opening Remarks**  
**Anne Marie Gannon**, PhD, STC (Government) Councillor, and Head, Systems & Regulatory Toxicology Section, Health Canada
- Session I        **Artificial Intelligence/Machine Learning in Predictive Toxicology**  
**Chair: Albert Licollari**, Director of Toxicology, Nucro-Technics  
**Co-Chair: Christopher Nicol**, PhD, Assoc. Prof., Dept of Pathology & Molecular Medicine, Queen's University
- 8:30-9:00        **Standardized Informatics for Regulatory and Safety Assessments**  
**Andy Nong**, PhD, Senior Scientist Computational Toxicology, Canada
- 9:00-9:30        **To AI or Not: Nitrosamine Potency Prediction Defined**  
**Kevin Cross**, PhD, VP and Principal Investigator, US FDA Collaborations, Instem
- 9:30-10:00      **Estimating Steady-State Blood Concentrations (C<sub>ss</sub>) and Administered Equivalent Doses (AEDs) from Cellular (in vitro) Bioassays Using Toxicokinetic Models**  
**Alessandro Sangion**, PhD, Arnot Research and Consulting
- 10:00-10:30     **Coffee/Tea Break**

- 10:30-11:30 **Plenary Lecture**  
**From Toxicity Testing for the 21<sup>st</sup> Century to a Human Exposome Project**  
**Thomas Hartung**, PhD, Doerenkamp-Zbinden-Chair for Evidence Based Toxicology, Dept. of Environmental Health and Engineering, The Johns Hopkins Bloomberg School of Public Health, & Whiting School of Engineering, Baltimore
- 11:30-11:50 **Flash Talks, 2023 STC-Intertek Graduate Poster Award Finalists:**  
(2 min plus 3 min Qs)  
11:30-11:35 Maddison Arlen, McGill University  
11:35-11:40 Madeleine Carew, Queen's University,  
11:40-11:45 Laura Pelland-St-Pierre, University of Montreal,  
11:45-11:50 Xiaotong Wang, McGill University,
- 11:50-1:00 **Lunch provided**
- Session II** **Microphysiological Systems for Toxicological Safety Prediction and Regulatory Challenges**  
**Chair: Margaret Magdesian**, PhD, CEO & Founder, Ananda Devices,  
**Co-Chair: Milica Radisic**, PhD, Professor & Tier 1 Canada Research Chair (CRC) in Organ-on-a-Chip Engineering, University of Toronto
- 1:00-1:30 **Development of Predictive Drug Discovery Platforms Merging Human Tissue Chips and Translational Software**  
**Murat Cirit**, PhD, CEO, Javelin Biotech
- 1:30-2:00 **3D Models and Toxicology Applications**  
**Jan Lichtenberg**, PhD, CEO, InSphero
- 2:00-2:30 **Organ-on-a-Chip Models for Disease Modelling and Drug Testing**  
**Milica Radisic**, PhD, Canada Research Chair in Organ-on-a-Chip Engineering.
- 2:30-2:45 **Coffee/Tea Break**
- 2:45-3:15 **Predictive and Scalable Platform to Test Toxicity & Efficacy of Compounds Directly on Patients Derived 3D Neuromuscular Junction-on-a-Chip.**  
**Margaret Magdesian**, PhD, CEO & Founder, Ananda Devices.
- 3:15-4:00 **Poster Review**
- 4:00-6:00 **STC Annual Business Meeting, *STC Regular and Retired Members***  
**Plenary Session Room, SOPRANO AB**
- 4:00-6:00 **Concurrent Trainee Networking Session, *All Trainees***  
**Co-Chairs: Natasha Iaboni and Madeleine Carew**, Queen's University  
**SYMPHONIE 1**  
**Guest Speakers: Drs. Jan Lichtenberg, Milica Radisic and Richard Bagshaw**

6:30-8:00 PM **STC Board Trainee Awards Reception**, *All Registrants*  
**Galaxie Brasserie, “Le Refectoire Room”, 1414 Rue Clark, Montreal**  
**Access to the Room is Upstairs via side entrance to main restaurant door**  
*Fingers foods & Refreshments provided*

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## **DAY/JOUR 3 – 5<sup>th</sup> December/Décembre, 2023**

7:00-8:15 AM **Continental breakfast provided**

**Session III Safety Biomarkers and Other Alternative Methods in Translational Toxicology**

*Chair: Angela Hofstra, PhD, Syngenta;*

*Co-Chair: Richard Bagshaw, PhD, Nucro-Technics*

8:30-9:00 **Next-Gen Genotoxicity Testing: Where Genomics & Transcriptomics Meet**  
**Carole Yauk, PhD, Professor & Tier 1 CRC, Dept. of Biology, U. of Ottawa**

9:00-9:30 **Implementation of Translational Safety Biomarkers Following Health Authority Qualification**  
**Nicholas King, MSc, Executive Director Predictive Safety Testing Consortium, Critical Path Institute**

9:30-10:10 **Weight of Evidence Approach to Assess the Human Carcinogenic Risk of Small Molecule Pharmaceuticals: Overview of the ICH S1B(R1) Addendum and Initial Experience with Implementation**  
**Alisa Vespa, PhD, Senior Scientific Evaluator, Risk Management Division, Pharmaceutical Drugs Directorate, Health Canada**  
**Todd Bourcier, PhD, Director, Division of Pharmacology & Toxicology, Center for Drug Evaluation & Research, US FDA**

10:10-10:40 **Coffee/Tea Break**

10:40-12:00 **Poster Review and Networking**

12:00-1:00 **Lunch provided**

1:00-2:00 **Short Oral Presentations, Selected Trainee Posters (10 min plus 5 min Qs)**  
1:00-1:15 Alec McDermott, Institut National de la Recherche Scientifique  
1:15-1:30 Mercedes Rose, Health Canada  
1:30-1:45 Emily Wilson, McGill University  
1:45-2:00 Dongwei Yu, McGill University

- Session IV Food Chemical Safety: Science & Regulation**  
**Chair:** Anne Marie Gannon, PhD, Head, Systems & Regulatory Toxicology  
Section, Health Canada  
**Co-Chair:** Ed Krol, PhD, Professor, College of Pharmacy & Nutrition, University  
of Saskatchewan
- 2:00-2:45 **The State of Science of TiO<sub>2</sub> as a Food Additive**  
**Catherine Smith**, PhD and **Gordon Barrett**, PhD, Senior Toxicologists, Food  
Directorate, Bureau of Chemical Safety, Health Canada
- 2:45-3:15 **Coffee/Tea Break**
- 3:15-3:40 **Cellular Agriculture Products**  
**David Prescott**, PhD, Research Scientist, Regulatory Toxicology Research  
Division, Health Canada
- 3:40-4:00 **Global Harmonizing of Food Safety Regulations**  
**Samuel Godefroy**, PhD, Professor, Dept. of Food Science, Université Laval
- 4:00-4:15 **Closing Remarks**

... See you in Toronto 2024