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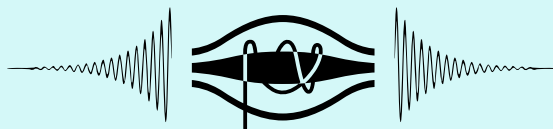
## Bronze Sponsor



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On behalf of the organizing team, we are delighted and privileged to welcome you to the 22nd Environmental Chemistry Colloquium (ECCXXII) at the University of Toronto. This year's ECC will be held in person at the Evergreen Brick Works on May 8th and at the University of Toronto (St. George campus) on May 10th. In light of the uncertainties over the past few years during the global pandemic we are excited to come together in person once again. We gladly welcome Brent and Nick for our career panel on May 8th to nurture new networks within our Environmental Chemistry Community, and reconnect our Environmental Chemistry Community.

We encourage everyone to take this time to interact with your peers and faculty. We strive to offer everyone an exciting and rewarding program, and we hope that you will have an enjoyable ECCXXII!

Andrew, Carolyn, and Isla  
May 2023

ECC XXII was made possible thanks to the following people:

Student organizers  
Andrew Folkerson  
[andrew.folkerson@mail.utoronto.ca](mailto:andrew.folkerson@mail.utoronto.ca)  
Carolyn Liu-Kang  
[carolyn.liukang@mail.utoronto.ca](mailto:carolyn.liukang@mail.utoronto.ca)  
Isla Wrightson  
[isla.wrightson@mail.utoronto.ca](mailto:isla.wrightson@mail.utoronto.ca)  
Faculty advisor  
Prof. Hui Peng  
[hui.peng@utoronto.ca](mailto:hui.peng@utoronto.ca)

With special thanks to the following:

Career Panel  
Brent Paulter (SiREM)  
Nick Key (JFR Science)  
Social Media Ambassadors  
[@EnviroChemUofT](https://twitter.com/EnviroChemUofT) Kristen Yeh  
Isla Wrightson  
Program Cover Design  
Kristen Yeh

Special thanks to previous organizers, Zilin Zhou and Sivani Baskaran, for their ECC SOP. Thanks to Lisa Ngo and Jeannie Pak at the business office for managing our funds.

# 22<sup>nd</sup> Environmental Chemistry Colloquium

May 8th at Brickworks

May 10th at UTSG

Scan here for  
program abstracts



[uoft-ecc.github.io/ecc22-program/](https://uoft-ecc.github.io/ecc22-program/)



Monday, May 8<sup>th</sup> (AM)

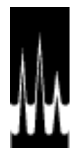
9:00 Opening Remarks

**Session 1** chaired by *Jenny Oh and Jillian Downey*

- 9:15 Chemoproteomics identification of human liver fatty acid binding protein as a protein target of triphenyl phosphate  
*Jolie Miller and Hui Peng*
- 9:30 Development of a implified oxygenated system for *in vivo* solution state NMR  
*Peter Costa and Andre Simpson*
- 9:45 Soil organic matter biogeochemical trajectories are altered uniquely with 66 years of litter manipulation in forests  
*Isla Wrightson and Myrna Simpson*
- 10:00 Aqueous nitration of phenols with dissolved nitrite: a formation mechanism of atmospheric brown carbon  
*Yutong (Maggie) Wang and Jonathon Abbott*
- 10:15 An analysis of nitrate reactivity with volatile organic compounds across Canada  
*Brendan O'Connell and Jennifer Murphy*
- 10:30 Break (15 min)

**Session 2** chaired by *Brendan O'Connell and Chris Rusiewicz*

- 10:45 2D <sup>1</sup>H-<sup>13</sup>C experiments for targeted analysis of structural classes *in-vivo*  
*William Wolff and Andre Simpson*
- 11:00 Evaluating land-atmosphere fluxes of nitrogen species in the Canadian Earth System Model  
*Gavin McCurdy and Jennifer Murphy*
- 11:15 The influence of polar bears' catabolic state and dietary composition on the potential biomagnification of PCBs  
*Yuhao Chen and Frank Wania*
- 11:30 Exploring proton-only NMR experiments and filters for Daphnia *in vivo*: potential and limitations  
*Kiera Ronda and Andre Simpson*
- 11:45 Impacts of SVOCs and relative humidity on the deposition rate of ozone to permeable indoor surface  
*Jillian Downey and Jonathan Abbott*



WELLINGTON  
LABORATORIES

Monday, May 8<sup>th</sup> (PM)

12-1:30 Networking and Lunch

**Session 3** chaired by *Brad Isenor and Jolie Miller*

- 1:30 Exploring the potential of broadband complementary metal oxide semiconductor micro-coil nuclear magnetic resonance for environmental research  
*Daniel Lysak and Andre Simpson*
- 1:45 Investigating the impacts of warming and nitrogen-addition on soil-derived dissolved organic matter  
*Atzín San Román and Myrna Simpson*
- 2:00 Atmospheric reaction in single levitated droplets under variable humidities  
*Chris Rusiewicz and Jamie Donaldson*
- 2:15 DREAMTIME NMR of slow spinning systems using High Resolution-Magic Angle Spinning  
*Rajshree Ghosh Biswas and Andre Simpson*
- 2:30 Photoreaction aging of biomass burning brown carbon  
*Carolyn Liu-Kang and Jonathan Abbott*
- 2:45 Break (15 min)

**Session 4** chaired by *Gavin McCurdy and William Fahy*

- 3:00 Evaluation of irradiated Wyoming-type bentonite natural organic matter at varying moisture levels  
*James Neurauter and Myrna Simpson*
- 3:15 Integrated screening of bioactive contaminants contributing to the high receptor activities in St. Lawrence beluga whales  
*Holly Barrett and Hui Peng*
- 3:30 NMR in an eggshell-*in vivo* carbon tracing and embryogenesis study of Society Finches  
*Katrina Steiner and Andre Simpson*
- 3:45 Haloacetonitrile toxicities attributed to distinct reactions with proteins thiols  
*Kirsten Yeung and Hui Peng*
- 4:00 Observing secondary organic aerosol formation from oxidation of cannabis smoke  
*Kristen Yeh and Jonathan Abbott*

End of ECC XXII Day 1

Wednesday, May 10<sup>th</sup>

9:00 Opening Remarks

**Session 5** chaired by *Katrina Steiner and Victor Li*

- 9:15 Fate of the azole fungicide fluconazole in sunlit waters: kinetics, transformation products, and reaction mechanisms  
*William Fahy, Jonathan Abbott, and Scott Mabury*
- 9:30 Avoiding regrettable replacements: can the introduction of novel functional groups move PFAS from recalcitrant to reactive?  
*Andrew Folkerson and Scott Mabury*
- 9:45 Nitrous oxide profiles from the Canadian Atmospheric Laser Absorption Spectrometer Experiment Test-bed  
*Mark Panas and Jennifer Murphy*
- 10:00 Characterizing the oxidative potential associated with biomass burning aerosol from Canada  
*Bradley Isenor and Arthur Chan*
- 10:15 Field observations of size-resolved particulate alkyl amines in urban Toronto during winter 2022-23  
*Xiaoying Yang and Jennifer Murphy*
- 10:30 Break (15 min)

**Session 6** chaired by *Atzín San Román and William Wolff*

- 10:45 Evaluation of adsorption isotherm models for determining the partitioning of ammonia between soil and soil-pore water in environmental samples and potential ammonia emissions sourced from Toronto's urban greenspace  
*Matthew Davis and Jennifer Murphy*
- 11:00 Oxidation of bisphenol A via gas-surface ozonolysis: chemical transformation of a widespread organic pollutant  
*Jie Yu and Jonathan Abbott*
- 11:15 The roles of temperature and pH in the gas-particle partitioning of ionizable organics in the atmosphere  
*Olivia Driessen and Jennifer Murphy*
- 11:30 Identifying and quantifying atmospheric sources of organic contaminants to the habitat of the St. Lawrence Estuary Belugas  
*Jenny Oh and Frank Wania*
- 11:45 Benchmarking a portable sensor for early warning monitoring of water quality  
*Zhuoyuan (Victor) Li and Hui Peng*
- 12:30 – 2:30 Faculty BBQ (Lunch)

End of ECC XXII Day 2