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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 would gladly like, 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* Carolyn Liu-Kang *carolyn.liukang@mail.utoronto.ca* Isla Wrightson *isla.wrightson@mail.utoronto.ca*
Faculty advisor	Prof. Hui Peng *hui.peng@utoronto.ca*

With special thanks to the following:

Career Panel	Brent Paulter (SiREM) Nick Key (JFR Science)
Socdial Media Ambassadors @EnviroChemUofT	Kristen Yeh Isla Wrightson
Program Cover Design	Kristen Yeh

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22nd Environmental Chemistry Colloquium

May 8th and 10th, 2023

Scan here for program abstracts

Monday, May 8th (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 Abbatt

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 ^{1}H-^{13}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 i*n 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 Abbatt

Monday, May 8th (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 mgnetic 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 Abbatt

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 Abbatt

End of ECC XXII Day 1

Wednesday, May 10th

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 Abbatt, 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 isother m 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 Abbatt

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)*