

Shira Joudan, PhD

University of Alberta, College of Natural and Applied Sciences, Faculty of Science
Department of Chemistry, 11227 Saskatchewan Drive, Room E5-52A, Edmonton, AB Canada T6G 2G2
joudan@ualberta.ca | www.joudanlab.com | [Google Scholar](#) | Citizenship: Canadian | Pronouns: she/they

Education

- 2020 **PhD, Environmental Chemistry**
Department of Chemistry, University of Toronto, Toronto, Ontario, Canada
Dissertation: *Environmental Reactions of Novel and Legacy Fluorosurfactants*
Supervisor: Scott A. Mabury
- 2013 **BSc, Chemistry (Highest Honours)**
Department of Chemistry, Carleton University, Ottawa, Ontario, Canada

Professional Experience

- January 2023 – present **Assistant Professor**
Department of Chemistry, University of Alberta, Edmonton, Alberta, Canada
- 2020 – 2022 **Postdoctoral Researcher**
Department of Chemistry, York University, Toronto, Ontario, Canada
Supervisor: Cora J. Young
- 2014 – 2022 **Graduate Student Researcher**
Department of Chemistry, University of Toronto, Toronto, Ontario, Canada
Supervisor: Scott A. Mabury
- December 2018 **Visiting Researcher**
Atmospheric Chemistry Observations & Modelling, National Center for Atmospheric Research, Boulder, Colorado, USA
Collaborators: John J. Orlando & Geoffrey S. Tyndall
- April – July 2018 **Visiting Researcher**
SciLifeLab and Department of Environmental Science & Analytical Chemistry, Stockholm University, Stockholm, Sweden
Supervisor: Jonathan M. Martin
- 2013 – 2014, summer 2012 **Research Assistant**
Richardson College for the Environment and Department of Chemistry, University of Winnipeg, Winnipeg, Manitoba, Canada
Supervisor: Charles S. Wong
- 2011 **NSERC USRA Summer Researcher**
Department of Chemistry, Carleton University, Ottawa, Ontario, Canada
Supervisor: Jeffrey C. Smith

Research Funding

Awarded

1. 2023 – 2025: Start-up Funds, Faculty of Science, University of Alberta: \$270,000 – sole PI
2. 2023 – 2028: NSERC Discover Grant: “New analytical approaches to connect reactions of anthropogenic contaminants to exposure pathways”: \$160,000 (\$32,000/yr) – sole PI
 - a. 2023: Early career researcher supplement: \$12,500

Awards and Honours

2022: Best Review 2021, Environmental Science: Processes & Impacts, [doi:10.1039/D2EA90011D](https://doi.org/10.1039/D2EA90011D)

2020: Contract Instructor Teaching Excellence Award, shortlisted, U. Toronto

2019-20: Doctoral Completion Award (\$6692), Department of Chemistry, U. Toronto

2018: Visiting Researcher Fellowship (\$1500 USD), National Center for Atmospheric Research, USA

2018: Outstanding Poster Presentation Award, Swedish Chemistry Society, 1st National Meeting

2018: ACS Environmental Division Certificate of Merit, American Chemical Society, 255th Meeting

2017: School of Graduate Studies Conference Grant, U. Toronto

2017-19: NSERC Alexander Graham Bell Canada Graduate Scholarship D (\$70,000)
2018: Michael Smith Foreign Supplement (\$6000)

2017: ACS Summer School on Green Chemistry & Sustainable Energy Participant, American Chemical Society

2017: 2nd Place Platform Presentation Award, Chemical Education Division, Canadian Society of Chemistry, 100th meeting

2016: SETAC/ACS Environmental Student Exchange Award, Awarded at the 37th SETAC North America Meeting to attend an ACS Meeting

2016: Chemistry Graduate Student Conference Travel Award, Department of Chemistry, U. Toronto

2016-17: Teaching Reduction Fellowship (\$5000), Department of Chemistry, U. Toronto

2016: Best Presentation Award (\$500), Environmental Chemistry Colloquium, U. Toronto

2016: Chemistry Teaching Fellowship (twice – total \$4000), Department of Chemistry, U. Toronto

2015: SETAC Salt Lake City Student Travel Award, Society of Environmental Toxicology & Chemistry

2015-16: NSERC Canada Graduate Scholarship M (\$17,500)

2015-16: Ministry of the Environment Graduate Scholarship (\$5000), Ontario MOE & U. Toronto

2014: Chemistry Department Award (\$5000), Department of Chemistry, U. Toronto

2014: 2nd Place Platform Presentation Award, SETAC Prairie Northern Chapter Meeting

2013: 1st Place Department of Chemistry Poster Prize, Faculty of Science, Carleton U.

2011-12: Motoshi Asano Memorial Scholarship in Chemistry (\$1540), Department of Chemistry, Carleton U.

2011: NSERC Undergraduate Research Award (\$4500)

2009-13: Renewable Entrance Scholarships (\$17,000), Carleton U.

2009-10: Donald R. Wiles Entrance Scholarship in Science (\$2450), Carleton U.

Publications

*denotes corresponding author

In Preparation

- **Joudan, S.**, Clouthier, J., Liggio, J., Wentzell, J., VandenBoer, T.C., Young, C.J. First continuous atmospheric measurements of monochloroacetic acid.
- Young, C.J., **Joudan, S.**, Clouthier, J., Wentzell, J., Liggio, J. First real-time measurements of gas and particle phase trifluoroacetic acid in Toronto.
- **Joudan, S.**, Gauthier, J.R., Mabury, S.A., Young, C.J. Aqueous leaching of ultra-short chain PFAS from fluoropolymers: Targeted and non-targeted analysis.

Peer-reviewed Publications

10. **Joudan, S.**; Barrett, H.; De Silva, A.O.; de Solla, S.R.; Peng, H.; D'eon, J.C.* Measuring perfluoroalkyl acid contamination at a local hotspot: An authentic field-based laboratory experience in a senior analytical environmental chemistry course. *Journal of Chemical Education*, **2022**, 99 (12), 4032-4034. [doi:10.1021/acs.jchemed.2c00290](https://doi.org/10.1021/acs.jchemed.2c00290)
9. **Joudan, S.*** & Mabury, S.A. Aerobic biodegradation of a novel polyfluorinated surfactant using wastewater treatment plant sludge. *Environmental Science: Processes and Impacts*, **2022**, 24, 62-71. [doi:10.1039/D1EM00358E](https://doi.org/10.1039/D1EM00358E)
8. **Joudan, S.***; Orlando, J.J.; Tyndall, G.S.; Furlani, T.C.; Young, C.J.; Mabury, S.A. Atmospheric fate of a new polyfluoroalkyl building block, C₃F₇OCHF₂SCH₂CH₂OH. *Environmental Science & Technology*, **2022**, 56 (10), 6027-6035. *Special issue "Emerging Contaminants: Fluorinated Alternatives to Existing PFAS Compounds"*. [doi:10.1021/acs.est.0c07584](https://doi.org/10.1021/acs.est.0c07584)
7. Folkerson, A.P.*; **Joudan, S.**; Mabury, S.A.; Deon, J.C. In vivo biotransformation of a novel fluorinated surfactant. *Environmental Toxicology & Chemistry*, **2021**, 40 (12), 3328-3336. [doi:10.1002/etc.5230](https://doi.org/10.1002/etc.5230)
6. **Joudan, S.**; De Silva, A.O.; Young, C.J.* Insufficient evidence for the existence of natural trifluoroacetic acid. *Environmental Science: Processes & Impacts*, **2021**, 23 (11), 1641-1649. [doi:10.1039/d1em00306b](https://doi.org/10.1039/d1em00306b)
Selected as [Best Review Paper 2021](#), ESPI
5. **Joudan, S.***; Liu, R.; D'eon, J.C.; Mabury, S.A. Unique analytical considerations for laboratory studies identifying metabolic products of per- and polyfluoroalkyl substances (PFASs). *TrAC Trends in Analytical Chemistry*, **2020**, 124, 11543. [doi:10.1016/j.trac.2019.02.032](https://doi.org/10.1016/j.trac.2019.02.032)
4. Zhou, S.; **Joudan, S.**; Forbes, M.W.; Zhou, Z.; Abbatt, J.P.D.* Reaction of condensed-phase Creigee intermediates with carboxylic acids and perfluoroalkyl carboxylic acids. *Environmental Science & Technology Letters*, **2019**, 6 (4), 243-250. [doi:10.1021/acs.estlett.9b00165](https://doi.org/10.1021/acs.estlett.9b00165)
3. Challis, J.K.; Cuscito, L.D.; **Joudan, S.**; Luong, K.H.; Knapp, C.W.; Hanson, M.L.; Wong, C.S.* Inputs, source apportionment, and transboundary transport of pesticides and other polar organic contaminants along the lower Red River, Manitoba, Canada. *Science of the Total Environment*, **2018**, 635(1), 803-816. [doi:10.1016/j.scitotenv.2018.04.128](https://doi.org/10.1016/j.scitotenv.2018.04.128)
2. **Joudan, S.***; Yeung, L.W.Y.; Mabury, S.A. Biological cleavage of the C-P bond in perfluoroalkyl phosphinic acids in Sprague Dawley rats and the formation of persistent and reactive metabolites. *Environmental Health Perspectives*, **2017**, 125 (11), 117001. [doi:10.1289/EHP1841](https://doi.org/10.1289/EHP1841)
1. Anderson, J.C.; **Joudan, S.**; Shoichet, E.; Cuscito, L.D.; Alipio, A.E.C.; Donaldson, C.; Khan, S.; Goltz, D.; Rudy, M.D.; Frank, R.A.; Knapp, C.; Hanson, M.L.; Wong, C.S.* Reducing nutrients, organic

micropollutants, antibiotic resistance, and toxicity in rural wastewater effluent with subsurface filtration treatment technology. *Ecological Engineering*, **2015**, *84*, 375-385.

[doi:10.1016/j.ecoleng.2015.08.005](https://doi.org/10.1016/j.ecoleng.2015.08.005)

Book chapters

1. Shields, S.W.J.; Canez, C.R.; Wasslen, K.V.; Lee, H.; Stalinski, D.; Trouborst, L.; **Joudan, S.**; Whitton, S.; Weinert, H.P.; Manthorpe, J.M.; Smith, J.C.* Enhancing the Analysis of Complex Lipid Samples Through Developments in Chromatography and Chemical Derivatization. In *Molecular Technologies for Detection of Chemical and Biological Agents*. Banoub, J.H.; Caprioli, R.M., Eds.; NATO Science for Peace and Security Series A: Chemistry and Biology. Springer, Dordrecht, 2017: pp 177-206. [doi:10.1007/978-94-024-1113-3_11](https://doi.org/10.1007/978-94-024-1113-3_11)

Non-peer reviewed publications

5. **Joudan, S.*** Making a start on the tenure track. *Nature Chemistry*, **2023**, *15*, 743-744. [Link](#)
4. **Joudan, S.*** Working towards a new job. *Nature Chemistry*, **2023**, *15*, 295-296. [Link](#)
3. **Joudan, S.*** Postdoc progression. *Nature Chemistry*, **2022**, *14*, 1089-1090. [Link](#)
2. **Joudan, S.*** & Lundgren, R.J.* Taking the "F" out of forever chemicals. *Science*, **2022**, *377*, 816-817. [Link](#)
1. **Joudan, S.*** My pandemic postdoc. *Nature Chemistry*, **2022**, *14*, 591-593. [Link](#)

Conference Presentations

*denotes presenter

Invited Presentations and Seminars

4. **Joudan, S.*** Clouthier, J., Liggio, J., Wentzell, J., VandenBoer, T.C., Young, C.J. Enabling real-time ambient measurements of particulate and gas phase organic acids. 105th meeting of the Canadian Society for Chemistry, Vancouver, BC, June 4-9, 2022.
3. **Joudan, S.*** A primer on PFAS (from an environmental chemistry perspective). Canadian Water Network seminar series, virtual, February 2, 2022 (~180 attendees):
2. **Joudan, S.*** Meandering through grad school and life in my 20s. LOGIC retreat "Be a Catalyst for Change" hosted by the Canadian Working for Inclusivity in Chemical Sciences, Engineering, and Technology (CWIC). Virtual, August 12, 2021.
1. **Joudan, S.***, Yeung, L.W.Y., Mabury, S.A. Biological cleavage of the C-P bond in perfluoroalkyl phosphinic acids in rats. Man-Technology-Environment (MTM) Research Centre, Örebro University, Örebro, Sweden, May 18, 2018.

Contributed Presentations

32. **Joudan, S.*** Gauthier, J.R., Mabury, S.A., Young, C.J. Aqueous leaching of ultra-short chain PFAS from fluoropolymers: Targeted and non-targeted analysis. 33rd Annual Meeting of the Society of Environmental Toxicology and Chemistry Europe, Dublin, Ireland, April 30-May 4, 2023.
31. Clouthier, J.,* **Joudan, S.**, VandenBoer, T.C., Young, C.J. Online analysis of gas and particle phase trifluoroacetic acid. 104th Canadian Chemistry Conference & Exhibition (CSC), Calgary, AB, June 13-17, 2022.

30. **Joudan, S.*,** Gauthier, J.R., Mabury, S.A., Young, C.J. Aqueous leaching of low molecular weight fluorinated chemicals from fluoropolymers. 104th Canadian Chemistry Conference & Exhibition (CSC), Calgary, AB, June 13-17, 2022. (Poster)
29. **Joudan, S.*,** Clouthier, J., VandenBoer, T.C., Young, C.J. Application of a novel online ion chromatograph-mass spectrometry method to measure organic acids in particulate matter in Toronto, Canada. 104th Canadian Chemistry Conference & Exhibition (CSC), Calgary, AB, June 13-17, 2022.
28. **Joudan, S.*,** Orlando, J.J., Tyndall, G.S., Furlani, T.C., Young, C.J, Mabury, S.A. Atmospheric fate of a new polyfluoroalkyl building block, C₃F₇OCHF₂CF₂SCH₂CH₂OH. Atmospheric Chemical Mechanisms Conference, Irvine, CA/Virtual meeting, November 5-20, 2020.
27. **Joudan, S.*,** Hems, R.F., D'eon, J.C. Experiencing the research journey: Implementation and evaluation of a course-based self-directed group research project in a senior environmental analytical chemistry course. 103rd Canadian Chemistry Conference & Exhibition (CSC), scheduled for May 2020 (cancelled due to COVID-19).
26. Gauthier, J.*, **Joudan, S.**,** Panas, M., Burns, D.C., Sheng, J, D'eon, J.C. Inspiring analytical chemists to use NMR: Exploring applications of quantitative NMR in food science and environmental chemistry in a senior environmental analytical course. 103rd Canadian Chemistry Conference & Exhibition (CSC), scheduled for May 2020 (cancelled due to COVID-19).
25. **Joudan, S.**,** Orlando, J.J., Tyndall, G.S., Furlani, T.C., Young, C.J, Mabury, S.A. Atmospheric fate of a new polyfluoroalkyl building block, C₃F₇OCHF₂CF₂SCH₂CH₂OH. 103rd Canadian Chemistry Conference & Exhibition (CSC), scheduled for May 2020 (cancelled due to COVID-19).
24. Folkerson, A.**, **Joudan, S.**,** D'eon, J.C., Mabury, S.A. In vivo biotransformation of a new commercial polyfluorinated surfactant. 40th Annual Meeting of the Society of Environmental Toxicology and Chemistry North America, Toronto, ON, November 3-7, 2019. (Poster)
23. **Joudan, S.**,** Orlando, J.J., Tyndall, G.S., Young, C.J., Mabury, S.A. Environmental degradation of a novel polyfluorinated surfactant: aerobic biodegradation and atmospheric oxidation. 40th Annual Meeting of the Society of Environmental Toxicology and Chemistry North America, Toronto, ON, November 3-7, 2019. (Poster)
22. **Joudan, S.**,** Furlani, T.C., Orlando, J.J., Tyndall, G.S., Young, C.J, Mabury, S.A. Atmospheric chemistry of a novel polyfluorinated alcohol: reactions with OH and Cl radicals. SETAC Focused Topic Meeting: Environmental Risk Assessment of PFAS. Durham, NC, August 12-15, 2019. (Poster)
21. **Joudan, S.**,** Furlani, T.C., Orlando, J.J., Tyndall, G.S., Young, C.J, Mabury, S.A. Environmental fate of a new fluorosurfactant: Reactions in air and wastewater treatment plant sludge. Environmental Chemistry Colloquium XIX, Toronto, ON, May 6-7, 2019.
20. **Joudan, S.**,** De Silva, A.O., de Solla, S.R., D'eon, J.C. Establishing a long-term monitoring program of a perfluoroalkyl acid contaminated hotspot using a senior analytical environmental laboratory class. 39th Annual Meeting of the Society of Environmental Toxicology and Chemistry North America, Sacramento, CA, November 4-8, 2018.
19. **Joudan, S.**,** Yeung, L.W.Y., Mabury, S.A. Biological cleavage of the C-P bond in perfluoroalkyl phosphinic acids in male Sprague Dawley rats and the formation of persistent and reactive metabolites. 1st National Meeting of the Swedish Chemistry Society. Lund, Sweden, June 17-20, 2018. (Poster) *Outstanding Poster Presentation Award*

18. **Joudan, S.*** & Mabury, S.A. Investigating the metabolic fate of 1H-perfluoroalkanes. 255th American Chemical Society Annual Meeting. New Orleans, LA, March 18-22, 2018.
17. **Joudan, S.***, De Silva, A.O., de Solla, S.R., D'eon, J.C. Establishing a long-term monitoring program of a local contaminated hotspot using a senior analytical environmental laboratory class. 255th American Chemical Society Annual Meeting. New Orleans, LA, March 18-22, 2018.
16. **Joudan, S.*** & Mabury, S.A. Investigating the metabolic fate of 1H-perfluoroalkanes. 38th Annual Meeting of the Society of Environmental Toxicology and Chemistry North America, Minneapolis, MN, November 12-16, 2017. (Poster).
15. **Joudan, S.*** & Mabury, S.A. In vitro metabolism of 1H-perfluoroalkanes and reactivity of subsequent metabolites. 100th Canadian Chemistry Conference and Exhibition, Toronto, ON, May 28-June 1, 2017.
14. **Joudan, S.***, De Silva, A.O., de Solla, S.R., D'eon, J.C. What is your story? Teaching students to interpret and visualize data using a new field-based experiment in a fourth-year course. 100th Canadian Chemistry Conference and Exhibition, Toronto, ON, May 28-June 1, 2017.
13. Zhou, S.*, **Joudan, S.**, Forbes, M.W., Abbatt, J.P.D. Reactivity of Creigee intermediates in the condensed phase. 100th Canadian Chemistry Conference and Exhibition, Toronto, ON, May 28-June 1, 2017.
12. **Joudan, S.*** & Mabury, S.A. Probing the in vitro metabolism of 1H-perfluoroalkanes. Environmental Chemistry Colloquium XVII, Toronto, ON, May 1-2, 2017.
11. **Joudan, S.***, Yeung, L.W.Y., Mabury, S.A. Perfluoroalkyl phosphinic acids form the corresponding phosphonic acids and 1H-perfluoroalkanes in rats. 7th World Congress/37th Annual Meeting of the Society of Environmental Toxicology and Chemistry North America, Orlando, FL, November 6-10, 2016. (Poster)
10. **Joudan, S.***, Yeung, L.W.Y., Mabury, S.A. Mammalian metabolism of the C-P bond in perfluorinated phosphinates and identification of resulting metabolites. 21st International Mass Spectrometry Conference, Toronto, ON, August 20-26, 2016. (Poster)
9. **Joudan, S.***, Yeung, L.W.Y., Mabury, S.A. Mammalian metabolism of the C-P bond in perfluorinated phosphinates (PFPIAs) and identification of resulting metabolites. Environmental Chemistry Colloquium XVI, Toronto, ON, May 16-18, 2016. *Best Student Presentation*
8. **Joudan, S.***, Yeung, L.W.Y., Mabury, S.A. Fate of perfluoroalkyl phosphonic and phosphinic acids (PFPA, PFPIAs) in rats. 36th Annual Meeting of the Society of Environmental Toxicology and Chemistry North America, Salt Lake City, UT, November 1-5, 2015.
7. **Joudan, S.***, Yeung, L.W.Y., Mabury, S.A. Metabolic pathway elucidation and protein binding of perfluoroalkyl phosphonic and phosphinic acids (PFPA, PFPIAs) in rats. Environmental Chemistry Colloquium XV, Toronto, ON, June 8-10, 2015.
6. **Joudan, S.***, Cuscito, L.D., Voloshina, M., Bestvater, L.L., Henderson, A.R.P., Vu, H., Hanson, M.L., Wong, C.S. Inputs of chemical contaminants to the Red River, a main drainage into Lake Winnipeg in Manitoba, Canada. 35th Annual Meeting of the Society of Environmental Toxicology and Chemistry North America, Vancouver, BC, November 9-13, 2014.
5. **Joudan, S.***, Anderson, J.A., Shoichet, E., Cuscito, L.D., Alipio, A.E.C., Donaldson, C.S., Khan, S., Goltz, D.M., Knapp, C.W., Hanson, M.L., Wong, C.S. Reducing contaminants in rural wastewater effluent using new subsurface treatment technology. 5th Annual Meeting of the Society of Environmental Toxicology and Chemistry Prairie Northern Chapter, June 6, 2014. *2nd Place Platform Presentation*

4. **Joudan, S.**, Waghray, G., Atkins, H.A., Smith, J.C.* A robust and optimized strategy for the separation of complex lipid samples using RP-HPLC to investigate cellular signaling in oncolytic viral therapy. Invited speaker at the 96th Canadian Chemistry Conference and Exhibition in Quebec City, QC on May 28th, 2013
3. **Joudan, S.***, Waghray, G., Atkins, H.A., Smith, J.C. A mass spectrometry-based quantitative lipidomic analysis of K562 cells infected with Vesicular Stomatitis Virus. Carleton University Faculty of Science 14th Annual Undergraduate Research Day, April 12, 2013. (Poster)
Department of Chemistry Poster Prize 1st Place
2. **Joudan, S.***, Hanson, M.L., Wong, C.S. Fate and effects of the wastewater tracer sucralose in model wetlands. 3rd Annual Meeting of the Society of Environmental Toxicology and Chemistry Prairie Northern Chapter, June 15, 2012. (Poster)
1. **Joudan, S.***, Trouborst L., Smith, J.C. Quantitative lipidomics of K562 leukemic cells infected with Vesicular Stomatitis Virus. 28th Annual Trent Conference on Mass Spectrometry, August 8-11, 2011.

Mentorship and Supervision

Graduate students supervised

PhD:

1. Zhefei Guo, 2022 – present
2. Dien (Dean) Nguyen, 2022 – present
3. Nipuna Senanayake, 2022 – present

Undergraduate researchers and research assistants:

1. Azka Attar, 2023 – present
2. Danielle Molenaar, 2023 – present

Pre-UAlberta, undergraduate students:

1. Andrew Folkerson, 2018-19, U. Toronto
2. Daphne Wang, 2016, U. Toronto
3. Maria Voloshina, 2013, U. Winnipeg
4. Anna Henderson, 2013, U. Winnipeg
5. Leah Cuscito, 2012-13, U. Winnipeg
6. Eira Shoichet, 2012, U. Winnipeg

Teaching

2023: CHEM 305 Environmental Chemistry, Guest Lecture, UAlberta

2022: CHEM 305 Environmental Chemistry, Guest Lecture, UAlberta

2021: Short course instructor, The Chemistry of Organic Contaminants for Non-Experts: Part 2, SETAC online conference

2019: Course instructor, Analytical Environmental Chemistry (CHM 410/1410), U. Toronto

2019: Short course instructor, The Chemistry of Organic Contaminants for Non-Experts, SETAC Toronto Conference

2017: Guest lecturer, Analytical Environmental Chemistry (CHM 410/1410), U. Toronto
2016-18: Teaching assistant, Analytical Environmental Chemistry (CHM 410/1410, lab), U. Toronto (4 semesters total)
2017: Workshop instructor, Environmental Fate Workshop, Green Chemistry Initiative, U. Toronto
2014-15: Teaching assistant, Introduction to Organic Chemistry (CHM 138, lab), U. Toronto.
2012-13: Teaching assistant, Organic Chemistry I/II (CHEM 2203/4, lab), Carleton U.

Curriculum Development

2020: CHM 3000 Graduate Professional Development for Research and Teaching in Chemistry, U. Toronto, developed the module "Interpersonal Skills and Conflict Resolution" for graduate students.
2016: CHM 410 Analytical Environmental Chemistry, U. Toronto, Mentor: Jessica C. D'eon. Developed and implemented a new field experiment "Perfluoroalkyl acid contamination downstream of Hamilton Airport" and reformatted the structure of reports to include an outline that students received feedback on to help improve data analysis and writing skills.
2015: CHM 410 Analytical Environmental Chemistry, U. Toronto, Mentor: Jessica C. D'eon. Developed and implemented a new experiment entitled "A risk-benefit analysis of eating fish" where students measured nutritive fatty acids and perfluoroalkyl acid contamination in edible fish tissue from local grocery stores.

Science Outreach & Service

Committees and Service

2023	Dean of Science hiring committee, UofA
2022-present	Chemical Institute of Canada Environment Division, Member-at-large
2016-present	Society of Environmental Toxicology and Chemistry <ul style="list-style-type: none">• <i>Chemistry Interest Group</i>: Chair (11/22-present), student representative and liaison to NASAC (11/17-11/19) and member-at-large (11/19-11/22)
	<i>North American Student Advisory Group (NASAC)</i> : social media chair, member of the student outreach committee (9/16-11/17)
2017	Capacity Building for the Analysis of Perfluorooctane Sulfonic Acid (PFOS) in Mexico, Funded through the Commission for Environmental Cooperation, trained a visiting Mexican scientist on laboratory techniques for the analysis of PFOS and other PFAS.
2017	Department of Chemistry Hiring Committee, U. Toronto, student representative
2016-19	Green Chemistry Initiative, U. Toronto, education committee chair (5/16-8/18) and member-at-large (9/18-8/19)
2015-16	ChemClub, University of Toronto, Secretary
2011-13	Carleton Chemistry & Biochemistry Society, Co-President
2011-13	Carleton Science Students Society, Chemistry representative
2012-13	Carleton Academic Student Government, Chemistry representative

Meetings and Workshops Organized

Conference sessions:

- Environment Division co-chair, 106th Canadian Society for Chemistry annual meeting, Winnipeg, MB June 2024 (scheduled)
- “Environmental Fate of Organic Contaminants: Kinetics, Mechanisms, Transformation Products, and Application of High-Resolution-Accurate Mass Methods”, 44th Annual Society of Environmental Toxicology & Chemistry Meeting, Louisville, USA, November 2023 (scheduled)
- “Fate and Distribution of Aquatic Organic Contaminants” at the 105th Canadian Society for Chemistry annual meeting, Vancouver, BC, June 5, 2023, ~35 attendees.
- “Transformation of Environmental Contaminants: Reaction Mechanisms and Product Identification” at the 43rd Annual Society of Environmental Toxicology & Chemistry Meeting, November 2022, Pittsburgh.
- “*Elucidating Chemical Transformations in Environmental Fate Research*” at the 41st Annual Society of Environmental Toxicology and Chemistry Meeting, November 2020, online.
- “*Current Methods in Teaching at the Interface of Chemistry and Toxicology*” at the 40th Annual Society of Environmental Toxicology and Chemistry Meeting, Toronto, ON, November 3-7, 2019, ~50 attendees
- “*Per- and Poly-fluoroalkyl Substances (PFASs): Recent Advances and Future Directions*” at the 39th Annual Society of Environmental Toxicology and Chemistry Meeting, Sacramento, CA, November 4-8, 2018, ~150 attendees (featured as a Spotlight Session)
- “*Teaching Environmental Chemistry: Where are we and where are we going?*” at the 39th Annual Society of Environmental Toxicology and Chemistry Meeting, Sacramento, CA, November 4-8, 2018, ~40 attendees
- “*Green Chemistry Initiative Symposium*” at the 100th Canadian Chemistry Conference and Exhibition, Toronto, ON, May 29-June 1, 2017, ~80 attendees

Meetings:

- Environmental Chemistry Colloquium XVII, University of Toronto, May 1-3, 2017, 48 attendees
- Environmental Chemistry Colloquium XVI, University of Toronto, May 16-18, 2016, 45 attendees

Workshops:

- Environmental Fate Workshop, Green Chemistry Initiative at U. Toronto, March 16, 2017, 20 attendees

Memberships

- Society of Environmental Toxicology and Chemistry
- Canadian Society for Chemistry

Volunteer positions (select)

- Peer reviewer for journals including: Environmental Science & Technology (ACS), Environmental Science & Technology Letters (ACS), Environmental Science: Processes & Impacts (RSC), Science of the Total Environment (Elsevier), Journal of Hazardous Materials (Elsevier), Trends in Analytical Chemistry (Elsevier)
- Grad School Orientation, Supervisor Selection Workshop presenter – Department of Chemistry, University of Toronto: 2017-2019

- Undergraduate Research Day judge – Department of Chemistry, University of Toronto: 2016
- Science Rendezvous at University of Toronto: 2015, 2016
- Children’s Hospital of Manitoba Teddy Bear’s Picnic “I want to be a scientist” booth: 2013, 2014

Additional Training

- My STEM Stories, Canadians Working for Inclusivity in Chem. Sciences, Engineering & Tech. (CWIC), 2021
 - Learned to tell science stories to diverse audiences using various media.
- PFAS Science & Policy Interactive Workshop, Green Science Policy Institute, 2020
 - Learned how my scientific research can impact policies and regulations controlling PFAS usage.
- LOGIC 2020: Beyond the Visible Spectrum, CWIC
 - Topics included: engaging diverse scientists, recognizing bias, and considering intersectionality of identities.
- Writing Module for Department of Chemistry, U. Toronto, 2019
 - Gained scientific writing and editing skills for proposals, articles, and dissertations.
- ACS Summer School on Green Chemistry & Sustainable Energy, 2017
 - Learned basics of green chemistry, how to apply it to research, and how to perform lifecycle assessments.
- LOGIC 2017: Becoming a Confident Chemist and Future Leader, CWIC
 - Gained leadership and collaboration skills while considering equity.

Media interviews

- August 18, 2022, Nature News, "How to destroy ‘forever chemicals’: cheap method breaks down PFAS" [Link](#)
- August 18, 2022, New York Times, "Forever Chemicals No More? PFAS Are Destroyed With New Technique" [Link](#)
- August 18, 2022, Scientific American, "Cheap New Method Breaks Down ‘Forever Chemicals’" [Link](#)
- August 18, 2022, The Verge, "A new way to smash the ‘forever’ out of ‘forever chemicals’" [Link](#)

Blog Posts & Podcasts

- January 7, 2022 “PFAS, Environmental Chemistry, and How You Can be a Greener Chemist – A Chat with Dr. Shira Joudan.” Chemistea Podcast. [link](#)
- November 30, 2017 “Green Chemistry Principle #10: Design for Degradation”. Green Chemistry Initiative Blog, including embedded video, script written by me. [link](#)
- December 21, 2016 “Challenges in Designing Non-Toxic Molecules: Using medicinal chemistry frameworks to help design non-toxic commercial chemicals”. Green Chemistry Initiative Blog. [link](#)