Leanne D. Chen

Assistant Professor of Chemistry, University of Guelph

leanne.chen@uoguelph.ca | 519-824-4210 ext. 53936 | 50 Stone Road East, Guelph, Ontario N1G 2W1
0000-0001-9700-972X | Scholar | https://www.compchemguelph.ca

BACKGROUND

Academic Appointments

Mar 2020 – Ongoing | **University of Guelph, Guelph, Ontario**
Assistant Professor, Department of Chemistry

Jul 2017 – Jul 2019 | **California Institute of Technology, Pasadena, California**
Postdoctoral Scholar, Division of Chemistry and Chemical Engineering

Education

Sep 2012 – Jun 2017 | **Stanford University, Stanford, California**
PhD in Physical Chemistry

Sep 2008 – Apr 2012 | **Queen's University, Kingston, Ontario**
BScH with Distinction in Chemistry

SCHOLARSHIP

Publications

Total number of citations: 2218, number of citations for top first-author paper: 446, h-index: 16
* denotes corresponding author, __ denotes HQP supervised by L. D. Chen, † denotes equal contribution

Since Tenure-Track Appointment

35 **(In Peer Review)** Johnston, S. J.; Choueiri, R. M.; Liu, X.; Laframboise, B. J. R.; Tatarchuk, S. W.; **Chen, L. D.*** A Density Functional Theory Investigation of Ammonia Oxidation on the M-doped β-Ni(OH)$_2$ (M = Cr, Co, Cu, Fe) Surfaces. *ChemRxiv* **2023**, Preprint.

34 Tatarchuk, S. W.; Choueiri, R. M.; MacKay, A. J.; Johnston, S. J.; Cooper, W. M.; Snyder, K. S.; Medvedev, J. J.; Klinkova, A.*; **Chen, L. D.*** Understanding the Mechanism of Urea Oxidation from First-Principles Calculations. *ChemPhysChem* **2024**, Accepted Manuscript in Special Collection Dedicated to Jens Nørskov.

33 Pounder, A.; Neufeld, E.; **Chen, L. D.***; Tam, W.* Rhodium-Catalyzed Ring-Opening Reactions of Heterobicyclic Akenes with Heteroarene Nucleophiles: An Experimental and Computational Investigation. *Can. J. Chem.* **2024**, Accepted Manuscript.

32 Snyder, K. S.; **Chen, L. D.***; Thomas, D. F.* Vibrational Spectrum Perturbations of Alkanethiol Self Assembled Monolayers with Noble Gases and Chlorinated Species. *Can. J. Chem.* **2024**, Just-In Article.

31 Regan, K. T.; Pounder, A.; Lin, C.; **Chen, L. D.***; Manderville, R. A.* Isomer-Specific Solvatochromic and Molecular Rotor Properties of ESIPT–Active Push–Pull Fluorescent Chalcone Dyes. *J. Phys. Chem. A* **2023**, *127*, 8365–8373.

30 Pounder, A.; Farkas, M.; **Chen, L. D.***; Tam, W.* Iridium/Zinc Co-Catalyzed Ring-Opening Reactions of Oxabicyclic Alkenes with Indole Nucleophiles: A Combined Experimental and Theoretical Study. *Organometallics* **2023**, *42*, 780–792.

29 Hossain, M. N.; Choueiri, R. M.; Abner, S.; **Chen, L. D.***; Chen, A.* Electrochemical Reduction of Carbon Dioxide at TiO_2/Au Nanocomposites. *ACS Appl. Mater. Interfaces* **2022**, *14*, 51889–51899.

28 Choueiri, R. M.; **Chen, L. D.*** Favorable Electrocatalytic Ammonia Oxidation Reaction Thermodynamics on the β-NiOOH(0001) Surface Computed by Density Functional Theory. *J. Phys. Chem. C* **2022**, *126*, 17952–17965.

27 Li, F.; Zhou, C.; Feygin, E.; Roy, P.-N.; **Chen, L. D.***; Klinkova, A.* Reaction-Intermediate-Induced Atomic Mobility in Heterogeneous Metal Catalysts for Electrochemical Reduction of CO_2. *Phys. Chem. Chem. Phys.* **2022**, *24*, 19432–19442.

26 Ho, A.†; Pounder, A.†; Valluru, K.; **Chen, L. D.***; Tam, W.* Iridium-Catalyzed Hydroacylation Reactions of C_1-Substituted Oxabenzonorbornadienes with Salicylaldehyde: An Experimental and Computational Study. *Beilstein J. Org. Chem.* **2022**, *18*, 251–261.

25 **(Invited Commentary)** Choueiri, R. M.; **Chen, L. D.*** Dynamic control of programmable catalysts offers new dimension for rate enhancement. *Chem Catal.* **2022**, *2*, 12–15.

24 Choueiri, R. M.; Tatarchuk, S. W.; Klinkova, A.; **Chen, L. D.*** Mechanism of Ammonia Oxidation to Dinitrogen, Nitrite, and Nitrate on β-$Ni(OH)_2$ from First-Principles Simulations. *Electrochem. Sci. Adv.* **2021**, 2100142.

23 **(Invited Commentary) Chen, L. D.*** Cations play an essential role in CO_2 reduction. *Nat. Catal.* **2021**, *4*, 641–642.

22 Pounder, A.; Tam, W.; **Chen, L. D.*** The Mechanism and Origin of Enantioselectivity in the Rhodium-Catalyzed Asymmetric Ring-Opening Reactions of Oxabicyclic Alkenes with Organoboronic Acids: A DFT Investigation. *Organometallics* **2021**, *40*, 1588–1597.

21 Tatarchuk, S. W.; Choueiri, R. M.; Medvedeva, X. V.; **Chen, L. D.***; Klinkova, A.* Inductive Effects in Cobalt-Doped Nickel Hydroxide Electronic Structure Facilitating Urea Electrooxidation. *Chemosphere*, **2021**, *279*, 130550.

20 Pounder, A.; Bishop, F.; **Chen, L. D.***; Tam, W.* A DFT Study on the Mechanism and Origin of Regioselectivity in the Rhodium/Diene-Catalyzed Ring-Opening Reactions of C1-Substituted Oxabenzonorbornadienes with Arylboronic Acids. *Eur. J. Org. Chem.* **2021**, *12*, 1901–1908.

19 Pounder, A.; **Chen, L. D.***; Tam, W.* Ruthenium-Catalyzed [2 + 2] versus Homo Diels-Alder [2 + 2 + 2] Cycloadditions of Norbornadiene and Disubstituted Alkynes: A DFT Study. *ACS Omega* **2021**, *6*, 900–911.

Before Tenure-Track Appointment

18 **Chen, L. D.**†; Lawniczak, J. J.†; Ding, F.; Bygrave, P. J.; Riahi, S.; Manby, F. R.; Mukhopadhyay, S.; Miller, T. F.* Embedded Mean-Field Theory for Solution-Phase Transition-Metal Polyolefin Catalysis. *J. Chem. Theory Comput.* **2020**, *16*, 4226–4237.

17 Gauthier, J. A.; **Chen, L. D.**; Bajdich, M.; Chan, K.* Implications of the Fractional Charge of Hydroxide at the Electrochemical Interface. *Phys. Chem. Chem. Phys.* **2020**, *22*, 6964–6969.

16 Ringe, S.*; Morales-Guio, C. G.; **Chen, L. D.**; Fields, M.; Jaramillo, T. F.; Hahn, C.; Chan, K.* Double layer charging driven CO_2 adsorption limits the rate of electrochemical CO_2 reduction on Au. *Nat. Commun.* **2020**, *11*, 33.

15 Gauthier, J. A.; Fields, M.; Bajdich, M.; **Chen, L. D.**; Sandberg, R. B.; Chan, K.; Nørskov, J. K.* Electron Transfer to CO_2 during Adsorption at the Metal | Solution Interface. *J. Phys. Chem. C* **2019**, *123*, 29278–29283.

14 **Chen, L. D.**†; Bajdich, M.†; Martirez, J. M. P.; Krauter, C. M.; Gauthier, J. A.; Carter, E. A.; Luntz, A. C.; Chan, K.; Nørskov, J. K.* Understanding the Apparent Fractional Charge of Protons in the Aqueous Electrochemical Double Layer. *Nat. Commun.* **2018**, *9*, 3202.

13 Kirk, C.†; **Chen, L. D.**†; Siahrostami, S.†; Karamad, M.; Bajdich, M.; Voss, J.; Nørskov, J. K.; Chan, K.* Theoretical Investigations of the Electrochemical Reduction of CO on Single Metal Atoms Embedded in Graphene. *ACS Cent. Sci.* **2017**, *3*, 1286–1293.

12 Resasco, J.; **Chen, L. D.**; Clark, E. L.; Tsai, C.; Hahn, C.; Jaramillo, T. F.; Chan, K.; Bell, A. T.* Promoter Effects of Alkali Metal Cations on the Electrocatalytic Reduction of Carbon Dioxide. *J. Am. Chem. Soc.* **2017**, *139*, 11277–11287.

11 Gauthier, J. A.; Dickens, C. F.; **Chen, L. D.**; Doyle, A. D.; Nørskov, J. K.* Solvation Effects for Oxygen Evolution Reaction Catalysis on $IrO_2(110)$. *J. Phys. Chem. C* **2017**, *121*, 11455–11463.

10 Fields, M.; Tsai, C.; **Chen, L. D.**; Abild-Pedersen, F.; Nørskov, J. K.; Chan, K.* Scaling Relations for Adsorption Energies on Doped Molybdenum Phosphide Surfaces. *ACS Catal.* **2017**, *7*, 2528–2534.

9 **Chen, L. D.**; Urushihara, M.; Chan, K.; Nørskov, J. K.* Electric Field Effects in Electrochemical CO_2 Reduction. *ACS Catal.* **2016**, *6*, 7133–7139.

8 Tsai, C.; Lee, K.; Yoo, J. S.; Liu, X.; Aljama, H.; **Chen, L. D.**; Dickens, C. F.; Geisler, T. S.; Guido, C. J.; Joseph, T. M.; Kirk, C. S.; Latimer, A. A.; Loong, B.; McCarty, R. J.; Montoya, J. H.; Power, L.; Singh, A. R.; Willis, J. J.; Winterkorn, M. M.; Yuan, M.; Zhao, Z.-J.; Wilcox, J.; Nørskov, J. K.* Direct Water Decomposition on Transition Metal Surfaces. *Catal. Lett.* **2016**, *146*, 718–724.

7 **Chen, L. D.**; Nørskov, J. K.; Luntz, A. C.* Theoretical Limits to the Anode Potential in Aqueous Mg–Air Batteries. *J. Phys. Chem. C* **2015**, *119*, 19660–19667.

6 **Chen, L. D.**; Nørskov, J. K.; Luntz, A. C.* Al–Air Batteries: Fundamental Thermodynamic Limitations from First-Principles Theory. *J. Phys. Chem. Lett.* **2014**, *6*, 175–179.

5 Neverov, A. A.; **Chen, L. D.**; George, S.; Simon, D.; Maxwell, C. I.; Brown, R. S.* A mechanistic study of the $[La_2(OCH_3)_2]^{4+}$- and $[(1,5,9\text{-triazacyclododecane})\text{:Zn:}(OCH_3)]^+$-catalyzed methanolysis of carbonates: possible application for the recycling of bisphenol A polycarbonates. *Can. J. Chem.* **2013**, *91*, 1139–1146.

4 Wang, N.; Ko, S.-B.; Lu, J.-S.; **Chen, L. D.**; Wang, S.* Tuning the Photoisomerization of an N^C-Chelate Organoboron Compound with a Metal–Acetylide Unit. *Chem. Eur. J.* **2013**, *19*, 5314–5323.

3 Rao, Y.-L.; Amarne, H.; **Chen, L. D.**; Brown, M. L.; Mosey, N. J.; Wang, S.* Photo- and Thermal-induced Multistructural Transformation of 2-Phenylazolyl Chelate Boron Compounds. *J. Am. Chem. Soc.* **2013**, *135*, 3407–3410.

2 Rao, Y.-L.; **Chen, L. D.**; Mosey, N. J.; Wang, S.* Stepwise Intramolecular Photoisomerization of NHC-Chelate Dimesitylboron Compounds with C–C Bond Formation and C–H Bond Insertion. *J. Am. Chem. Soc.* **2012**, *134*, 11026–11034.

1 Sun, C.; Hudson, Z. M.; **Chen, L. D.**; Wang, S.* Double Cyclization/Aryl Migration Across an Alkyne Bond Enabled by Organoboryl and Diarylplatinum Groups. *Angew. Chem. Int. Ed.* **2012**, *51*, 5671–5674.

Funding

All amounts are in CAD unless otherwise specified.
Totals to-date: $440,552 (as Principal Investigator), $150,000 (as Co-Applicant), $75,546 (as Collaborator)

Apr 2023 – Mar 2024 | **Compute Canada Resources for Research Groups Competition**
- Role: Principal Investigator
- Amount Equivalent Awarded: $20,610

Apr 2022 – Mar 2023 | **NSERC Research Tools and Instruments Program**
- Role: Co-Applicant
- Amount Awarded: $150,000

Apr 2022 – Mar 2023 | **Compute Canada Resources for Research Groups Competition**
- Role: Principal Investigator
- Amount Equivalent Awarded: $30,258

Apr 2021 – Mar 2022 | **Compute Canada Resources for Research Groups Competition**
- Role: Principal Investigator
- Amount Equivalent Awarded: $27,544

Mar 2021 – Mar 2023 | **New Frontiers for Research Fund – Exploration**
- Role: Nominated Principal Investigator
- Amount Awarded: $200,000 (direct), $50,000 (indirect)

Aug 2020 – Mar 2021 | **Agricultural Clean Technology Program**
- Role: Collaborator
- Amount Awarded: $75,546

Apr 2020 – Mar 2025 | **NSERC Discovery Grant and Discovery Launch Supplement**
- Role: Principal Investigator
- Amount Awarded: $162,140

Conference Organization and Moderation

Jun 2023 | **CSC 2023, Vancouver, British Columbia**
- Role: Symposium Organizer (Co-Organizer: Samira Siahrostami)
- Symposium: Theory-Guided Discovery of Energy Materials
- Responsibilities: define scope of symposium, develop list of Canadian and international invited speakers, review abstracts and create schedule, introduce speakers at the conference

Jul 2022 | **12th WATOC, Vancouver, British Columbia**
- Role: Session Chair
- Session: Invited Communications 2C
- Responsibilities: introduce speakers at the conference

Jun 2022 | **105th CCCE, Calgary, Alberta**
- Role: Symposium Organizer (Co-Organizer: Oleksandr Voznyy)
- Symposium: Theory Guided Discovery of Energy Materials
- Responsibilities: define scope of symposium, create list of Canadian and international invited speakers, communicate with other symposium organizers in Physical, Theoretical, and Computational Chemistry Division to ensure no significant overlap, introduce speakers at the conference

Nov 2021 | **AIChE Annual Meeting, Boston, Massachusetts**
- Role: Session Chair
- Session: Fundamentals of Catalysis and Surface Science (Virtual)
- Responsibilities: inform speakers of AIChE presentation policies, maintain regular communication with abstract authors and area chairs, introduce speakers at the conference

Oct 2021 | **71st CCEC, Montréal, Québec**
- Role: Session Organizer
- Session: Computational Catalysis, Chemical Kinetics, and Machine Learning
- Responsibilities: develop invited speakers list, advertise session to community, review submitted abstracts, maintain regular communication with accepted authors, introduce speakers at the conference

Jul 2021 | **VSTC³, Virtual**
- Role: Organizing Committee Member
- Responsibilities: develop invited speakers list, review abstracts, coordinate with schedules of invited speakers to create the conference program

Nov 2020 | **AIChE Annual Meeting, Virtual**
- Role: Session Co-Chair
- Session: Electrocatalysis I, Organic Electrocatalysis
- Responsibilities: introduce speakers at the conference

Jun 2019 | **NAM26, Chicago, Illinois**
- Role: Abstract Selection Committee Member
- Responsibilities: conduct reviews for abstracts submitted to the North American Catalysis Meeting based on quality, novelty, and significance of the work

Invited Conference, Workshop, and University Department Talks (37 Total)

31 Contributed Presentations Not Listed

Nov 2023 | **University of Ottawa Chemistry Departmental Seminar, Ottawa, Ontario**
"Understanding the Electrochemical Ammonia and Urea Oxidation Reactions"

Nov 2023 | **Carleton University Chemistry Departmental Seminar, Ottawa, Ontario**
"Understanding the Electrochemical Ammonia and Urea Oxidation Reactions"

Nov 2023 | **Queen's University Chemistry Departmental Seminar, Kingston, Ontario**
"Understanding the Electrochemical Ammonia and Urea Oxidation Reactions"

Nov 2023 | **37th Waterloo Symposium on Chemical Physics, Waterloo, Ontario**
"Understanding the Electrochemical Ammonia and Urea Oxidation Reactions"

Oct 2023 | **University of Toronto Physical Chemistry Seminar Series, Toronto, Ontario**
"Understanding the Electrochemical Ammonia and Urea Oxidation Reactions"

Jun 2023 | **Design and Evaluation of Electrochemical Interfaces Symposium at CSC, Vancouver, British Columbia**
"Scaling Relations for the Electrocatalytic Ammonia Oxidation Reaction"

May 2023 | **Centre for Research in Molecular Modelling Symposium, Montréal, Québec**
"Scaling Relations for the Electrocatalytic Ammonia Oxidation Reaction"

Apr 2023 | **Texas Tech University Department of Chemical Engineering Seminar Series, Virtual**
"Scaling Relations for the Electrocatalytic Ammonia Oxidation Reaction"

Apr 2023 | **University of Windsor Department of Chemistry Seminar Series, Virtual**
"Scaling Relations for the Electrocatalytic Ammonia Oxidation Reaction"

Apr 2023 | **Chemical Institute of Canada PTC Seminar Series, Virtual**
"Scaling Relations for the Electrocatalytic Ammonia Oxidation Reaction"

Sep 2022 | **Catalysis and Modelling Symposium, Copenhagen, Denmark**
"First-Principles Simulations of Ni-based Materials for Electrochemical Ammonia Oxidation"

Jul 2022 | **12th WATOC, Vancouver, British Columbia**
"First-Principles Simulations of Ni-based Materials for Electrochemical Ammonia Oxidation"

Jun 2022 | **29th CSTCC, Kelowna, British Columbia**
"First-Principles Modelling of Electrochemical Reactions"

Jun 2022 | **Designing Electrocatalyst Materials for Clean Energy Symposium at CCCE, Calgary, Alberta**
"First-Principles Simulations of Ni-based Materials for Electrochemical Ammonia Oxidation"

Apr 2022 | **Canada's Rising Stars in Electrochemical Systems Symposium, Virtual**
"First-Principles Simulations of Ni-based Materials for Electrochemical Ammonia and Urea Oxidation"

Aug 2021 | **Celebrating the Life of Suning Wang Symposium at CCCE, Virtual**
"First-Principles Modelling of Heterogeneous Electrochemical Reactions"

Jun 2021 | **ETC-ECS UGSC Speaker Series, Virtual**
"Ab Initio Computational Modelling of Electrochemical Reactions"

May 2021 | **ECS Canada Section Spring Meeting, Virtual**
"First-Principles Simulations of Ni-based Materials for Electrochemical Ammonia Oxidation"

Apr 2021 | **York University Department of Chemistry Winter Seminar Series, Virtual**
"Ab Initio Computational Modelling of Electrochemical Reactions"

Feb 2021 | **Chemical Institute of Canada PTC Seminar Series, Virtual**
"Ni-based Materials for Electrochemical Ammonia Oxidation"

Oct 2020 | **$(GWC)^2$ Fall Seminar Series, Virtual**
"Ab Initio Computational Modelling of Electrochemical Reactions"

Oct 2020 | **University of Toronto Physical Chemistry Seminar Series, Virtual**
"Ab Initio Computational Modelling of Electrochemical Reactions"

May 2020 | **University of Guelph MLRG Seminar, Virtual**
"Atomic-Scale Computational Insight into Electrochemical Reactions:
from Mechanistic Understanding to Materials Engineering"

Mar 2020 | **University of Waterloo Chemistry Departmental Seminar, Waterloo, Ontario**
"Atomic-Scale Computational Insight into Electrochemical Reactions:
from Mechanistic Understanding to Materials Engineering"

Oct 2019 | **University of Seoul Computational Catalysis & Materials Design Lab, Seoul, South Korea**
"Understanding the Apparent Fractional Charge of Protons in the Aqueous Electrochemical Double Layer"

Oct 2019 | **KAIST Complex Molecular-Systems Multiscale Design Lab, Daejeon, South Korea**
"Atomic-Scale Computational Insight into Electrochemical Reactions:
from Mechanistic Understanding to Materials Engineering"

Aug 2019 | **Lawrence Livermore National Laboratory, Livermore, California**
"Exploring the Potential of Metal-Doped Graphene as Improved Electrocatalysts for CO_2 Reduction
Using Embedded Mean-Field Theory"

Aug 2019 | **Toyota Research Institute, Los Altos, California**
"Understanding the Apparent Fractional Charge of Protons in the Aqueous Electrochemical Double Layer"

Apr 2019 | **257th ACS National Meeting, Orlando, Florida**
"Understanding the Apparent Fractional Charge of Protons in the Aqueous Electrochemical Double Layer"

Mar 2019 | **University of Guelph Chemistry Departmental Seminar, Guelph, Ontario**
"Atomic-Scale Computational Insight into Electrochemical Reactions:
from Mechanistic Understanding to Materials Engineering"

Feb 2019 | **University of Colorado Boulder Chemical Engineering Departmental Seminar, Boulder, Colorado**
"Atomic-Scale Computational Insight into Electrochemical Reactions:
from Mechanistic Understanding to Materials Engineering"

Jan 2019	**University of Delaware Chemical Engineering Departmental Seminar, Newark, Delaware** "Atomic-Scale Computational Insight into Electrochemical Reactions: from Mechanistic Understanding to Materials Engineering"
Jan 2019	**York University Chemistry Departmental Seminar, Toronto, Ontario** "Atomic-Scale Computational Insight into Electrochemical Reactions: from Mechanistic Understanding to Materials Engineering"
Dec 2018	**JCAP Theory Meeting, Menlo Park, California** "Quantum Embedding Methods for CO_2 Reduction Catalysis"
Aug 2017	**Dynamics at Surfaces Gordon Research Conference, Newport, Rhode Island** "First-Principles Modelling of the Electrochemical Interface: Applications to CO_2 Reduction and Beyond"
Feb 2017	**MIT Chemical Engineering Departmental Seminar, Cambridge, Massachusetts** "Electrochemical Energy Transformation Processes: An Atomistic Perspective"
Jun 2016	**University of Toronto Electrical Engineering Departmental Seminar, Toronto, Ontario** "Electrochemical Energy Transformation Processes: An Atomistic Perspective"

Collaborations

Apr 2021 – Ongoing	Mechanistic investigations of CO_2 reduction on hybrid materials with Aicheng Chen
Apr 2020 – Ongoing	Rational design of electrocatalysts for ammonia and urea oxidation with Anna Klinkova
Mar 2020 – Ongoing	Understanding enantioselectivity/regioselectivity in ring-opening reactions with William Tam

Postdoctoral Fellow Supervision

May 2021 – Apr 2023	Rachelle Choueiri
Jun 2020 – Apr 2021	Rachelle Choueiri (co-supervised with Anna Klinkova)

Refereeing Activity

Verified but incomplete records of my journal refereeing activity can be found at ORCiD and Web of Science

May 2015 – Ongoing

Referee activity for journals, format: *Journal Name* (number of reviews conducted), total: 93

- *ACS Applied Energy Materials* (1)
- *ACS Catalysis* (2)
- *ACS Materials Letters* (2)
- *ACS Omega* (1)
- *Angewandte Chemie* (1)
- *Applied Surface Science* (2)
- *Canadian Journal of Chemistry* (6)
- *Catalysis Science & Technology* (1)
- *Cell Reports Physical Science* (1)
- *Chem Catalysis* (2)
- *Chemical Science* (4)
- *ChemSusChem* (1)
- *Electrochimica Acta* (7)
- *Energy & Environmental Science* (24)
- *Energy & Fuels* (1)

- *Journal of the American Chemical Society* (2)
- *Journal of Materials Chemistry A* (1)
- *Langmuir* (1)
- *Molecular Systems Design and Engineering* (1)
- *Nano Letters* (1)
- *Nature Catalysis* (6)
- *Nature Communications* (6)
- *Nature Energy* (2)
- *Nature Synthesis* (1)
- *Physical Chemistry Chemical Physics* (13)
- *Small* (1)
- *The Journal of Chemical Physics* (2)

Jan 2023– Ongoing	External Reviewer, NSERC Discovery Grants Program
Jul 2023	Reviewer, DOE Office of Science
Jul 2023	Reviewer, Fulbright STEM Impact Award
Sep 2022 – Dec 2022	Reviewer, Fulbright Senior Award
Nov 2021 – Dec 2021	Review Panel, New Frontiers in Research Fund – Exploration
Apr 2021 – May 2021	Reviewer, IOP Publishing textbook proposal
Feb 2019 – Mar 2019	Grant Review Panel, PSC CUNY Cycle 50

News Articles

Jun 2022	**College of Engineering and Physical Sciences News** "2022 CEPS Awards"
Apr 2022	**College of Engineering and Physical Sciences News** "Chemistry Innovations to Reduce Byproduct Waste"
Jun 2021	**College of Engineering and Physical Sciences Highlight** "Q&A with Dr. Leanne Chen"
May 2021	**University of Guelph News** "Prof Awarded Funding to Develop Technology to Curb Agricultural Emissions"
Apr 2020	**College of Engineering and Physical Sciences Highlight** "Earth Day 2020"
Jan 2016	**AIChE ChEnected** "Graduate Research Spotlight: Meet Leanne Chen"

Scholarships and Awards

Jun 2022	CEPS Assistant Professor Research Excellence Award
Jun 2018	Gordon Research Seminar in Catalysis Presentation Award
Jun 2017	North American Catalysis Society Kokes Award
Apr 2013	NSERC Alexander Graham Bell Canada Graduate Scholarship (CGS D3, declined for PGS D3)

Apr 2012	NSERC Alexander Graham Bell Canada Graduate Scholarship (CGS M, declined for PGS M)
Apr 2012	Walter MacFarlane Smith Prize in Chemistry for Best Thesis
Mar 2012	DAAD Professional Research Internships in Science and Engineering

Editorial Roles

Dec 2020 – Ongoing	Review Editor, *Modelling, Theory and Computational Catalysis*, Frontiers in Catalysis
May 2020 – Ongoing	Editorial Advisory Board Member, *Electrochemical Science Advances*, Wiley
May 2023	Guest Editor for "Engineering Dynamic Catalysts: Methods, Theory, and Application" Special Issue, *iScience*, Cell Press

TEACHING

Courses

Sep 2022 – Ongoing	CHEM*3860, Quantum Chemistry (Undergraduate) • Role: Instructor • Responsibilities: create course materials, deliver lectures, hold weekly office hours, coordinate with TA to deliver tutorials, author midterm and final exams, grade midterm and final exams
Sep 2021 – Ongoing	CHEM*7500, Topics in Computational Chemistry (Graduate) • Role: Instructor • Responsibilities: create course materials, deliver lectures, hold weekly office hours, assign problem sets, grade problem sets, evaluate midterm and final projects
Sep 2020 – Ongoing	CHEM*2820, Thermodynamics and Kinetics (Undergraduate) • Role: Instructor • Responsibilities: create course materials, deliver lectures, hold weekly office hours, assign problem sets, create rubrics for problem sets, author midterm and final exams, grade midterm and final exams, coordinate with TA to deliver tutorials, communicate with TA about grading problem sets

Student Advising and Supervising

Default role is Primary Supervisor unless otherwise specified

Graduate Student Supervision

May 2023 – Ongoing	Brendan Laframboise, MSc
Sep 2022 – Ongoing	Shayne Johnston, MSc/PhD
Sep 2021 – Ongoing	Stephen Tatarchuk, PhD
May 2020 – Ongoing	Austin Pounder, PhD (co-supervised with William Tam)
Sep 2020 – Dec 2023	Kayla Snyder, PhD (co-supervised with Daniel Thomas) • teacher at Georgian College
May 2020 – Dec 2020	Lina Ghulam, MSc (co-supervised with William Tam) • enrolled in PharmD Degree at University of Waterloo

May 2020 – Dec 2020	Siobhan Liu, MSc • enrolled in Ontario College Graduate Degree at Seneca College

Undergraduate Research Project

Sep 2023 – Ongoing	William Cooper, NANO*4910/4920
Sep 2021 – Apr 2022	Shayne Johnston, CHEM*4900/4910
Jan 2021 – Apr 2021	Alexander Sweett, CHEM*4900
Sep 2020 – Apr 2021	Katrina Ruzicka, CHEM*4900/4910 (co-supervised with William Tam)
Sep 2020 – Apr 2021	Krish Kiran Valluru, CHEM*4900/4910 (co-supervised with William Tam)
Sep 2020 – Dec 2020	Megan Farkas, CHEM*4910 (co-supervised with William Tam)
Sep 2020 – Dec 2020	Mirna Ghattas, CHEM*4910
Sep 2020 – Dec 2020	Cassandra Rooke, CHEM*4910 (co-supervised with William Tam)
Sep 2020 – Dec 2020	Taylor Rounds, CHEM*4910 (co-supervised with William Tam)
Sep 2020 – Dec 2020	Lindsey Starkman, CHEM*4910
Sep 2020 – Dec 2020	Fiona Bishop, CHEM*4900 (co-supervised with William Tam)
Sep 2020 – Dec 2020	Laura Martin, CHEM*4900
May 2020 – Aug 2020	Chelsea D'Cruz, CHEM*4900

Undergraduate Research Assistant

May 2022 – Aug 2022	Xinrun Liu, Provost International Coop Initiative Research Assistant
May 2022 – Aug 2022	Alexander MacKay, Undergraduate Research Award
May 2020 – Aug 2020	Siobhan Liu, Research Assistant I

Awards, Scholarships and Distinctions Received by HQP

Dec 2023	Austin Pounder, Alberta Innovates Postdoctoral Fellowship **($140,000)**
May 2023	Stephen Tatarchuk, NSERC CGS D3 **($105,000)**
May 2023	Stephen Tatarchuk, R. H. F. Manske Prize **($750)**
Apr 2023	Stephen Tatarchuk, Queen Elizabeth II Graduate Scholarship in Science and Technology **($15,000)**
Mar 2023	Brendan Laframboise, Stephen Safe Scholarships in Chemistry **($2,500)**
May 2022	Austin Pounder, Charles S. Humphrey Graduate Fellowship in Chemistry **($5,000)**
Apr 2022	Stephen Tatarchuk, Queen Elizabeth II Graduate Scholarship in Science and Technology **($15,000)**
Mar 2022	Alexander MacKay, Nanoscience Scholarship **($1,000)**
Mar 2022	Austin Pounder, College of Engineering and Physical Sciences Graduate Dean's Scholarship **($3,500)**
Feb 2022	Kayla Snyder, Good Samaritan Award **($1,000)**
Sep 2021	Austin Pounder, NSERC PGS D3 **($63,000)**

Mar 2021 | Fiona Bishop, Chemical Institute of Canada Silver Medal **(Engraved Medal)**

Mar 2021 | Mirna Ghattas, Paul Rowntree Memorial Scholarship **($1,000)**

Mar 2021 | Taylor Rounds, CEPS Dean's Scholarship **($2,000)**

Mar 2021 | Taylor Rounds, Lautens Prize in Organic Chemistry **($1,500)**

Mar 2021 | Katrina Ruzicka, Chemical Institute of Canada Silver Medal **(Engraved Medal)**

Mar 2021 | Kayla Snyder, Chemistry Laboratory Instructor Scholarship **($250)**

Mar 2021 | Krish Kiran Valluru, Guelph Soap Company Scholarship **($1,500)**

Meetings and Workshops Attended by HQP

Nov 2023 | Brendan Laframboise, 37th Symposium on Chemical Physics, Waterloo, Ontario (Poster Presentation)

Nov 2023 | Stephen Tatarchuk, 37th Symposium on Chemical Physics, Waterloo, Ontario (Poster Presentation)

Jun 2023 | Shayne Johnston, CSC 2023, Vancouver, British Columbia (Oral Presentation)

Jun 2023 | Austin Pounder, CSC 2023, Vancouver, British Columbia (Oral Presentation)

May 2023 | Austin Pounder, (GWC)^2 Annual General Meeting, Guelph, Ontario **(Top Two Poster Presentations)**

May 2023 | Kayla Snyder, (GWC)^2 Annual General Meeting, Guelph, Ontario **(Top Two Poster Presentations)**

May 2023 | Stephen Tatarchuk, (GWC)^2 Annual General Meeting, Guelph, Ontario **(PhD Seminar Winner)**

Mar 2023 | Alexander MacKay, SOUSCC51, Peterborough, Ontario (Oral Presentation)

Mar 2023 | Stephen Tatarchuk, ETC-ECS Student Chapter Speaker Series, Virtual **(Invited Oral Presentation)**

Dec 2022 | Rachelle Choueiri, ETC-ECS Student Chapter Speaker Series, Virtual **(Invited Oral Presentation)**

Nov 2022 | Rachelle Choueiri, 36th Symposium on Chemical Physics, Waterloo, Ontario (Oral Presentation)

Nov 2022 | Shayne Johnston, 36th Symposium on Chemical Physics, Waterloo, Ontario (Poster Presentation)

Nov 2022 | Stephen Tatarchuk, 36th Symposium on Chemical Physics, Waterloo, Ontario (Poster Presentation)

Aug 2022 | Xinrun Liu, S22 Undergraduate Research Showcase, Virtual (Oral Presentation)

Aug 2022 | Alexander MacKay, S22 Undergraduate Research Showcase, Virtual (Oral Presentation)

Aug 2022 | Xinrun Liu, 2022 CEPS Undergraduate Poster Session, Guelph, Ontario (Poster Presentation)

Jul 2022 | Rachelle Choueiri, WATOC 2020, Vancouver, British Columbia **(Invited Communication)**

Jun 2022 | Rachelle Choueiri, CSTCC 2022, Kelowna, British Columbia **(Invited Oral Presentation)**

Jun 2022 | Rachelle Choueiri, CSC CCCE 2022, Calgary, Alberta **(De Gruyter Book Prize)**

Jun 2022 | Stephen Tatarchuk, CSC CCCE 2022, Calgary, Alberta (Oral Presentation)

Jun 2022 | Austin Pounder, CSC CCCE 2022, Calgary, Alberta **(Best Poster Presentation, Organic Division)**

May 2022 | Stephen Tatarchuk, (GWC)^2 Annual General Meeting, Virtual **(Top Two Poster Presentations)**

Mar 2022 | Shayne Johnston, SOUSCC 50, Virtual (Oral Presentation)

Dec 2021 | Rachelle Choueiri, ETC-ECS Student Chapter Speaker Series, Virtual **(Invited Oral Presentation)**

Oct 2021 | Austin Pounder, 24th CBGRC, Virtual (Oral Presentation)

Oct 2021 | Kayla Snyder, 24th CBGRC, Virtual **(Top Eight Shotgun Presentations)**

Oct 2021	Stephen Tatarchuk, 24th CBGRC, Virtual **(Best Oral Presentation in Computational Chemistry)**
Oct 2021	Rachelle Choueiri, 71st CCEC, Virtual (Oral Presentation)
Aug 2021	Rachelle Choueiri, ACS Fall National Meeting & Exposition, Virtual (Oral Presentation)
Aug 2021	Rachelle Choueiri, SUNCAT Summer Institute, Virtual (Poster Presentation)
Aug 2021	Stephen Tatarchuk, SUNCAT Summer Institute, Virtual (Poster Presentation)
Aug 2021	Stephen Tatarchuk, 104th CCCE, Virtual (Poster Presentation)
Aug 2021	Rachelle Choueiri, Materials Project Workshop, Virtual (Participation)
Aug 2021	Stephen Tatarchuk, Materials Project Workshop, Virtual (Participation)
Jul 2021	Rachelle Choueiri, VSTC^3, Virtual **(Extended Oral Presentation)**
Jul 2021	Stephen Tatarchuk, VSTC^3, Virtual (Speed Oral Presentation)
May 2021	Kayla Snyder, (GWC)^2 Annual General Meeting, Virtual (Poster Presentation)
May 2021	Stephen Tatarchuk, (GWC)^2 Annual General Meeting, Virtual (Poster Presentation)
Nov 2020	Siobhan Liu, 23rd CBGRC, Virtual **(Best Oral Presentation in Computational Chemistry)**
Oct 2020	Stephen Tatarchuk, 70th CCEC, Virtual (Poster Presentation)

Student Committee Memberships

Students' default specialty is Chemistry and default institution is the University of Guelph unless otherwise specified

Advisory Committee

Nov 2023 – Ongoing	Cameron Dean, PhD (University of Waterloo)
May 2023 – Ongoing	Emad Hatami, PhD
May 2023 – Ongoing	Aliaksandra Radchanka, PhD (University of Waterloo)
Jan 2023 – Ongoing	Yubo Wang, PhD (University of Waterloo)
Aug 2022 – Ongoing	Amir Hemmati, PhD (University of Waterloo)
Aug 2022 – Ongoing	Matthew Hill, PhD
Mar 2022 – Ongoing	Mukaila Ibrahim, PhD
May 2020 – Ongoing	Emmanuel Boateng, PhD
Mar 2022 – Aug 2023	Kseniia Medvedeva, PhD (University of Waterloo)
Apr 2020 – Jul 2022	Feng Li, PhD (University of Waterloo)
Sep 2020 – Apr 2021	Lanting Qian, PhD
Nov 2023 – Ongoing	Ruzhen Xu, MSc
Oct 2023 – Ongoing	James Galvao, MSc
Apr 2023 – Ongoing	Gabriele Wehrle, MSc
Feb 2023 – Ongoing	Kelvin Olivares, MSc
Sep 2022 – Ongoing	Chi-Kai Hung, MSc

Mar 2022 – Ongoing	Abida Suboor, MSc
May 2021 – Ongoing	Lanting Qian, MSc
Jan 2021 – Ongoing	Reem Elmahdy, MSc
Jan 2021 – Ongoing	Yining Shi, MSc
May 2020 – Aug 2023	Kyle Salmon, MSc
May 2020 – Jan 2023	Elise Chung, MSc
Jan 2021 – May 2022	Virginia Galpin, MSc

Examination Committee

Dec 2023	Sharon Abner, PhD Thesis Defense
Aug 2023	Kseniia Medvedeva, PhD Thesis Defense (University of Waterloo)
Jun 2023	Sofia Donnecke, PhD Thesis Defense (University of Victoria)
Jun 2023	Farshad Farshidfar, PhD Thesis Defense
Dec 2022	Michael Salverda, PhD Thesis Defense
Jul 2022	Jesse Dondapati, PhD Thesis Defense
Jul 2022	Feng Li, PhD Thesis Defense (University of Waterloo)
May 2020	Maryanne Stones, PhD Thesis Defense
Aug 2023	Kyle Salmon, MSc Thesis Defense
Jan 2022	Farnood Pakravan, MSc Thesis Defense
Sep 2021	Leann Tran, MSc Thesis Defense (Biophysics)
May 2021	Scott Prins, MSc Thesis Defense
Apr 2021	Stephen Tatarchuk, MSc Thesis Defense (University of Waterloo)

SERVICE

Service to Department

Sep 2023 – Ongoing

Departmental Seminar Organizing Committee
- Role: Chair
- Responsibilities: invite external speakers and oversee their visits

Jan 2022 – Ongoing

Faculty and Staff Awards Committee
- Role: Member
- Responsibilities: nominate faculty and staff members for awards, craft recommendation letters for award candidates

Jan 2022 – Ongoing

Graduate Scholarships Committee
- Role: Member
- Responsibilities: rank candidates for graduate scholarships including OGS, Dean's Scholarship, and NSERC PGS

Aug 2020 – Ongoing

Electrochemical Technology Centre

- Role: Member
- Responsibilities: consider new ETC membership applications, serve as judges or sessional chairs of the ETC-ECS Guelph Young Researcher Symposium, participate in the ETC-ECS UGSC Speaker Series

May 2020 – Ongoing

Undergraduate Awards Committee

- Role: Chair (Sep 2023 – Ongoing), Member (May 2020 – Aug 2023)
- Responsibilities: select Departmental undergraduate awards recipients, assist and provide input for College and University level undergraduate awards for BPCH and CHEM students, organize and operate the Annual Undergraduate Awards Night
- Accomplishments: created slideshow and managed attendance list for the 38th Undergraduate Awards Night on March 22nd, 2021, adapted to a virtual format

Apr 2021 – Oct 2023

Physical Chemistry Curriculum Committee

- Role: Member
- Responsibilities: review existing Departmental curriculum for Physical Chemistry, update curriculum to reflect modern chemistry principles, discuss and summarize findings through meetings, present recommendations to Department

Jun 2021 – Oct 2021

(GWC)^2 Director Search Committee

- Role: Member
- Responsibilities: conduct review of candidates' portfolios, rank candidates, make final recommendation

Oct 2020 – Feb 2021

Chemistry Chair Search Committee

- Role: Member
- Responsibilities: review application materials from candidates, including vision statements, curricula vitarum, highlights of past leadership roles, attend candidate presentations, interview candidates, discuss all aspects of candidates' portfolios including letters from Departmental personnel, rank candidates, make final recommendation

Oct 2020 – Nov 2020

Chemistry Research Leadership Chair Nomination Committee

- Role: Member
- Responsibilities: review executive summaries and lifetime curricula vitarum from candidates, rank candidates based on their achievements, selection by vote of final Research Leadership Chair nominees

Service to College

Sep 2021 – Ongoing

CEPS Undergraduate Awards Committee

- Role: Member
- Responsibilities: rank candidates for CEPS undergraduate awards, discuss and vote for proposed new awards and changes to existing awards

Sep 2023

CEPS NSERC Discovery Grants Internal Review

- Role: Peer Reviewer
- Responsibilities: evaluate and score Discovery Grant applications from CEPS faculty before submission to NSERC

Oct 2022

CEPS Graduate Student Research Day

- Role: Oral Presentation Judge
- Responsibilities: evaluate oral presentations from graduate students in the College of Engineering and Physical Sciences, choose award recipients

Oct 2020 | **CEPS Graduate Student Research Day (Virtual)**

- Role: Panelist
- Responsibilities: discuss sustainability as it pertains to CO_2 capture, utilization, and storage, elaborate on how computational modelling is beneficial for sustainability research, propose broad strategies to overcome current challenges in sustainability

Service to University

Aug 2022 – Ongoing | **Research Honours and Awards Advisory Committee**

- Role: Member
- Responsibilities: solicit names of potential nominees for awards and prizes, review recommendations for nomination to institutional awards

Service to Scientific Community

Sep 2022 – Ongoing | **NSERC Scholarships and Fellowships Committee**

- Role: Member
- Responsibilities: read, score, and provide in-depth evaluations for scholarship and fellowship applications, participate in virtual review meetings and discussions

May 2023 | **$(GWC)^2$ Annual General Meeting**

- Role: Poster Judge
- Responsibilities: score presentations to be considered for one of two poster prizes

Mar 2023 | **51st Southern Ontario Undergraduate Student Chemistry Conference (SOUSCC51)**

- Role: Presentation Judge
- Responsibilities: score oral presentations in Physical, Theoretical, and Computational Chemistry; score poster presentations in Polymer and Materials Chemistry

Professional Memberships

May 2021 – Ongoing | Electrochemical Society (Member), Canada Section (Member)

Mar 2021 – Ongoing | Canadian Society for Chemical Engineering (Affiliate Member)

Mar 2020 – Ongoing | Canadian Association of Theoretical Chemists (Member)

May 2016 – Ongoing | Chemical Institute of Canada (Member)

Nov 2014 – Ongoing | American Chemical Society (Member)