

Paul Andrew Johnson

ASSOCIATE PROFESSOR

1045 av. de la Médecine, bureau 1203 Québec, (Québec), G1V 0A6, Canada

✉ johnson.theochem@gmail.com | 🏠 johnsonlab.ca | 🐦 @johnsontheochem

Employment

Université Laval

Associate Professor / Professeur Agrégé

Québec, QC, Canada

June 2021 - present

Université Laval

Assistant Professor / Professeur Adjoint

Québec, QC, Canada

July 2016 - May 2021

Université de Lorraine

Visiting Professor

Nancy, France

May 2022 - June 2022

Education

Postdoctoral Associate

Rice University, Supervisor: Dr. Gustavo E. Scuseria

Houston, TX, USA

January 2015 - June 2016

Ph.D. in Chemistry

McMaster University, Supervisor: Dr. Paul W. Ayers

Hamilton, ON, Canada

May 2009 - December 2014

Ph.D. in Physics

Ghent University, Supervisors: Dr. Dimitri Van Neck and Dr. Patrick Bultinck

Ghent, Belgium

May 2009 - December 2014

- Awarded jointly with McMaster

B.Sc. in Chemistry, Minor in Mathematics

Carleton University

Ottawa, ON, Canada

September 2005 - April 2009

- Highest Honours GPA: 11.83/12.00

Funding

Natural Sciences and Engineering Research Council (NSERC) Discovery Grant

Universally Applicable Model Wavefunction Forms for Strong and Weak Electron Correlation in Quantum Chemistry

\$189 000

May 2017 - April 2024

Digital Research Alliance of Canada Resources for Research Groups

Model Wavefunctions for Strong and Weak Electron Correlation in Quantum Chemistry

\$51 672

April 2018 - March 2023

- High-performance computing consortium through which we apply annually for dedicated resources. The amount represents the cost to the consortium for our allocation.

Université Laval

Start-up Funding

\$102 612

July 2016 - May 2019

Sentinelle Nord

Printed solar cells for small remote instruments

\$26 390

January 2017 - March 2020

- M. Leclerc*, J.-F. Morin, **P. A. Johnson**, and S. Thibault (14% of \$188 500)

Publications

Articles

35. A. Faribault, C. Dimo, J.-D. Moisset, and **P. A. Johnson** "Reduced density matrices / static correlation functions of Richardson-Gaudin states without rapidities" *The Journal of Chemical Physics*, submitted JCP22-AR-02945.
34. O. Lessard, D. Lainé, C.-É. Fecteau, **P. A. Johnson**, and D. Giguère "Fundamental curiosity of multivincinal inter-halide stereocenters: stereoselective synthesis, conformation, and lipophilicity" *Organic Chemistry Frontiers*, submitted QO-RES-09-2022-001433.

33. **P. A. Johnson**, P. W. Ayers, S. De Baerdemacker, P. A. Limacher, and D. Van Neck “Bivariational principle for an antisymmetrized product of nonorthogonal geminals appropriate for strong electron correlation” *Computational and Theoretical Chemistry*, **2022**, 1212, 113718.
32. J.-D. Moisset, C.-É. Fecteau, and **P. A. Johnson** “Density matrices of seniority-zero geminal wavefunctions” *The Journal of Chemical Physics*, **2022**, 156, 214110. Part of 2022 JCP Emerging Investigators Special Collection, **Editor’s Pick**.
31. C.-É. Fecteau, S. Cloutier, J.-D. Moisset, J. Boulay, P. Bultinck, A. Faribault, and **P. A. Johnson** “Near-exact treatment of seniority-zero ground and excited states with a Richardson-Gaudin mean-field” *The Journal of Chemical Physics*, **2022**, 156, 194103. Part of 2022 JCP Emerging Investigators Special Collection, **Editor’s Pick**.
30. J.-D. Moisset, L. Carrier, and **P. A. Johnson** “Perturbative corrections for Hartree-Fock-like Algebraic Bethe Ansatz analogue” *Journal of Mathematical Chemistry*, **2022**, 60, 1707-1724.
29. M. Mainville, R. Ambrose, D. Fillion, I. G. Hill, M. Leclerc, and **P. A. Johnson** “Theoretical insights on optoelectronic properties of non-fullerene acceptors for the design of organic photovoltaics” *ACS Applied Energy Materials*, **2021**, 4, 11090-11100.
28. **P. A. Johnson**, H. Fortin, S. Cloutier, and C.-É. Fecteau “Transition density matrices of Richardson-Gaudin states” *The Journal of Chemical Physics*, **2021**, 154, 124125.
27. C.-É. Fecteau, F. Berthiaume, M. Khalfoun, and **P. A. Johnson** “Richardson-Gaudin geminal wavefunctions in a Slater determinant basis” *Journal of Mathematical Chemistry*, **2021**, 59, 289-301.
26. D. Lainé, V. Denavit, L. Carrier, C.-É. Fecteau, **P. A. Johnson**, and D. Giguère “Fluorine effect in nucleophilic fluorination at C-4 of 1,6-anhydro-2,3-dideoxy-difluoro- β -D-hexopyranose” *Beilstein Journal of Organic Chemistry*, **2020**, 16, 2880-2887.
25. C.-É. Fecteau, H. Fortin, S. Cloutier, and **P. A. Johnson** “Reduced density matrices of Richardson-Gaudin states in the Gaudin algebra basis” *The Journal of Chemical Physics*, **2020**, 153, 164117.
24. J. St-Gelais, É. Côté, D. Lainé, **P. A. Johnson**, and D. Giguère “Addressing the structural complexity of fluorinated glucose analogues: insight into lipophilicities and solvation effects” *Chemistry A European Journal*, **2020**, 26, 13499.
23. **P. A. Johnson**, C.-É. Fecteau, F. Berthiaume, S. Cloutier, L. Carrier, M. Gratton, P. Bultinck, S. De Baerdemacker, D. Van Neck, P. A. Limacher, and P. W. Ayers “Richardson-Gaudin mean-field for strong electron correlation in quantum chemistry” *The Journal of Chemical Physics*, **2020**, 153, 104110.
22. L. Carrier, C.-É. Fecteau, and **P. A. Johnson** “Bethe ansatz of electrons as a mean-field wavefunction for chemical systems” *International Journal of Quantum Chemistry*, **2020**, 120, e26255.
21. N. Zindy, C. Aumaitre, M. Mainville, H. Saneifar, **P. A. Johnson**, D. Bélanger, and M. Leclerc “Pyrene diimide based π -conjugated copolymer and single-walled carbon nanotube composites for lithium-ion batteries” *Chemistry of Materials*, **2019**, 31, 8764-8773.
20. F. Lirette, C. Aumaitre, C.-É. Fecteau, **P. A. Johnson**, and J.-F. Morin “Synthesis and properties of conjugated polymers based on a ladderized anthanthrene unit” *ACS Omega*, **2019**, 4, 14742-14749.
19. J. Yuan, Y. Zhang, L. Zhou, C. Zhang, T.-K. Lau, G. Zhang, X. Lu, H.-L. Yip, S. K. So, S. Beaupré, M. Mainville, **P. A. Johnson**, M. Leclerc, H. Chen, H. Peng, Y. Li, and Y. Zou “Fused benzothiadiazole: a building block for n-type organic acceptor to achieve high-performance organic solar cells” *Advanced Materials*, **2019**, 31, 1807577.
18. J. Yuan, Y. Zhang, L. Zhou, G. Zhang, H.-L. Yip, T.-K. Lau, X. Lu, C. Zhu, H. Peng, **P. A. Johnson**, M. Leclerc, Y. Cao, J. Ulanski, Y. Li, and Y. Zou “Single-junction organic solar cell with over 15% efficiency using fused-ring acceptor with electron-deficient core” *Joule*, **2019**, 3, 1140-1151.
17. V. Denavit, D. Lainé, J. St-Gelais, **P. A. Johnson**, and D. Giguère “A Chiron approach towards the stereoselective synthesis of polyfluorinated carbohydrates” *Nature Communications*, **2018**, 9, 4721.
16. J. T. Blaskovits, **P. A. Johnson**, and M. Leclerc “Mechanistic origin of β -defect formation in thiophene-based polymers prepared by direct (hetero)arylation” *Macromolecules*, **2018**, 51, 8100-8113.
15. N. Zindy, J. T. Blaskovits, C. Beaumont, J. Michaud-Valcourt, H. Saneifar, **P. A. Johnson**, D. Bélanger, and M. Leclerc “Pyromellitic diimide-based copolymers and their application as stable cathode active materials in lithium and sodium-ion batteries” *Chemistry of Materials*, **2018**, 30, 6821-6830.
14. **P. A. Johnson**, P. A. Limacher, T. D. Kim, M. Richer, R. A. Miranda-Quintana, F. Heidar-Zadeh, P. W. Ayers, P. Bultinck, S. De Baerdemacker, and D. Van Neck “Strategies for extending geminal-based wavefunctions: open shells and beyond” *Computational and Theoretical Chemistry*, **2017**, 1116, 207-219.
13. S. De Baerdemacker, V. Hellemans, R. van den Berg, J.-S. Caux, K. Heyde, M. Van Raemdonck, D. Van Neck, and **P. A. Johnson** “Probing pairing correlations in Sn isotopes using Richardson-Gaudin integrability” *Journal of Physics: Conference Series*, **2014**, 533, 012058.
12. P. Tecmer, K. Boguslawski, **P. A. Johnson**, P. A. Limacher, M. Chan, T. Verstraelen, and P. W. Ayers “Assessing the accuracy of new geminal-based approaches” *The Journal of Physical Chemistry A*, **2014**, 118, 9058-9068.
11. P. A. Limacher, T. D. Kim, P. W. Ayers, **P. A. Johnson**, S. De Baerdemacker, D. Van Neck, and P. Bultinck “The influence of orbital rotation on the energy of closed-shell wavefunctions” *Molecular Physics*, **2014**, 112, 853-862.
10. P. A. Limacher, P. W. Ayers, **P. A. Johnson**, S. De Baerdemacker, D. Van Neck, and P. Bultinck “Simple and inexpensive perturbative correction schemes for antisymmetric products of nonorthogonal geminals” *Physical Chemistry Chemical Physics*, **2014**, 16, 5061-5065.
9. K. Boguslawski, P. Tecmer, P. A. Limacher, **P. A. Johnson**, P. W. Ayers, P. Bultinck, S. De Baerdemacker, and D. Van Neck “Projected seniority-two orbital optimization of the antisymmetric product of one-reference orbital geminals” *The Journal of Chemical Physics*, **2014**, 140, 214114.
8. P. A. Limacher, P. W. Ayers, **P. A. Johnson**, S. De Baerdemacker, D. Van Neck, and P. Bultinck “A new mean-field method suitable for strongly-correlated electrons: computationally facile antisymmetric products of nonorthogonal geminals” *Journal of Chemical Theory and Computation*, **2013**, 9, 1394-1401.

7. **P. A. Johnson**, P. W. Ayers, P. A. Limacher, S. De Baerdemacker, D. Van Neck, and P. Bultinck “A size-consistent approach to strongly correlated system using a generalized antisymmetrized product of nonorthogonal geminals” *Computational and Theoretical Chemistry*, **2013**, 1003, 101-113.
6. **P. A. Johnson**, P. W. Ayers, B. Verstichel, D. Van Neck, and H. van Aggelen “The sharp-G N-representability condition” *Computational and Theoretical Chemistry*, **2013**, 1003, 32-36.
5. P. Bultinck, C. Cardenas, P. Fuentealba, **P. A. Johnson**, and P. W. Ayers “How to compute the Fukui matrix and function for systems with (quasi-) degenerate states” *Journal of Chemical Theory and Computation*, **2013**, 10, 202-210.
4. P. Bultinck, C. Cardenas, P. Fuentealba, **P. A. Johnson**, and P. W. Ayers “Atomic charges and the electrostatic potential are ill-defined in degenerate ground states” *Journal of Chemical Theory and Computation*, **2013**, 9, 4779-4788.
3. P. S. Billone, **P. A. Johnson**, S. Lin, J. C. Scaiano, G. A. DiLabio, and K. U. Ingold “Accurate O-H bond dissociation energy differences of hydroxylamines determined by EPR spectroscopy: computational insight into stereoelectronic effects on BDEs and EPR spectral parameters” *The Journal of Organic Chemistry*, **2011**, 76, 631-636.
2. Y. A. Wasslen, A. Kurek, **P. A. Johnson**, T. C. Pigeon, W. H. Monillas, G. P. A. Yap, and S. T. Barry “Heteroleptic iminopyrrolidines of aluminium” *Dalton Transactions*, **2010**, 39, 9046-9054.
1. J. P. Coyle, **P. A. Johnson**, G. A. DiLabio, S. T. Barry, and J. Müller “Gas-phase thermolysis of a guanidinate precursor of copper studied by matrix isolation, time-of-flight mass spectrometry, and computational chemistry” *Inorganic Chemistry*, **2010**, 49, 2844-2850.

Book Chapters

1. **P. A. Johnson**, L. J. Bartolotti, P. W. Ayers, T. Fievez, and P. Geerlings, “Charge density and chemical reactivity: a unified view from conceptual DFT” in *Modern Charge Density Analysis*, C. Gatti and P. Macchi Eds., Springer: New York, **2012**.

Presentations

Invited

- 12th Triennial Congress of the World Association of Theoretical and Computational Chemists, Vancouver, Canada 5 July 2022
- International Conference on Reduced Density Matrix Theory for Quantum Many-Fermion Systems, Donostia, Spain 15 June 2022
- Laboratoire de Physique et Chimie Théoriques, Université de Lorraine, Nancy, France 1 June 2022
- Chemical Institute of Canada, Physical Theoretical and Computational Seminar, Online 22 February 2022
- McMaster Chemistry Graduate Student Society Summer Series, McMaster University, Hamilton, Canada 5 July 2021
- Theoretical Physics Institute Seminar, University of Alberta, Edmonton, Canada 25 March 2021
- Chemistry Department Seminar, Dalhousie University, Halifax, Canada 19 March 2021
- Webinaire du CERMA, Université Laval, Québec, Canada 15 October 2020
- Café Scientifique, Université Laval, Québec, Canada 26 November 2019
- XLV Congrès des Chimistes Théoriciens d'Expression Latine (CHITEL), Montréal, Canada 26 August 2019
- 28th Canadian Symposium on Theoretical and Computational Chemistry, Windsor, Canada 17 July 2018
- Center for Molecular Modelling Seminar, Ghent University, Ghent, Belgium 27 June 2018
- Chemistry Department Seminar, Concordia University, Montréal, Canada 6 April 2018
- 22nd International Workshop on Quantum System in Chemistry, Physics and Biology, Changsha, China 18 October 2017
- Café Scientifique, Université Laval, Québec, Canada 10 October 2017
- 100th Canadian Chemistry Conference and Exhibition, Toronto, Canada 30 May 2017
- Quantum Theory Project Seminar, University of Florida, Gainesville, USA 17 May 2017
- Chemical Physics Theory Group Seminar, University of Toronto, Toronto, Canada 3 October 2014
- Laboratoire J. A. Dieudonné Seminar, Université de Nice Sophia Antipolis, Nice, France 18 April 2014
- Scuseria Research Group Seminar, Rice University, Houston, USA 3 March 2014
- Methods for Modelling Molecules and Materials, McMaster University, Hamilton, Canada 17 December 2013
- Center for Molecular Modelling “Canada Days” Meeting, Ghent University, Ghent, Belgium 25 November 2013
- Theoretical Chemistry Group Seminar, Ruhr-Universität Bochum, Bochum, Germany 16 October 2013
- Center for Molecular Modelling Seminar, Ghent University, Ghent, Belgium 17 September 2013
- Theoretical Chemistry Seminar, Vrije Universiteit Amsterdam, Amsterdam, The Netherlands 13 April 2012
- Theoretical Chemistry Research Group Seminar, ETH Zürich, Zürich, Switzerland 8 November 2011
- Theoretical Chemistry Laboratory Seminar, Université de Pierre et Marie Curie, Paris, France 24 October 2011
- Center for Molecular Modelling Seminar, Ghent University, Ghent, Belgium 14 October 2011

Contributed

- ACS Spring 2022 (Hybrid), San Diego, USA 24 March 2022
- International Symposium on Correlated Electrons Virtual Meeting, Online 6 October 2021
- IUPAC Canadian Chemistry Conference and Exhibition 2021 Virtual Meeting, Online 13 August 2021
- 257th ACS National Meeting, Orlando, USA 2 April 2019
- 255th ACS National Meeting, New Orleans, USA 21 March 2018
- 33rd Symposium on Chemical Physics, Waterloo, Canada 4 November 2017
- 28th Symposium on Chemical Physics, Waterloo, Canada 3 November 2012

- CREST 2012, McMaster University, Hamilton, Canada 3 March 2012
- 14th Density Functional Theory Conference, Athens, Greece 30 August 2011
- 28th Annual Graduate Student Symposium, University at Buffalo, Buffalo, USA 13 May 2010
- 42nd Inorganic Discussion Weekend, University of Guelph, Guelph, Canada 28 November 2009
- 92nd Canadian Chemistry Conference and Exhibition, Hamilton, Canada 1 June 2009
- Ottawa-Carleton Chemistry Nanochemistry Workshop, Carleton University, Ottawa, Canada 19 February 2009

Posters

- 35th Symposium on Chemical Physics, Waterloo, Canada 2 November 2019
- 34th Symposium on Chemical Physics, Waterloo, Canada 3 November 2018
- Low-scaling and Unconventional Electronic Structure Techniques, Telluride, USA 4 June 2014
- 8th Mathematical Methods for Ab Initio Quantum Chemistry, Université de Nice Sophia Antipolis, Nice, France 7 November 2013
- 25th Canadian Symposium on Theoretical and Computational Chemistry, Guelph, Canada 26 July 2012
- Challenges in Density Matrix and Density Functional Theory, Ghent, Belgium 5 April 2012
- 26th Symposium on Chemical Physics, Waterloo, Canada 6 November 2010
- 93rd Canadian Chemistry Conference and Exhibition, Toronto, Canada 30 May 2010
- 93rd Canadian Chemistry Conference and Exhibition, Toronto, Canada 30 May 2010
- Undergraduate Student Research Award Poster Session, McMaster University, Hamilton, Canada 11 November 2009
- 25th Symposium on Chemical Physics, Waterloo, Canada 7 November 2009
- Rising Stars of Research, University of British Columbia, Vancouver, Canada 20 August 2009
- Research Day, Carleton University, Ottawa, Canada 7 April 2009
- 41st Inorganic Discussion Weekend, Brock University, St. Catherines, Canada 29 November 2008

Supervision

Graduate Students

- Tristan Marcoux: M.Sc. Student in Chemistry (principal supervisor Mario Leclerc) May 2022 - Present
- Jérémy Boulay: Ph.D. Student in Physics January 2021 - Present
- Jean-David Moisset: M.Sc. Student in Physics September 2020 - Present
- Mathieu Mainville: Ph.D. Student in Chemistry (principal supervisor Mario Leclerc) May 2019 - Present
- Charles-Émile Fecteau: Ph.D. Student in Chemistry May 2019 - Present
- Jacob Terence Blaskovits: M.Sc. Student in Chemistry (principal supervisor Mario Leclerc) September 2016 - December 2018

Undergraduate Students

- Marc-Antoine Plourde: B.Sc. Student in Physics May 2022 - August 2022
- Emile Baril: B.Sc. Student in Physics May 2022 - August 2022
- Meriem Khalfoun: B.Sc. Student in Physics May 2020 - August 2020
- Daniel Fillion: B.Sc. Student in Chemistry May 2020 - August 2020
- Hubert Fortin: B.Sc. Student in Physics May 2020 - August 2020
- Jean-David Moisset: B.Sc. Student in Physics May 2020 - August 2020
- Samuel Cloutier: B.Sc. Student in Mathematics and Computer Science May 2019 - January 2022
- Laurie Carrier: B.Sc. Student in Chemistry May 2019 - December 2019
- Marianne Gratton: B.Sc. Student in Physics May 2019 - August 2019
- Frédéric Berthiaume: B.Sc. Student in Physics May 2019 - August 2019
- William Rouleau: B.Sc. Student in Chemistry May 2018 - August 2018
- Charles-Émile Fecteau: B.Sc. Student in Chemistry May 2017 - April 2019
- Abdul Shehata: B.Sc. Student in Chemical Engineering September 2010 - April 2011
- Marie Yan: B.Sc. Student in Health Sciences May 2010 - August 2010

Student Scholarships

- Emile Baril: NSERC Undergraduate Student Research Award May 2022 - August 2022
- Samuel Cloutier: NSERC Undergraduate Student Research Award May 2021 - August 2021
- Charles-Émile Fecteau: Vanier Canada Graduate Scholarship May 2021 - April 2024
- Charles-Émile Fecteau: NSERC Michael Smith Foreign Study Supplement March 2020 - September 2020
- Samuel Cloutier: NSERC Undergraduate Student Research Award May 2020 - August 2020
- Daniel Fillion: NSERC Undergraduate Student Research Award May 2020 - August 2020
- Samuel Cloutier: NSERC Undergraduate Student Research Award May 2019 - August 2019
- Laurie Carrier: NSERC Undergraduate Student Research Award May 2021 - August 2021
- Charles-Émile Fecteau: FRQNT master's training scholarship May 2019 - April 2021
- Charles-Émile Fecteau: NSERC Canada Graduate Scholarship - M May 2019 - April 2020

- Charles-Émile Fecteau: NSERC Undergraduate Student Research Award *May 2018 - August 2018*
- Charles-Émile Fecteau: NSERC Undergraduate Student Research Award *May 2017 - August 2017*
- Jacob Terence Blaskovits: Richard J. Schmeelk Fellowship *September 2017 - August 2018*

Student Poster Presentations

- Samuel Cloutier: 35th Symposium on Chemical Physics, Waterloo, Canada *2 November 2019*
- Laurie Carrier: 35th Symposium on Chemical Physics, Waterloo, Canada *2 November 2019*
- Charles-Émile Fecteau: 35th Symposium on Chemical Physics, Waterloo, Canada *2 November 2019*
- Marianne Gratton: 12e soirée des affiches du département de chimie, Université Laval, Québec, Canada *26 September 2019*
- Samuel Cloutier: 12e soirée des affiches du département de chimie, Université Laval, Québec, Canada *26 September 2019*
- Laurie Carrier: 12e soirée des affiches du département de chimie, Université Laval, Québec, Canada *26 September 2019*
- Frédéric Berthiaume: 12e soirée des affiches du département de chimie, Université Laval, Québec, Canada *26 September 2019*
- Charles-Émile Fecteau: 102nd Canadian Chemistry Conference and Exhibition, Québec, Canada, *6 June 2019*
- Charles-Émile Fecteau: 34th Symposium on Chemical Physics, Waterloo, Canada *3 November 2018*
- Charles-Émile Fecteau: 11e soirée des affiches du département de chimie, Université Laval, Québec, Canada *26 September 2018*
- William Rouleau: 11e soirée des affiches du département de chimie, Université Laval, Québec, Canada *26 September 2018*
- Charles-Émile Fecteau: 10e soirée des affiches du département de chimie, Université Laval, Québec, Canada *23 November 2017*

Awards

Distinctions

- Professeur Étoile, CHM 1004: Thermodynamics and Chemical Kinetics *2019-2020*
- Professeur Étoile, CHM 1004: Thermodynamics and Chemical Kinetics *2020-2021*
- McMaster Ontario Graduate Scholarship in Science *September 2009 - August 2010*
- University Medal - Science, Carleton University *June 2009*
- Society of Chemical Industry Award, Carleton University *2008 - 2009*
- The Canadian Society for Chemistry Medal, Carleton University *2007 - 2008*
- Dean's Honour List, Carleton University *2005 - 2006 through 2008 - 2009*

Graduate Scholarships

- McMaster School of Graduate Studies Grant in Aid of Travel Research *June 2013 - November 2013*
- Russell Bell Travel Award for International Conferences *April 2012*
- Russell Bell Travel Award for International Conferences *August 2011*
- NSERC Alexander Graham Bell Canada Graduate Scholarship - D3 (DECLINED) *September 2011 - August 2014*
- Vanier Canada Graduate Scholarship *May 2011 - April 2014*
- NSERC Michael Smith Foreign Study Supplement *June 2011 - November 2011*
- NSERC Alexander Graham Bell Canada Graduate Scholarship - M *September 2010 - April 2011*
- Ontario Graduate Scholarship - M (DECLINED) *September 2010 - August 2011*
- Ontario Graduate Scholarship - M *September 2009 - August 2010*
- Sun Microsystems of Canada Scholarship in Computational Sciences and Engineering (DECLINED) *September 2009 - August 2010*

Undergraduate Scholarships

- NSERC Undergraduate Student Research Award, McMaster University *May 2009 - August 2009*
- NSERC Undergraduate Student Research Award, Queen's University (DECLINED) *May 2009 - August 2009*
- Chalmers Jack Mackenzie Memorial Scholarship, Carleton University *September 2008 - April 2009*
- Janet M. Holmes Memorial Scholarship, Carleton University *September 2008 - April 2009*
- Henry Marshall Tory Scholarship, Carleton University *September 2007 - April 2008*
- NSERC Undergraduate Student Research Award, Carleton University *May 2008 - August 2008*
- Geoff Wightman Award in Chemistry, Carleton University *September 2007 - April 2008*
- E. Allison Flood Award in Physical Chemistry, Carleton University *September 2007 - April 2008*
- NSERC Undergraduate Student Research Award, Carleton University *May 2007 - August 2007*
- Ottawa Ladies College Scholarship, Carleton University *September 2006 - April 2007*
- Donald R. Wiles Scholarship in Chemistry, Carleton University *September 2006 - April 2007*
- President's Scholarship, Carleton University *September 2005 - April 2006*

Activities

Teaching

- CHM 1004: Thermodynamics and Chemical Kinetics *January 2018 - Present*

- CHM 3001: Quantum Chemistry and Applications in Spectroscopy
- CHM 7055: Introduction to Density Functional Theory

January 2018 - Present
September 2017 - Present

Internal Activities

- Faculty of Science and Engineering Scholarship Committee
- Graduate Program Committee
- Substitute President for Doctoral Examinations and Thesis Defenses
- Graduate Student Seminar Evaluation Committee (Fall)

September 2020 - Present
September 2019 - Present
September 2019 - September 2021
September 2016 - January 2020

Symposia

- Advances in Theoretical and Computational Chemistry, CSC 2023, Vancouver, Canada
- Electronic Structure Theory: New Models and Challenging Applications, 102nd CCCE, Québec, Canada

4 - 8 June 2023
3 - 7 June 2019

Refereeing

- International journals including in particular *The Journal of Chemical Physics* and *Journal of Chemical Theory and Computation*
- Funding agencies including the European Research Council, NSERC, and the Fonds de recherche du Québec Nature et technologies

Outreach

- Developed module “Python Scripting + Machine Learning in Computational Chemistry” for the pan-Canadian Computational Chemistry Program

Languages

English Native

French Fluent