

# Curriculum Vitae

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## 1 Academic History

1. Associate Professor, Dalhousie University, Halifax ..... 2023–
2. Assistant Professor, Dalhousie University, Halifax ..... 2018–2023
3. PDF, Douglas Stephan Group, University of Toronto, Toronto ..... 2017–2018
4. PDF, Ian Manners Group, University of Bristol, Bristol ..... 2015–2017
5. PhD (*summa cum laude*), Neil Burford Group, University of Victoria, Victoria ..... 2010–2015
6. BSc (*summa cum laude*), Gary Schrobilgen, McMaster University, Hamilton ..... 2006–2010

## 2 Honours

1. Alfred P. Sloan Foundation Fellowship (International) ..... 2023
2. CNC-IUPAC Travel Award (National) ..... 2023
3. Dalhousie Faculty of Science Killam Prize (University) ..... 2023
4. Co-Chair of the NSERC CREATE Selection Committee ..... 2022–2023
5. Canadian Society for Chemistry Working for Inclusion, Diversity, Equity Spotlight (National) ..... 2022
6. Dalhousie President's Research Excellence Award - Early Career (University) ..... 2021
7. Profiled in Chemical Communications 'Emerging Investigators' Issue (International) ..... 2020
8. Invited to Dalton Transactions 'New Talent: Americas' Issue (International) ..... 2020
9. Lindau Nobel Laureate Meeting Participant (National) ..... 2017
10. Governor General's Gold Medal (University) ..... 2017
11. York Postdoctoral Fellowship (Offer Declined, University) ..... 2017–2019
12. Banting Postdoctoral Fellowship (National) ..... 2015–2017
13. NSERC Postdoctoral Fellowship (Replaced by Banting, see above, National) ..... 2015–2017
14. Donald Wagg Graduate Scholarship (University) ..... 2013
15. Dr. Julius F. Schleicher Graduate Scholarship (University) ..... 2014
16. Department of Chemistry - Outreach Award (University) ..... 2012
17. Vanier Canada Graduate Scholarship (National) ..... 2012–2015
18. NSERC Canada Graduate Scholarship - D3 (Replaced by Vanier, see above, National) ..... 2012–2015
19. NSERC Canada Graduate Scholarship - M (National) ..... 2011
20. Ontario Graduate Scholarship (Offer Declined, Provincial) ..... 2011

### 3 Publications

(\* corresponding author, † undergraduate author, ∇ Journal Impact Factor > 15)

1. T. J. Hannah, W. M. McCarvell,† T. Kirsch,† T. Hynes, J. Mayho,† K. Bamford, C. Vos, C. M. Kozak, T. George, J. D. Masuda, and S. S. Chitnis,\* 'Planar Bismuth Triamides: A Tunable Platform for Main Group Lewis Acidity and Polymerization Catalysis', *Chem. Sci.*, **2023**, In Press. (Full Article)
2. J. Bedard, T. G. Linfood-Wood, B. C. Thompson, U. Werner-Zwanziger, K. M. Marczenko, R. A. Musgrave, S. S. Chitnis,\* 'A Robust, Divalent, Phosphaza-bicyclo[2.2.2]octane Connector Provides Access to Cage-dense Inorganic Polymers and Networks', *J. Am. Chem. Soc.*, **2023**, In Press. (Full Paper)<sup>∇</sup>  
N. L. Oldroyd, S. S. Chitnis, E. A. LaPierre, V. T. Annibale, H. T. G. Walsgrove, D. P. Gates, and I. Manners\*, 'Ambient Temperature Carbene-Mediated Depolymerization: Stoichiometric and Catalytic Reactions of N-Heterocyclic- and Cyclic(Alkyl)Amino Carbenes with Poly(N-Methylaminoborane) [MeNH-BH<sub>2</sub>]<sub>n</sub>', *J. Am. Chem. Soc.*, **2022**, *144*, 23179–23190. (Full Paper)<sup>∇</sup>
3. Saurabh S. Chitnis,\* Jason Dutton,\* Caleb Martin,\* Rebecca Melen,\* 'Are elemental analysis guidelines appropriate?', *ChemistryWorld*, **2022**, September 28, 2022. (Magazine Article, *Invited Opinion Piece*)
4. T. Hynes, J. D. Masuda, and S. S. Chitnis,\* 'Mesomeric Tuning at Planar Bi centres: Unexpected Dimerization and Benzyl C-H Activation in [CN<sub>2</sub>]Bi Complexes', *ChemPlusChem*, **2022**, *87*, e202200244. (Full Paper, *Invited contribution to the Pnictogen Elements Chemistry Special Issue*)
5. N. J. Roberts,† E. R. Johnson,\* and S. S. Chitnis,\* 'Dispersion stabilizes metal-metal bonds in the 1,8-bis(silylamido) naphthalene ligand environment', *Organometallics*, **2022**, *41*, 2180–2187. (Full Paper)
6. J. Bedard, N. J. Roberts,† M. Shayan, K. Bamford, U. Werner-Zwanziger, K. Marczenko, S. S. Chitnis,\* '(PNSiMe<sub>3</sub>)<sub>4</sub> (NMe)<sub>6</sub>: A Robust Tetravalent Phosphaza-adamantane Scaffold for Molecular and Macromolecular Construction', *Angew. Chem. Int. Ed.*, **2022**, *61*, e202204851. (Full Paper, *Highlighted in ChemistryViews Magazine*)<sup>∇</sup>
7. R. E. H. Kuveke, L. Barwise, Y. van Ingen, K. Vashisth, N. J. Roberts,† S. S. Chitnis,\* J. L. Dutton,\* C. D. Martin,\* R. L. Melen,\* 'An International Study Evaluating Elemental Analysis', *ACS Cent. Sci.*, **2022**, *8*, 855–863. (Full Paper, *'In Focus' Article, Highlighted in 'First Reactions', Top 10 Most Read Articles of the Year, Highlighted in Science Magazine's In the Pipeline Blog, Highlighted in ChemistryWorld, Upcoming Highlight in C&E News*)<sup>∇</sup>
8. T. Hynes, S. S. Chitnis,\* 'Antimony and Bismuth Complexes in Organic Synthesis', *Comp. Organomet. Chem.*, Elsevier Science Reference Book, **2020**, In Press. (Book Chapter, *Invited Contribution*)
9. K. M. Marczenko, S. S. Chitnis\*, 'Aminobismuthination of CO<sub>2</sub>', *ChemRxiv*, **2021**, Preprint. (Communication)
10. J. W. M. MacMillan,† K. M. Marczenko, E. R. Johnson,\* S. S. Chitnis,\* 'Hydrostibination of acetylenes: A radical mechanism', *Chem. Eur. J.*, **2020**, *26*, 17134–17142. (Full Paper, *Selected by Editors as 'Hot Paper'*)
11. K. M. Marczenko, S. S. Chitnis\*, 'Bismuthanylstibanes', *Chem. Commun.*, **2020**, *56*, 8015–8018. (Communication, *Invited contribution to the 2020 Emerging Investigators Issue & Journal Cover*)
12. K. M. Marczenko, S. Jee,† S. S. Chitnis, 'High Lewis acidity at planar, trivalent, neutral, bismuth centres', *Organometallics*, **2020**, *39*, 4287–4296. (Full Paper, *Invited contribution to the 2020 Main Group Elements special issue*)
13. M. W. Drover,\* S. S. Chitnis,\* 'So you want to develop a virtual lecture series? Lessons learned from the Global Inorganic Discussion Weekday (GIDW) – a Canadian initiative', *Can. J. Chem.*, **2020**, *98*, 737–740. (Full Paper, *Invited Perspective*)

14. M. B. Kindervater, T. Hynes,<sup>†</sup> K. M. Marczenko, S. S. Chitnis\*, 'Squeezing Bi: PNP and P<sub>2</sub>N<sub>3</sub> Pincer Complexes of Bismuth(III)', *Dalton Trans.*, **2020**, 46, 16072–16076. (Communication, *Invited contribution to the 2020 New Talent: Americas Issue*)
15. K. M. Marczenko, J. A. Zurakowski,<sup>†</sup> K. L. Bamford, J. W. M. MacMillan,<sup>†</sup> S. S. Chitnis\*, 'Hydrostibination', *Angew. Chem. Int. Ed.*, **2019**, 58, 18096-18101. (Full Paper, *Highlighted in Nachrichten aus der Chemie*)<sup>∇</sup>
16. K. M. Marczenko, J. A. Zurakowski,<sup>†</sup> M. B. Kindervater, S. Jee,<sup>†</sup> T. Hynes,<sup>†</sup> N. J. Roberts,<sup>†</sup> S. Park,<sup>†</sup> U. Werner-Zwanziger, M. Lumsden, D. N. Langelaan, S. S. Chitnis\*, 'Periodicity in Structure, Bonding, and Reactivity for P-Block Complexes of a Geometry-Constraining Triamide Ligand', *Chem. Eur. J.*, **2019**, 25, 16414-16424. (Full Paper)
17. K. M. Marczenko, C. L. Johnson,<sup>†</sup> S. S. Chitnis\*, 'Synthesis of a Perfluorinated Phenoxyphosphorane and Conversion to its Hexacoordinate Anions', *Chem. Eur. J.*, **2019**, 25, 8865-8874. (Full Paper)
18. M. Kindervater, K. M. Marczenko, U. Werner-Zwanziger, S. S. Chitnis\*, 'A redox-confused Bi<sup>(I/III)</sup> tris-amide with a T-shaped planar ground state', *Angew. Chem. Int. Ed.*, **2019**, 58, 7850-7855. (Communication, *Highlighted in Nachrichten aus der Chemie Review*)<sup>∇</sup>
19. D. A. Resendiz-Lara, V. T. Annibale, A. W. Knights, S. S. Chitnis, and Ian Manners\*, 'High Molar Mass Poly (alkylphosphinoboranes) via Iron-Catalyzed Dehydropolymerization', *Macromolecules*, **2021**, 54, 71.
20. N. Oldroyd, S. S. Chitnis, V. T. Annibale, M. Arz, H. A. Sparkes, I. Manners, 'Metal-free dehydropolymerisation of phosphine-boranes using cyclic (alkyl)(amino)carbenes as hydrogen acceptors', *Nature Comm.*, **2019**, 10, 1370.
21. M. Xu, A. R. Jupp, M. S. E. Ong, K. I. Burton, S. S. Chitnis, D. W. Stephan, 'Synthesis of Urea Derivatives from CO<sub>2</sub> and Silylamines', *Angew. Chem. Int. Ed.*, **2019**, 58, 5707-5711.
22. A. Knights, S. S. Chitnis, I. Manners, 'Photolytic, Radical-Mediated Hydrophosphination: A Convenient Post-Polymerisation Modification Route to P-Di(organosubstituted) Polyphosphinoboranes [RR'PBH<sub>2</sub>]<sub>n</sub>', *Chem. Sci.*, **2019**, 10, 7281-7289.
23. A. Waked, S. S. Chitnis, D. Stephan, 'P(V) Dications: Carbon-based Lewis acid initiators for Hydrodefluorination', *Chem. Commun.*, **2019**, 55, 8971-8974.
24. R. J. Andrews, S. S. Chitnis, D. W. Stephan, 'Carbonyl and olefin hydrosilylation mediated by an air-stable phosphorus(III) dication under mild conditions', *Chem. Commun.*, **2019**, 55, 5599-5602.
25. S. S. Chitnis, J. H. W. LaFortune, H. Cummings, L. L. Liu, R. Andrews, D. W. Stephan, 'Phosphorus Coordination Chemistry in Catalysis: Air Stable P(III) Dications as Lewis Acids for the Allylation of C-F Bonds', *Organometallics*, **2018**, 37, 4540-4544. (Cover Article)
26. S. S. Chitnis, F. Krischer, D. W. Stephan, 'Catalytic hydrodefluorination of C–F bonds by an air-stable P(III) Lewis acid', *Chem. Eur. J.*, **2018**, 24, 6543-6546.
27. K. Bamford, S. S. Chitnis, Z. Qu, D. W. Stephan, 'Interactions of CF Bonds with Hydridoboranes: Reduction, Borylation and Friedel–Crafts Alkylation', *Chem. Eur. J.*, **2018**, 24, 16014-16018.
28. L. Wu, S. S. Chitnis, J. Haijun, V. T. Annibale, I. Manners, 'Non-Metal Catalysed Heterodehydrocoupling of Phosphines and Hydrosilanes: Mechanistic Studies of B(C<sub>6</sub>F<sub>5</sub>)<sub>3</sub>-Mediated Formation of P-Si Bonds', *J. Am. Chem. Soc.*, **2017**, 139, 16780-16790.
29. S. S. Chitnis, H. A. Sparkes, N. E. Pridmore, V. T. Annibale, A. M. Oliver and I. Manners, 'Addition of a Cyclophosphine to Nitriles: An Inorganic 'Click' Reaction Featuring Protio-, Organo-, and Main Group Catalysis', *Angew. Chem. Int. Ed.*, **2017**, 56, 9536-9540. (*Highlighted in CEN. Highlighted in SYNFACTS*).
30. S. S. Chitnis, R. A. Musgrave, H. A. Sparkes, N. E. Pridmore, V. T. Annibale, and I. Manners, 'Influence of Ring Strain and Bond Polarization on the Ring Expansion of Phosphorus Homocycles', *Inorg. Chem.*, **2017**, 56, 4521-4537

31. S. S. Chitnis, K. Vos, N. Burford, R. McDonald, and M. J. Ferguson, 'Distinction Between Coordination and Phosphine Ligand Oxidation: Interactions of Di- and Tri-phosphines with  $Pn^{3+}$  ( $Pn = P, As, Sb, Bi$ )', Chem. Commun., **2016**, 685-688.
32. K. L. Bamford, S. S. Chitnis, R. L. Stoddard, J. S. McIndoe, and N. Burford, 'Bond Fission in Monocations: Diverse Fragmentation Pathways for Phosphinophosphonium Cations', Chem. Sci., **2016**, 7, 2544-2552.
33. S. Yogendra, S. S. Chitnis, F. Hennersdorf, M. Bodensteiner, R. Fischer, N. Burford, and J. J. Weigand, 'Condensation Reactions of Chlorophosphanes with Chalcogenides', Inorg. Chem., **2016**, 55, 1854-1860.
34. A. P. M. Robertson, S. S. Chitnis, S. Chhina, H. J. Cortes, B. O. Patrick, H. A. Jenkins, and N. Burford, 'Complexes of Trimethylsilyl Trifluoromethanesulfonate with Nitrogen, Oxygen and Phosphorus Donors', Can. J. Chem., **2016**, 94, 424-429.
35. S. S. Chitnis, A. P. M. Robertson, N. Burford, B. O. Patrick, R. McDonald, and M. J. Ferguson, 'Bipyridine Complexes of  $E^{3+}$  ( $E = P, As, Sb, Bi$ ): Strong Lewis Acids, Sources of  $E(OTf)_3$  and Synthons for  $E^I$  and  $E^V$  Cations', Chem. Sci., **2015**, 6, 6545-6555.
36. S. S. Chitnis, N. Burford, J. J. Weigand, and R. McDonald, 'Reductive Catenation of Phosphine-Antimony Complexes', Angew. Chem. Int. Ed., **2015**, 54, 7828-7832.
37. S. S. Chitnis, A. P. M. Robertson, N. Burford, J. J. Weigand, and R. Fischer, 'Synthesis and Reactivity of *Cyclo*-tetra (stibinophosphonium) Tetracations: Redox and Coordination Chemistry of Phosphine-Antimony Complexes', Chem. Sci., **2015**, 6, 2559-2574.
38. A. P. M. Robertson, S. S. Chitnis, H. Jenkins, R. McDonald, M. J. Ferguson, and N. Burford, 'Establishing the Coordination Chemistry of Antimony(V) Cations: Systematic Assessment of  $Ph_4Sb(OTf)$  and  $Ph_3Sb(OTf)_2$  as Lewis Acceptors', Chem. Eur. J., **2015**, 21, 7902-7913.
39. S. S. Chitnis, and N. Burford, 'Phosphine complexes of lone-pair bearing acceptors', Dalton Trans., **2015**, 44, 17-29.
40. S. S. Chitnis, M. Whalen, and N. Burford, 'Influence of Charge and Coordination Number on Bond Dissociation Energies, Distances and Vibrational Frequencies for the Phosphorus-Phosphorus Bond', J. Am. Chem. Soc., **2014**, 136, 12498-12506.
41. S. S. Chitnis, N. Burford, R. McDonald, and M. J. Ferguson, 'Prototypical Phosphine Complexes of Antimony(III)', Inorg. Chem., 2014, 53, 5359-5372.
42. S. S. Chitnis, N. Burford, A. Decken, and M. J. Ferguson, 'Coordination Complexes of Bismuth Triflates with THF and Diphosphine Ligands', Inorg. Chem., **2013**, 52, 7242-7248.
43. S. S. Chitnis, Y-Y. Carpenter, N. Burford, R. McDonald and M. J. Ferguson, 'Assembly of a *cyclo*-tetrastibino- tetraphosphonium Tetracation by Reductive Elimination', Angew. Chem. Int. Ed., **2013**, 52, 4863-4866.
44. S. S. Chitnis, N. Burford, and M. J. Ferguson, '2,2-Bipyridine Complexes of Antimony: Sequential Fluoride Ion Abstraction from  $SbF_3$  by Exploiting the Fluoride Ion Affinity of  $Me_3Si^+$ ', Angew. Chem. Int. Ed., **2013**, 52, 2042-2045.
45. E. MacDonald, L. Doyle, S. S. Chitnis, U. Werner-Zwanziger, N. Burford, and A. Decken, ' $Me_3P$  Complexes of P-block Lewis Acids  $SnCl_4$ ,  $[SnCl_3]^{1+}$ , and  $[SnCl_2]^{2+}$ ', Chem. Commun., **2012**, 48, 7922-7924.
46. S. S. Chitnis, E. MacDonald, N. Burford, U. Werner-Zwanziger, and R. McDonald, 'P-P Menshutkin Preparation of Prototypical Phosphinophosphonium Salts', Chem. Commun., **2012**, 48, 7359-7361.
47. S. S. Chitnis, B. Peters, E. Conrad, N. Burford, R. McDonald, and M. J. Ferguson, 'Structural Diversity for Phosphine Complexes of Stibenium and Stibinidenium Cations', Chem. Commun., **2011**, 47, 12331-12333.
48. F. Lollmahomed, W. J. Leigh, L. A. Huck, S. S. Chitnis, and C. R. Harrington, 'Time-Resolved Spectroscopic Studies of the Reactivities of Transient Germylenes in Methanol and Tetrahydrofuran Solution', Organometallics, **2009**, 28, 1484-1494.

## 4 Presentations

1. 'The new chemistry of old PN cages' – RSC Dalton Conference, April 18, **2023**, Coventry. (Invited talk, Plenary Speaker)
2. 'The new chemistry of old PN cages' – University of Birmingham, April 17, **2023**, Birmingham. (Invited talk)
3. 'Exploring the 'bonding via antibonding orbitals' concept using geometrically constrained phosphonium cations' – American Chemical Society Fall Meeting, **2022**, Chicago. (Invited talk at the 'F. A. Cotton Award' Symposium)
4. 'Exploring Flatland at Bi: NNN and NCN ligand complexes of Bi(III) centres' – American Chemical Society Fall Meeting, **2022**, Chicago. (Invited talk at the 'International Crossroads of Organometallic and Group V Chemistry' Symposium)
5. 'PN Cages as modular synthons for inorganic macromolecule synthesis' – American Chemical Society Fall Meeting, **2022**, Chicago. (Invited talk at the 'Mark Scholar Young Award' Symposium)
6. '1,8-bis(silylamido)naphthalenes: tunable dianionic ligands for new structures and reactivity in main group chemistry' – Canadian Chemistry Conference and Exhibition, **2022**, Calgary. (Invited talk at the Ligand Design Symposium)
7. 'Geometrical control of main-group element reactivity and molecular and macromolecular scales' – University of Calgary, April 8, **2022**, Calgary. (Invited talk)
8. 'Geometric control of main-group element reactivity at the molecular and macromolecular scales' – University of Toronto, Jan 14, **2022**. (Invited talk)
9. 'Geometric control of main-group element reactivity at the molecular and macromolecular scales' – University of British Columbia, Nov 10, **2021**. (Invited talk)
10. 'Geometric control of main-group element reactivity at the molecular and macromolecular scales' – Simon Fraser University, Nov 9, **2021**. (Invited talk)
11. 'Geometric control of main-group element reactivity at the molecular and macromolecular scales' – University of Victoria, Nov 8, **2021**. (Invited talk)
12. 'Phosphorus-nitrogen cages as platforms for geometrically unique polymers and materials' – Mt. Allison University, Sept 29 **2021**, Halifax. (Invited talk)
13. 'Hydrostibination – Discovery, Mechanism, & Application' – Canadian Chemistry Conference and Exhibition, Aug 18, **2021**, Montreal. (Invited talk at the Main Group Symposium)
14. 'Functional molecules and materials via geometric thinking' – Dalhousie Belong Speaker Series: Breaking Barriers, Aug 13, **2021**, Halifax. (Invited talk)
15. 'Geometric design of main group element catalysts and materials' – McMaster University, July 7, **2021**, Hamilton. (Invited talk)
16. 'Heavy p-block hydrides: Taming the Sb-H bond for new reactivity and catalysis' – Tel Aviv University, Oct 25, **2020**. (Invited talk)
17. 'Distant Cousins - Exploring the Group 13/15 Diagonal Relationship' – McGill University, Sept 20, **2020**. (Invited talk)
18. 'Geometric tuning of electronic structure, reactivity, and bonding at Bi and Sb centres' – Main Group Seminar Series - Royal Society of Chemistry Online Webinar, April 04, **2020**. (Invited talk)
19. 'Bis(silyl)naphthalenediamines as bespoke ligands for isolating fragile bonds' – Canadian Chemistry Conference and Exhibition, Winnipeg, **2020**. (Invited talk, Conference cancelled due to COVID-19 pandemic)

20. 'A mechanistic proposal for hydrostibination' – Canadian Chemistry Conference and Exhibition, Winnipeg, **2020**. (Invited talk, Conference cancelled due to COVID-19 pandemic)
21. 'New bonds and reactivity at Bi and Sb centres' – Canadian Chemistry Conference and Exhibition, Winnipeg, **2020**. (Invited talk, Conference cancelled due to COVID-19 pandemic)
22. 'New electronic structure and reactivity at Sb and Bi centres' – University of Windsor, Windsor, Feb 14, **2020**. (Invited talk)
23. 'New electronic structure and reactivity at Sb and Bi centres' – University of Winnipeg, Winnipeg, Oct 23, **2019**. (Invited talk)
24. 'New electronic structure and reactivity at Sb and Bi centres' – University of Manitoba, Winnipeg, Oct 24, **2019**. (Invited talk)
25. 'Orbital engineering of main group compounds for new reactivity' – Cape Breton University, Sydney, Oct 7, **2019**. (Invited talk)
26. 'Orbital engineering of main group compounds for new reactivity' – University of Prince Edward Island, Charlottetown, Oct 4, **2019**. (Invited talk)
27. 'Translational Main Group Chemistry – From Fundamental to Functional' – St. Mary's University, Halifax, October **2018**. (Invited talk)
28. 'Translational Main Group Chemistry – From Fundamental to Functional' – Mt. Alison University, Sackville, November **2018**. (Invited talk)
29. 'Translational Main Group Chemistry – From Fundamental to Functional' – University of New Brunswick - November **2018**. (Invited talk)
30. 'Heterolysis of Homoatomic Bonds between p-Block Elements: Catalytic Synthesis of Inorganic Rings and Polymers', – Gordon Stone Symposium, University of Bristol, Bristol, **2017**.
31. 'Catalytic Addition of P–P Bond to Nitriles and Isocyanides' – Canadian Society of Chemistry Conference, Toronto, **2017**.
32. 'Postpolymerization Functionalization of Polymeric phosphinoboranes' – Canadian Society of Chemistry Conference, Toronto, **2017**.
33. 'Ring-Opening and Ring-Expansion Chemistry of Strained Phosphacycles: Towards Polyphosphorus Polymers' – Symposium in honour of Matthias Driess, University of Bristol, Bristol, **2016**.
34. 'Coordination Chemistry of E(OTf)<sub>3</sub> (E = P, As, Sb, Bi).' – Canadian Society of Chemistry Conference, Ottawa, **2015**.
35. 'Synthesis and reactivity of phosphine-stabilized *catena*-antimony polycations' – American Chemical Society National Meeting, San Francisco, **2015**.
36. 'Synthesis and Reactivity of highly-charged *catena*-Antimony cations' – Canadian Society of Chemistry Conference, Vancouver, **2014**.
37. 'P-Sb Coordination Complexes' – Alberta/British Columbia Inorganic Discussion Weekend, Kelowna, **2013**.
38. 'Formation of a cyclic Tetra-(stibinophosphonium) Tetracation: *cyclo*-[Me<sub>3</sub>PSb]<sub>4</sub><sup>4+</sup>' – Canadian Society of Chemistry Conference, Quebec City, **2013**.
39. 'Synthesis and Reactivity of *cyclo*-[Me<sub>3</sub>PSb]<sub>4</sub><sup>4+</sup>' – Mitteldeutsches Anorganiker Nachwuchs Symposium, Dresden, **2013**.
40. 'Prototypical phosphine complexes of [SbX<sub>n</sub>]<sup>(3-n)+</sup> (X = Halogen, n = 0, 1, 2, 3)' – Canadian Society of Chemistry Conference, Quebec City, **2013**.

41. 'Structural diversity and reactivity of new phosphine-stabilized antimony centers' – Canadian Society of Chemistry Conference, Calgary, **2012**.
42. 'Cationic Inter-Pnictogen Chemistry: Accessing Coordinate Bi-Pn and P-Sb bonds' – Atlantic Inorganic Discussion Weekend, Mactaquac, **2011**.
43. 'Cationic Inter-Pnictogen Chemistry: Accessing rare interpnictogen bonds' – Canadian Society of Chemistry Conference, Montreal, **2011**.

## 5 Research Funding

1. Alfred P. Sloan Fellowship: \$ 105,000 CAD .....2023
2. NSERC-FRQNT NOVA Grant: \$ 225,000 CAD (3 Joint Applicants) ..... 2023–2026
3. NSERC Research Tools & Instruments: \$ 110,000 CAD (Principal Applicant, with 6 co-applicants) .. 2021
4. American Chemical Society Petroleum Research Fund (PRF): \$ 141,000 CAD ..... 2021–2023
5. NSERC Discovery Grant (DG): \$ 170,000 CAD ..... 2018–2023
6. CFI John Evans Leaders Fund (JELF): \$ 250,000 CAD .....2018
7. Dalhousie Startup Funding: \$ 130,000 CAD ..... 2018

## 6 Teaching Experience

1. CHEM 2101: Introductory Inorganic Chemistry ..... Winter 2023
2. CHEM 4101/5101: Advanced Main Group Chemistry ..... Winter 2022
3. CHEM 2301: Physical Chemistry I ..... Fall 2021
4. CHEM 6155: Topics in Main Group Chemistry ..... Fall 2020
5. CHEM 4101/5101: Advanced Main Group Chemistry ..... Winter 2020
6. CHEM 1011: Concepts in Chemistry ..... Winter 2019

## 7 Service

### 7.1 Conferences and Symposia

1. *Co-Organizer – Main Group Symposium, Canadian Chemistry Conference & Exhibition* (International) 2022  
Description: Fundraising (\$ 2,500), abstract reviews, and scheduling of approximately 60 speakers, including 9 invited speakers.
2. *Sole Conference Organizer – Inorganic Chemistry Exchange* (National) .....2022  
Description: Fundraising (\$ 6,000), organizing accommodations, meals, and scheduling talk for 24 undergraduate researchers from across Canada.
3. *Co-Founder and Co-Organizer – Global Inorganic Discussion Weekday (GIDW)* (International) .....2020–  
Description: Together with Marcus Drover, I started a new virtual conference series (GIDW: Global Inorganic Discussion Weekend) in March 2020 to bring the inorganic committee together to discuss chemistry on a weekly basis in the face of a pandemic that had cancelled many in-person meetings. We have now hosted 120+ speakers from several countries including Canada, India, USA, UK, Taiwan, Spain, Germany, France, Belgium, Germany, Netherlands, and Israel, to name a few. These events have been discussed in Science magazine, ChemistryWorld, the Virtual Inorganic Pedagogical Electronic Resource (VIPeR) blog,



and university media. Our online symposium model has also been adopted by other subject divisions. A Perspective article on the series has been published (see publication list). Full details can be found on the CIC Virtual website.

4. *GIDW Twitter Poster Competition Co-Organizer* (International) ..... 2020  
In July 2020, I also co-organized a GIDW poster competition that included 200 presenters from 20 countries. We awarded 30 prizes globally using ca. \$ 3,000 raised from national societies (CSC), journals (e.g. Dalton Transactions), publishers (deGruyter) and charities (Wilkinson Foundation)
5. *Sole Conference Organizer – Inorganic Chemistry Exchange* (National) ..... 2020  
Description: Fundraising (\$ 3,000), organizing and scheduling talk for 20 undergraduate researchers from across Canada in a remote format (Zoom).

## 7.2 Reviewing Activities

1. NSERC Collaborate Research And Training Experience (CREATE) National Panel ..... 2020–2023
2. Grant Reviewing: NSERC DG, CFI JELF, US-Israel Binational Science Fund, ACS PRF ..... 2019–
3. NSERC Canada Graduate Scholarship University Review Committee ..... 2019–

## 7.3 External Examiner

1. Blaine Fiss, PhD, McGill University ..... 2022

## 7.4 Graduate Student Committee Member

1. Andrew Walsh, PhD ..... 2022–
2. Sana Murtaza, PhD ..... 2022–
3. Sarrah Putwa, MSc ..... 2021–
4. Liandrah Gapare, PhD ..... 2020–
5. Ahmed Eldesoki, PhD ..... 2018–
6. Tyler Saunders, PhD ..... 2021–
7. Syndey Shepard, MSc ..... 2020–2022
8. Ryan MacGuire, PhD ..... 2018–2022
9. Blake Huchenski, PhD ..... 2018–2021
10. Joe Weatherby, MSc ..... 2019–2022
11. Mmasinachi Atansi, MSc ..... 2019–2021
12. Adam Beckett, MSc ..... 2018–2020

## 7.5 Other Committees

1. *Appointments & Nominations Committee* ..... 2022–
2. *Glassblower Search Committee* ..... 2022–
3. *Department of Chemistry EDI Committee* ..... 2021–

4. *Department of Chemistry Graduate Students Committee* .....2018–  
Description: Responsibilities include evolution of the chemistry graduate chemistry programs, chairing defences and qualifying exams, resolving challenges in student progress, recruitment trips, scoring student seminars
5. *Faculty of Science Nominations Committee* ..... 2018–  
Description: Responsibilities include soliciting participation from researchers to serve on university-wide committees with an eye towards qualification, diversity, fair workload assignment, and adherence to terms of reference
6. *CSC Board of Directors – Director-At-Large* .....2021–  
Description: Responsibilities include participation on the CSC Nominations Committee to solicit and vet nominees for various positions, and developing and updating terms of reference for various Directorships on the Board. I also contributed a Spotlight video to the CSC WIDE committee’s recent initiative.

## 8 Trainees

### 8.1 Current

1. Joseph Bedard: PhD candidate .....01/2020–  
NSERC PGS-D3, Sumner Fellowship
2. Tyler Hannah: MSc candidate .....09/2021–  
Nova Scotia Graduate Scholarship
3. Mitchell Maceachern: Honours candidate ..... 09/2022–
4. Maxwell Lohoar: Honours candidate ..... 09/2022–

### 8.2 Alumni

#### Thesis

1. Toren Hynes: MSc .....01/2021–12/2022  
Current position: PhD Student – Dalhousie U
2. Katherine Marczenko, PhD .....09/2018–08/2021  
Current position: Staff Crystallographer and Instructor at U of Guelph
3. Marcus B. Kindervater, MSc ..... 09/2018–08/2020  
Current position: Process Chemistry Scientist at BioVectra (Charlottetown, PEI)
4. Sam Dudra, BSc-Hons .....09/2021–04/2022  
Current Position: MSc Student – U of Toronto, NSERC CGSM
5. Samantha Jee, BSc-Hons ..... 09/2020–04/2021  
Current Position: MSc Student – McGill, Best Honours Thesis, NSERC CGSM
6. Steve Sequeira, BSc-Hons .....09/2020–04/2021  
Current Position: MSc Student – Dalhousie U
7. Toren Hynes, BSc-Hons .....09/2019–04/2020  
Current Position: MSc Student – Dalhousie U, Best Honours Thesis Award, NSERC CGSM
8. Joshua MacMillan, BSc-Hons .....09/2019-04/2020  
Current Position: PhD Student – Dalhousie U, Best Honours Thesis Award, NSERC CGSM
9. Chloe-Louise Johnson, BSc-Hons ..... 09/2018–04/2019  
Current Position: PhD Student – York U (UK), Award for Best Thesis Presentation

## Non-Thesis

1. Tom Linford-Wood: Visiting PhD Student (UK) .....08/2022–12/2022
2. Dr. Mohsen Shayan: Postdoctoral Researcher ..... 12/2021–02/2023  
Current position: Scientist at TLC Standards, Newmarket, Ontario
3. Nicholas Murphy: Sobey Award Summer Researcher ..... 05/2022–08/2022  
Current Position: BSc Student at Dalhousie
4. Anastasiia Kutulska: Dingle Award Summer Researcher ..... 05/2022–08/2022  
Current Position: BSc Student at Dalhousie
5. Hafsa Abbasi: NSERC USRA Summer Researcher ..... 05/2022–08/2022  
Current Position: BSc Student at Dalhousie
6. Michael MacCarville: Inorganic Chemistry Exchange Summer Researcher ..... 05/2022–08/2022  
Current Position: BSc Student at Western University
7. Tamina Kirsch: MITACS Summer Researcher (Germany) ..... 07/2022–09/2022  
Current Position: MSc Student – University of Marburg
8. Jacqueline Mayho: MITACS Summer Researcher (UK) ..... 07/2022–09/2022  
Current Position: BSc Student – Cardiff University
9. Warren VandeVen: Inorganic Chemistry Exchange Summer Research ..... 06/2020–08/2020
10. Maxwell Lohar: Volunteer researcher ..... 01/2022–04/2022  
Current Position: MSc Student – Simon Fraser University
11. Toren Hynes: Summer Research ..... 05/2019–08/2019  
Current Position: MSc Student – Dalhousie, NSERC CGS-M
12. Nicholas Roberts: Summer Research, Volunteer, Experiential Training Course ..... 03/2019–03/2022  
Current Position: Instructor – Dalhousie
13. Nicholas Murphy: Undergraduate Volunteer ..... 01/2020–03/2020  
Current Position: Research Assistant – Dalhousie
14. Junyi Li: Undergraduate Volunteer ..... 05/2019-08/2019  
Current Position: Student – Dalhousie
15. Joshua MacMillan: Summer Research ..... 05/2019-08/2019  
Current Position: PhD Student – Dalhousie, NSERC CGS-D3, Killam
16. Sam Jee: Summer Research ..... 05/2019-08/2019  
Current Position: MSc Student – McGill, NSERC CGS-M
17. Joseph A. Zurakowski: Inorganic Chemistry Exchange Summer Research ..... 05/2019-08/2019  
Current Position: PhD Student – U of Windsor, Winner of the CSC AURIC Award, Vanier CGS-D3
18. Fatemeh Shahriari: Undergraduate Experiential Learning Student ..... 09/2019–12/2020  
Current Position: Undergraduate Student – Dalhousie
19. Ciaran Crouse: Summer Research ..... 07/2018–08/2018
20. Jessica Albert: Summer Research ..... 07/2018–08/2018