

VINCENT LINDSAY, Ph.D.

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Department of Chemistry
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NC STATE
UNIVERSITY

PROFESSIONAL EXPERIENCE

Assistant Professor Aug 2016 – present
Department of Chemistry, North Carolina State University (Raleigh, NC)

FRQNT Postdoctoral Fellow Jan 2013 – Mar 2016
Department of Chemistry, University of California, Berkeley (Berkeley, CA)
Supervisor: Prof. Richmond Sarpong
Research Project: *Modern Synthetic Strategies to Alkaloids and other N-Heterocycles*

EDUCATION

Ph.D. Chemistry, Dean's honor list Jan 2013
Department of Chemistry, Université de Montréal (Montreal, QC, Canada)
Supervisor: Prof. André B. Charette
Thesis title: *Catalytic Asymmetric Synthesis of Di-acceptor Cyclopropanes using Chiral Rhodium(II) Complexes*

B.Sc. Chemistry, Dean's honor list May 2007
Department of Chemistry, Université de Montréal (Montreal, QC, Canada)
Undergraduate Research Supervisor: Prof. André B. Charette
Research Project: *Copper(I)-Catalyzed Enantioselective Addition of Diorganozinc Reagents to Nitroalkenes*

AWARDS AND DISTINCTIONS

Fellowships

Post-Doctoral Research Fellowship (B3, \$60,000) Jan 2013 – Dec 2014
Fonds de Recherche du Québec – Nature et Technologie (FRQNT)

J. Armand Bombardier Scholarship (\$10,000) Sept 2010
Université de Montréal, Faculté des Études Supérieures et Postdoctorales (FESP)

Post-Graduate Doctoral Scholarship (PGS D, \$63,000) Sept 2008 – Aug 2011
National Sciences and Engineering Research Council of Canada (NSERC)

Post-Graduate Scholar Master's Award (\$30,000, *declined*) Sept 2007– Aug 2009
Fonds de Recherche du Québec – Nature et Technologie (FRQNT)

Post-Graduate Scholar Master's Award (CGS M, \$35,000) Sept 2007 – Aug 2008
National Sciences and Engineering Research Council of Canada (NSERC)

Scholarship for direct transfer from the B.Sc. to the Ph.D. (\$30,000) Sept 2007– Aug 2010
Université de Montréal, Faculté des Études Supérieures et Postdoctorales (FESP)

Undergraduate Student Research Award (USRA Industrial, Merck Frosst Canada, \$4,500) May 2006 – Aug 2006
National Sciences and Engineering Research Council of Canada (NSERC)

Undergraduate Student Research Award (USRA Academic, Prof. André B. Charette, \$4,500) May 2005 – Aug 2005
National Sciences and Engineering Research Council of Canada (NSERC)

Distinctions

Thieme Chemistry Journals Award Jan 2019
Thieme Chemistry

Ph.D. Thesis on *Dean's Honor List* (Thesis judged 'excellent' by all committee members) May 2013
Université de Montréal, Ph.D. Graduation

Best Oral Presentation Award (Green Chemistry and Catalysis Symposium, \$100) Jun 2011
Canadian Society for Chemistry (CSC, National meeting)

Roger-Barré Award (Best Grades in Organic Chemistry for the B.Sc., \$1,000) Oct 2007
Université de Montréal

Medal of the Canadian Society for Chemistry (Best GPA for the last year of B.Sc.) <i>Université de Montréal and Canadian Society for Chemistry</i>	Oct 2007
Ogilvy-Renault Award (Best Oral Presentation, \$600) <i>Université de Sherbrooke Symposium for Undergraduate Students</i>	Oct 2005
B.Sc. Chemistry on <i>Dean's Honor List</i> (8 consecutive semesters) <i>Université de Montréal</i>	Sept 2003 – May 2007

RESEARCH CONTRIBUTIONS

Peer-Reviewed Publications ([‡]denotes equal contribution)

22. Machín Rivera,[‡] R.; Burton,[‡] N. R.; Call, L. D.; Tomat, M. A.; Lindsay, V. N. G. *ChemRxiv* **2022**, Preprint. DOI: 10.26434/chemrxiv-2022-l60sc. 'Synthesis of Highly Congested Tertiary Alcohols via the [3,3] Radical Deconstruction of Breslow Intermediates.'
21. Jung, M.; Lindsay, V. N. G. *J. Am. Chem. Soc.* **2022**, *144*, 4764-4769. 'One-Pot Synthesis of Strain-Release Reagents from Methyl Sulfones'.
20. Penn, K. R.; Anders, E. J.; Lindsay, V. N. G. *Organometallics* **2021**, *40*, 3871-3875. 'Expedient Synthesis of Bis(imidazolium) Dichloride Salts and Bis(NHC) Complexes from Imidazoles Using DMSO as a Key Polar Additive.'
19. Poteat, C. M.; Lindsay, V. N. G. *Org. Lett.* **2021**, *23*, 6482-6487. 'Stereospecific Synthesis of Enantioenriched Alkylidenecyclobutanones via Formal Vinylidene Insertion into Cyclopropanone Equivalents'.
18. Jang,[‡] Y.; Machín Rivera,[‡] R.; Lindsay, V. N. G. *Synthesis* **2021**, *53*, 3909-3934. 'Synthesis and Applications of Cyclopropanones and Their Equivalents as Three-Carbon Building Blocks in Organic Synthesis'. (Review)
17. Jang, Y.; Lindsay, V. N. G. *Org. Lett.* **2020**, *22*, 8872-8876. 'Synthesis of Cyclopentenones with Reverse Pauson-Khand Regiocontrol via Ni-Catalyzed C–C Activation of Cyclopropanone'.
16. Machín Rivera, R.; Jang, Y.; Poteat, C. M.; Lindsay, V. N. G. *Org. Lett.* **2020**, *22*, 6510-6515. 'General Synthesis of Cyclopropanols via Organometallic Addition to 1-Sulfonylcyclopropanols as Cyclopropanone Precursors'.
15. Poteat,[‡] C. M.; Jang,[‡] Y.; Jung,[‡] M.; Johnson, J. D.; Williams, R. G.; Lindsay, V. N. G. *Angew. Chem. Int. Ed.* **2020**, *59*, 18655-18661. 'Enantioselective Synthesis of Cyclopropanone Equivalents and Application to the Formation of Chiral β -Lactams'.
14. Zhu, J.; Lindsay, V. N. G. *ACS Catal.* **2019**, *9*, 6993-6998. 'Benzimidazolyl Palladium Complexes as Highly Active and General Bifunctional Catalysts in Sustainable Cross-Coupling Reactions'.
13. Poteat, C. M.; Lindsay, V. N. G. *Chem. Commun.* **2019**, *55*, 2912-2915. 'Controlled α -mono- and α,α -di-halogenation of alkyl sulfones using reagent-solvent halogen bonding'.
12. Lindsay,[‡] V. N. G.; Murphy,[‡] R. A.; Sarpong, R. *Chem. Commun.* **2017**, *53*, 10291-10294. 'Effect of protic additives in Cu-catalysed asymmetric Diels-Alder cycloadditions of doubly activated dienophiles: towards the synthesis of magellanine-type *Lycopodium* alkaloids'.
11. Johnson, R. E.; de Rond, T.; Lindsay, V. N. G.; Keasling, J. D.; Sarpong, R. *Org. Lett.* **2015**, *17*, 3474-3477. 'Synthesis of Cycloprodigosin Identifies the Natural Isolate as a Scalemic Mixture'. (Featured *ACS Editors' Choice*)
10. Lindsay, V. N. G.; Viart, H. M.-F.; Sarpong, R. *J. Am. Chem. Soc.* **2015**, *137*, 8368-8371. 'Stereodivergent Intramolecular C(sp³)-H Functionalization of Azavinyl Carbenes: Synthesis of Saturated Heterocycles and Fused N-Heterotricycles'.
9. Schultz,[‡] E. E.; Lindsay,[‡] V. N. G.; Sarpong, R. *Angew. Chem. Int. Ed.* **2014**, *53*, 9904-9908. 'Expedient Synthesis of Fused Azepine Derivatives using a Sequential Rhodium(II)-Catalyzed Cyclopropanation/1-Aza-Cope Rearrangement of Dienyltriazoles'.
8. Lindsay,[‡] V. N. G.; Fiset,[‡] D.; Gritsch, P. J.; Azzi, S.; Charette, A. B. *J. Am. Chem. Soc.* **2013**, *135*, 1463-1470. 'Stereoselective Rh₂(S-IBAZ)₄-Catalyzed Cyclopropanation of Alkenes, Alkynes and Allenes: Asymmetric Synthesis of Diacceptor Cyclopropylphosphonates and Alkylidenecyclopropanes'.
7. Lindsay, V. N. G.; Charette, A. B. *ACS Catal.* **2012**, *2*, 1221-1225. 'Design and Synthesis of Chiral Heteroleptic Rhodium(II) Carboxylate Catalysts: Experimental Investigation of Halogen Bond Rigidification Effects in Asymmetric Cyclopropanation'.
6. Moreau, B.; Alberico, D.; Lindsay, V. N. G.; Charette, A. B. *Tetrahedron* **2012**, *68*, 3487-3496. 'Catalytic Asymmetric Synthesis of Nitrocyclopropane Carboxylates'.

5. Lindsay, V. N. G.; Nicolas, C.; Charette, A. B. *J. Am. Chem. Soc.* **2011**, *133*, 8972-8981. 'Asymmetric Rh(II)-Catalyzed Cyclopropanation of Alkenes with Diaceptor Diazo Compounds: the *p*-Methoxyphenyl Ketone as a General Stereoselectivity Controlling Group'.
4. Marcoux, D.; Lindsay, V. N. G.; Charette, A. B. *Chem. Commun.* **2010**, *46*, 910-912. 'Use of achiral additives to increase the stereoselectivity in Rh(II)-catalyzed cyclopropanations'.
3. Lindsay, V. N. G.; Lin, W.; Charette, A. B. *J. Am. Chem. Soc.* **2009**, *131*, 16383-16385. 'Experimental Evidence for the All-Up Reactive Conformation of Chiral Rhodium(II) Carboxylate Catalysts: Enantioselective Synthesis of *cis*-Cyclopropane α -Amino Acids'.
*Highlighted in *Synfacts*: Lindsay, V. N. G.; Lin, W.; Charette, A. B. *Synfacts* **2010**, 0198.
2. Charette, A. B.; Côté, A.; Desrosiers, J.-N.; Bonnaventure, I.; Lindsay, V. N. G.; Lauzon, C.; Tannous, J.; Boezio, A. A. *Pure Appl. Chem.* **2008**, *80*, 881-890. 'New methods in asymmetric catalysis based on new hemi-labile bidentate ligands'.
1. Côté, A.; Lindsay, V. N. G.; Charette, A. B. *Org. Lett.* **2007**, *9*, 85-87. 'Application of the Chiral Bis(phosphine) Monoxide Ligand to Catalytic Enantioselective Addition of Dialkylzinc Reagents to β -Nitroalkenes'.
*Highlighted in *Synfacts*: Côté, A.; Lindsay, V. N. G.; Charette, A. B. *Synfacts* **2007**, 0411.

Book Chapters

4. Lindsay, V. N. G. 'Rhodium(II)-Catalyzed Cyclopropanation' (Chapter 15) in *Rhodium Catalysis in Organic Synthesis: Methods and Reactions*; Wiley-VCH; 2018; pp.433-448 (Editor: Ken Tanaka).
3. Charette, A. B.; Lindsay, V. N. G. 'Stereoselective Formation of Amines by Nucleophilic Addition to Azomethine Derivatives' in *Stereoselective Formation of Amines.*; *Top. Curr. Chem.* **2014**, *343*, 33-74. (Springer, Editors: Wei Li and Xumu Zhang).
2. Lindsay, V. N. G.; Charette, A. B. 'Nucleophilic Addition of Non-Stabilized Carbanions to Imines and Imine Derivatives' (Chapter 1.11) in *Comprehensive Organic Synthesis (2nd Edition, Vol. 1)*, Oxford: Elsevier Science Ltd.; 2014, pp. 365-394 (Editors: Gary A. Molander and Paul Knochel).
1. Roy, M.-N.; Lindsay, V. N. G.; Charette, A. B. 'Cyclopropanation Reactions' (Chapter 1.14) in *Stereoselective Synthesis: Stereoselective Reactions of Carbon-Carbon Double Bonds*; Georg Thieme Verlag KG; New York, 2011; pp 731-817 (Editor: Johannes de Vries).

Other Published Contributions

8. Lindsay, V. N. G. 'Dirhodium(II) Tetrakis[*R*-2-oxaazetidone-4(*S*)-carboxylate]' (Update) *Encyclopedia of Reagents for Organic Synthesis*, **2017**. A. B. Charette, D. Crich, P. L. Fuchs, G. A. Molander (Eds); John Wiley & Sons Ltd.: Chichester, 2nd Ed.; (I.D.: RN00607.pub2).
7. Lindsay, V. N. G. 'Methyl α -diazo-4-methoxy- β -oxobenzenepranoate' *Encyclopedia of Reagents for Organic Synthesis*, **2012**. A. B. Charette, D. Crich, P. L. Fuchs, G. A. Molander (Eds); John Wiley & Sons Ltd.: Chichester, 2nd Ed.; (I.D.: RN01540).
6. Lindsay, V. N. G. ' α -Diazo-4-methoxy- β -oxobenzenepranenitrile' *Encyclopedia of Reagents for Organic Synthesis*, **2012**. A. B. Charette, D. Crich, P. L. Fuchs, G. A. Molander (Eds); John Wiley & Sons Ltd.: Chichester, 2nd Ed.; (I.D.: RN01541).
5. Lindsay, V. N. G. '2-Diazo-1-(4-methoxyphenyl)-2-nitroethanone' *Encyclopedia of Reagents for Organic Synthesis*, **2012**. A. B. Charette, D. Crich, P. L. Fuchs, G. A. Molander (Eds); John Wiley & Sons Ltd.: Chichester, 2nd Ed.; (I.D.: RN01542).
4. Lindsay, V. N. G. '2-Azido-1,3-dimethylimidazolium Chloride' *Encyclopedia of Reagents for Organic Synthesis*, **2011**. A. B. Charette, D. Crich, P. L. Fuchs, G. A. Molander (Eds); John Wiley & Sons Ltd.: Chichester, 2nd Ed.; (I.D.: RN01465).
3. Lindsay, V. N. G. '1-Nitropropane' (Update) *Encyclopedia of Reagents for Organic Synthesis*, **2011**. A. B. Charette, D. Crich, P. L. Fuchs, G. A. Molander (Eds); John Wiley & Sons Ltd.: Chichester, 2nd Ed.; (I.D.: RN051).
2. Lindsay, V. N. G. 'Nitromethane' (Update) *Encyclopedia of Reagents for Organic Synthesis*, **2011**. A. B. Charette, D. Crich, P. L. Fuchs, G. A. Molander (Eds); John Wiley & Sons Ltd.: Chichester, 2nd Ed.; (I.D.: RN041).

1. Lindsay, V. N. G. 'Dirhodium(II) Tetrakis[*N*-tetrachlorophthaloyl-(*S*)-*tert*-leucinate]' *Encyclopedia of Reagents for Organic Synthesis*, **2010**. A. B. Charette, D. Crich, P. L. Fuchs, G. A. Molander (Eds); John Wiley & Sons Ltd.: Chichester, 2nd Ed.; (I.D.: RN01265).

Seminars and Oral Presentations (presenter is underlined)

48. *Research School of Chemistry, The Australian National University* (Canberra, ACT, Australia, May 2, 2022). Lindsay, V. N. G. 'Stereoselective Synthesis and Applications of Sulfonylcyclopropanols as Modular Cyclopropanone and Homoenolate Equivalents'. (Invited)
47. *Department of Chemistry, New York University* (New York, NY, USA, April 12, 2022). Lindsay, V. N. G. 'Stereoselective Synthesis and Applications of Sulfonylcyclopropanols as Modular Cyclopropanone and Homoenolate Equivalents'. (Invited)
46. *Schulich Faculty of Chemistry, Technion – Israel Institute of Technology* (Virtual, April 4, 2022). Lindsay, V. N. G. 'Stereoselective Synthesis and Applications of Sulfonylcyclopropanols as Modular Cyclopropanone and Homoenolate Equivalents'. (Invited)
45. *Department of Chemistry and Biochemistry, University of California, Los Angeles* (Los Angeles, CA, USA, March 31, 2022). Lindsay, V. N. G. 'Stereoselective Synthesis and Applications of Sulfonylcyclopropanols as Modular Cyclopropanone and Homoenolate Equivalents'. (Invited)
44. *Department of Chemistry, The Scripps Research Institute* (La Jolla, CA, USA, March 25, 2022). Lindsay, V. N. G. 'Stereoselective Synthesis and Applications of Sulfonylcyclopropanols as Modular Cyclopropanone and Homoenolate Equivalents'. (Invited)
43. *ACS National Meeting & Exposition* (San Diego, CA, USA, March 20-24, 2022). Penn, K. R.; Zhu, J.; You, G.; Lindsay, V. N. G. 'Development of Highly Active Bifunctional (benz)imidazolyl-Palladium Catalysts for Application in Sustainable Cross-Coupling Reactions.' (Contributed)
42. *ACS National Meeting & Exposition* (San Diego, CA, USA, March 20-24, 2022). Machin Rivera, R.; Lindsay, V. N. G. 'General Synthesis of Cyclopropanols via Organometallic Addition to Cyclopropanone Equivalents: Application to the Formation of Enantioenriched Alkylidenecyclobutanones.' (Contributed)
41. *ACS National Meeting & Exposition* (San Diego, CA, USA, March 20-24, 2022). Jung, M.; Lindsay, V. N. G. 'Stereospecific Synthesis of Cyclopropanone Equivalents and Application to Alkylidenecyclopropanes and β -Amino Acid derivatives.' (Contributed)
40. *ACS National Meeting & Exposition* (San Diego, CA, USA, March 20-24, 2022). Lindsay, V. N. G. 'Synthesis and Evaluation of Sulfonylcyclopropanols as Modular Cyclopropanone and Homoenolate Equivalents.' (Contributed)
39. *The Florida Heterocyclic and Synthetic Chemistry Conference 2022* (Gainesville, FL, USA, March 6-10, 2022). Lindsay, V. N. G. 'Reactivity of Sulfonylcyclopropanols as Precursors of Amide Homoenolates for the Synthesis of Fused Heterocycles.' (Invited)
38. *Department of Chemistry, Rice University* (Houston, TX, USA, February 23, 2022). Lindsay, V. N. G. 'Stereoselective Synthesis and Applications of Sulfonylcyclopropanols as Modular Cyclopropanone and Homoenolate Equivalents'. (Invited)
37. *Department of Chemistry, University of Delaware* (Virtual, February 16, 2022). Lindsay, V. N. G. 'Stereoselective Synthesis and Applications of Sulfonylcyclopropanols as Modular Cyclopropanone and Homoenolate Equivalents'. (Invited)
36. *Department of Chemistry, University of Virginia* (Charlottesville, VA, USA, February 11, 2022). Lindsay, V. N. G. 'Stereoselective Synthesis and Applications of Sulfonylcyclopropanols as Modular Cyclopropanone and Homoenolate Equivalents'. (Invited)
35. *Department of Chemistry, Duke University* (Virtual, January 25, 2022). Lindsay, V. N. G. 'Stereoselective Synthesis and Applications of Sulfonylcyclopropanols as Modular Cyclopropanone and Homoenolate Equivalents'. (Invited)
34. *Department of Chemistry, University of Florida* (Gainesville, FL, USA, January 20, 2022). Lindsay, V. N. G. 'Stereoselective Synthesis and Applications of Sulfonylcyclopropanols as Modular Cyclopropanone and Homoenolate Equivalents'. (Invited)
33. *College of Chemistry, University of California, Berkeley* (Virtual, January 11, 2022). Lindsay, V. N. G. 'Stereoselective Synthesis and Applications of Sulfonylcyclopropanols as Modular Cyclopropanone and Homoenolate Equivalents'. (Invited)

32. *Department of Chemistry, University of Missouri* (Columbia, MO, USA, December 3, 2021). Lindsay, V. N. G. 'Stereoselective Synthesis and Applications of Sulfonylcyclopropanols as Modular Cyclopropanone and Homoenolate Equivalents'. (Invited)
31. *Department of Chemistry, University of Georgia* (Athens, GA, USA, November 18, 2021). Lindsay, V. N. G. 'Stereoselective Synthesis and Applications of Sulfonylcyclopropanols as Modular Cyclopropanone and Homoenolate Equivalents'. (Invited)
30. *Department of Chemistry, Marshall University* (Virtual, October 26, 2021). Lindsay, V. N. G. 'Enantioselective Synthesis of Modular Cyclopropanone Equivalents and Applications as Highly Strained Building Blocks'. (Invited)
29. *262thACS National Meeting & Exposition, Young Academic Investigator Symposium* (Virtual presentation, Atlanta, GA, USA, August 22-26, 2021). Lindsay, V. N. G. 'Enantioselective synthesis and applications of sulfonylcyclopropanols as modular cyclopropanone and homoenolate equivalents.' (Invited)
28. *CCHF Virtual Symposium: Alumni Edition* (Virtual, May 11, 2021). Lindsay, V. N. G. 'Enantioselective Synthesis of Modular Cyclopropanone Equivalents and Applications as Highly Strained Building Blocks'. (Invited)
27. *Department of Chemistry, West Virginia University* (Virtual, March 10, 2021). Lindsay, V. N. G. 'Enantioselective Synthesis of Modular Cyclopropanone Equivalents and Applications as Highly Strained Building Blocks'. (Invited)
26. *Department of Chemistry, Howard University* (Virtual, February 26, 2021). Lindsay, V. N. G. 'Synthesis and Application of Sulfonylcyclopropanols as Modular Cyclopropanone Equivalents'. (Invited)
25. *Department of Chemistry and Biochemistry, Auburn University* (Virtual, February 19, 2021). Lindsay, V. N. G. 'Enantioselective Synthesis of Modular Cyclopropanone Equivalents and Applications as Highly Strained Building Blocks'. (Invited)
24. *11th Annual Symposium of the FRQNT Center for Green Chemistry and Catalysis* (Virtual, January 8, 2021). Lindsay, V. N. G. 'Development of pNHC as a New Bifunctional Catalysis Platform and Synthetic Applications of Modular Cyclopropanone Equivalents'. (Invited, plenary speaker)
23. *Department of Chemistry, University of North Carolina at Chapel Hill* (Virtual, November 6, 2020). Lindsay, V. N. G. 'Enantioselective Synthesis of Modular Cyclopropanone Equivalents and Applications as Highly Strained Building Blocks'. (Invited)
22. *ACS Fall 2020 Virtual Meeting & Expo* (Virtual presentation, August 17-20, 2020). Lindsay, V. N. G. 'Enantioselective synthesis of cyclopropanone equivalents and its application for the production of chiral β -lactams by formal [3+1] cycloaddition.' (Contributed)
21. *ACS Fall 2020 Virtual Meeting & Expo* (Virtual presentation, August 17-20, 2020). Machin Rivera, R.; Lindsay, V. N. G. 'General Synthesis of Cyclopropanols via Organometallic Addition to 1-Sulfonylcyclopropanol as Cyclopropanone Precursors.' (Contributed)
20. *ACS Fall 2020 Virtual Meeting & Expo* (Virtual presentation, August 17-20, 2020). Poteat, C. M.; Lindsay, V. N. G. 'Synthesis of β -Lactams and Cyclobutanones via Formal [3+1] Cycloaddition of Chiral Cyclopropanone Equivalents.' (Contributed)
19. *2020 Sci-athon* (UNC-Chapel Hill (Virtual), NC, USA, May 13, 2020). Lindsay, V. N. G. 'Benzimidazolyl-metal complexes as simple bifunctional templates in sustainable catalysis.' (Invited)
18. *Florida Heterocyclic Conference 2020* (Gainesville, FL, USA, March 1-4, 2020). Lindsay, V. N. G. 'Asymmetric Synthesis of Cyclopropanone Equivalents and Application as Substrates in Formal Cycloadditions.' (Invited)
17. *71st Southeastern Regional Meeting of the American Chemical Society* (Savannah, GA, USA, October 20-23, 2019). Lindsay, V. N. G. 'Benzimidazolyl-metal complexes as simple bifunctional templates in sustainable catalysis.' (Invited)
16. *258thACS National Meeting & Exposition* (San Diego, CA, USA, August 25-29, 2019). Lindsay, V. N. G.; Zhu, J. 'Bifunctional Palladium Complexes Bearing Masked Protic NHC Ligands as Highly Active Catalysts for Sustainable Cross-Coupling Reactions.' (Contributed)
15. *258thACS National Meeting & Exposition* (San Diego, CA, USA, August 25-29, 2019). Poteat, C. M.; Lindsay, V. N. G. 'Synthesis of β -Lactams via Metal-Catalyzed Formal [3+1] Cycloaddition of Cyclopropanones.' (Contributed)
14. *Telluride Science Research Center Workshop: The Future of C-H Functionalization* (Telluride, CO, USA, July 29-August 2, 2019). Lindsay, V. N. G. 'Deconstruction of Cyclopropanone Equivalents Enables the C-H Functionalization of Heterocycles.' (Invited)

13. *257th ACS National Meeting & Exposition* (Orlando, FL, USA, March 31-April 4, 2019). Poteat, C. M.; Lindsay, V. N. G. 'Controlled α -Halogenation of Alkyl Sulfones using Reagent-Solvent Halogen Bonding'. (Contributed)
12. *70th Southeastern Regional Meeting of the American Chemical Society (SERMACS)*, October 31-November 3, 2018). Poteat, C. M.; Lindsay, V. N. G. 'Controlled α -Halogenation of Sulfones.' (Contributed)
11. *The International Chemical Congress of Pacific Basin Societies* (Pacifichem, Honolulu, Hawaii, USA, December 15-20, 2015). Lindsay, V. N. G.; Murphy, R. A.; Sarpong, R. 'Synthesis of Magellaninone-type *Lycopodium* Alkaloids using a Pyridine Functionalization / Reduction Approach.' (Contributed)
10. *98th Canadian Chemistry Conference and Exhibition* (CSC, Ottawa, ON, Canada, June 13-17, 2015). Lindsay, V. N. G.; Murphy, R. A.; Sarpong, R. 'Synthesis of Magellaninone-type *Lycopodium* Alkaloids using a Pyridine Functionalization / Reduction Approach'. (Contributed)
9. *248th ACS National Meeting & Exposition* (San Francisco, CA, USA, August 10-14, 2014). Lindsay, V. N. G.; Schultz, E. E.; Sarpong, R. 'Expedient Synthesis of Fused Azepine Derivatives using a Sequential Rhodium(II)-Catalyzed Cyclopropanation/1-Aza-Cope Rearrangement of Dienyltriazoles'. (Contributed)
8. *97th Canadian Chemistry Conference and Exhibition* (CSC, Vancouver, BC, Canada, June 2-6, 2014). Lindsay, V. N. G.; Schultz, E. E.; Sarpong, R. 'Expedient Synthesis of Fused Azepine Derivatives using a Sequential Rhodium(II)-Catalyzed Cyclopropanation/1-Aza-Cope Rearrangement of Dienyltriazoles'. (Contributed)
7. *94th Canadian Chemistry Conference and Exhibition* (CSC, Montreal, QC, Canada, June 5-9, 2011). Lindsay, V. N. G.; Charette, A. B. 'Design and Mechanistic Study of Chiral Rh(II)-Carboxylate Catalysts for Enantioselective Cyclopropanation Reactions with Diaceptor Diazo Compounds.' (Contributed)
*1st prize for Best Oral Presentation, Green Chemistry & Catalysis Symposium
6. *The International Chemical Congress of Pacific Basin Societies* (Pacifichem, Honolulu, Hawaii, USA, December 15-20, 2010). Lindsay, V. N. G.; Charette, A. B. 'Enantioselective Rhodium(II)-Catalyzed Cyclopropanation of Alkenes with α -EWG-Diazoacetophenones: PMP-ketones as Stereoselectivity Controllers.' (Contributed)
5. *240th ACS National Meeting & Exposition* (Boston, MA, USA, August 22-26, 2010). Lindsay, V. N. G.; Charette, A. B. 'Enantioselective Rhodium(II)-Catalyzed Cyclopropanation of Alkenes with α -EWG-Diazoacetophenones: PMP-ketones as Stereoselectivity Controllers.' (Contributed)
4. *78^e Congrès de l'ACFAS* (Montreal, QC, Canada, May 11-12, 2010). Lindsay, V. N. G.; Lin, W.; Charette, A. B. 'Cyclopropanation énantiosélective d'alcènes en présence de diazoacetophenones α -substituées par catalyse au rhodium(II) : étude mécanistique du contrôle de la stéréosélectivité'. (Contributed)
3. *77^e Congrès de l'ACFAS* (Ottawa, ON, Canada, May 13-14, 2009). Lindsay, V. N. G.; Lin, W.; Charette, A. B. 'Synthèse stéréosélective de dérivés cyclopropaniques acides aminés *cis* via une cyclopropanation énantiosélective d'alcènes à l'aide d' α -diazo- α -nitrocétones'. (Contributed)
2. *74^e Congrès de l'ACFAS* (Montréal, QC, Canada, May 15-19, 2006). Côté, A.; Lindsay, V. N. G.; Charette, A. B. 'Addition catalytique sur des nitroalcènes utilisant une bis-phosphine monoxydée chirale comme ligand'. (Contributed)
1. *17^e Colloque annuel de chimie des étudiants au baccalauréat de l'Université de Sherbrooke* (Sherbrooke, QC, Canada, October 28, 2005). Lindsay, V. N. G.; Côté, A.; Charette, A. B. 'Addition énantiosélective d'organozinciques sur des nitroalcènes catalysée par le cuivre (I)'. (Contributed)
*1st prize for Best Oral Presentation, Ogilvy-Renault Award

Poster Presentations (presenter is underlined)

20. *The Florida Heterocyclic and Synthetic Chemistry Conference 2022* (Gainesville, FL, USA, March 6-10, 2022). Sprague, I. S.; Lindsay, V. N. G. 'Expedient Synthesis of Novel Heterocyclic Scaffolds from Azinium Ylides and Cyclopropanone Equivalents.' (Contributed)
19. *International Virtual C-H Functionalization Poster Session* (NSF CCHF, Virtual, December 15, 2020). Machín Rivera, R.; Jang, Y.; Poteat, C. M.; Lindsay, V. N. G. 'Synthesis and Rearrangement of Tertiary Cyclopropanols via Addition to New Cyclopropanone Precursors.' (Contributed)
18. *258th ACS National Meeting & Exposition* (San Diego, CA, USA, August 25-29, 2019). Jang, Y.; Lindsay, V. N. G. 'Synthesis of Cyclopentenones via Ni-Catalyzed Formal [3+2] Cycloaddition of Cyclopropanones and Internal Alkynes.' (Contributed)

17. *Gordon Research Conference – Heterocyclic Compounds* (Newport, RI, USA, June 16-21, 2019). Poteat, C. M.; Jang, Y.; Johnson, D. J.; Lindsay, V. N. G. 'Synthesis of β -Lactams by Metal-Catalyzed Formal [3+1] Cycloaddition of Cyclopropanones.'
16. *The State of North Carolina Undergraduate Research and Creativity Symposium* (SNCURCS, Raleigh, NC, USA, November 10, 2018). Burton, N. R.; Tomat, M. A.; Lindsay, V. N. G. 'Catalytic Formation of α -Substituted Ketones from Simple Aldehydes'.
15. *The State of North Carolina Undergraduate Research and Creativity Symposium* (SNCURCS, Raleigh, NC, USA, November 10, 2018). Johnson, J. D.; Poteat, C. M.; Lindsay, V. N. G. 'One-pot Synthesis of β -lactams from Primary Amines'.
14. *132nd Annual Meeting of the North Carolina Section of the American Chemical Society* (Chapel Hill, NC, USA, November 9, 2018). Poteat, C. M.; Lindsay, V. N. G. 'Controlled α -Halogenation of Sulfones.'
*1st prize for Best Poster Presentation
13. *132nd Annual Meeting of the North Carolina Section of the American Chemical Society* (Chapel Hill, NC, USA, November 9, 2018). Johnson, J. D.; Poteat, C. M.; Lindsay, V. N. G. 'One-pot Synthesis of β -lactams from Primary Amines'.
12. *Gordon Research Conference – Organic Reactions & Processes* (Easton, MA, USA, July 15-20, 2018). Poteat, C. M.; Lindsay, V. N. G. 'Controlled α -Halogenation of Sulfones.'
11. *32nd National Conference on Undergraduate Research* (NCUR, Edmond, OK, USA, April 4-7, 2018). Johnson, J. D.; Anders, E.; Jang, Y. J.; Lindsay, V. N. G. 'Synthesis of Michael Adducts Utilizing Umpolung of Strained Ketones'.
10. *14th Atlantic Coast Conference Meeting of the Minds* (Louisville, KY, USA, March 29-31, 2018). Johnson, J. D.; Anders, E.; Jang, Y. J.; Lindsay, V. N. G. 'Synthesis of Michael Adducts Utilizing Umpolung of Strained Ketones'.
9. *248th ACS National Meeting & Exposition – Academic Employment Initiative* (San Francisco, CA, USA, August 10-14, 2014). Lindsay, V. N. G. 'Catalytic asymmetric synthesis of diaceptor cyclopropanes using chiral Rh(II) complexes / Modern synthetic strategies to alkaloids and other *N*-heterocycles.'
8. *NSF Center for Stereoselective C-H Functionalization* (Annual Meeting, Atlanta, GA, USA, August 16-18, 2013). Murphy, R. A.; Lindsay, V. N. G.; Ye, M.; Yu, J.-Q.; Sarpong, R. 'An Approach to the Magellaninone-type *Lycopodium* Alkaloids Using C–H Functionalization.'
7. *43rd National Organic Symposium* (Seattle, WA, USA, June 2013). Murphy, R. A.; Lindsay, V. N. G.; Pushkarskaya, E.; Sarpong, R. 'Toward the Synthesis of Lycopladine- and Magellanine-type *Lycopodium* Alkaloids.'
6. *93rd Canadian Chemistry Conference and Exhibition* (CSC, Toronto, ON, Canada, May 29-June 2, 2010). Lindsay, V. N. G.; Charette, A. B. 'Enantioselective Rhodium(II)-Catalyzed Cyclopropanation of Alkenes with α -EWG-Diazoacetophenones: PMP-ketones as Stereoselectivity Controllers.'
5. *20th Québec-Ontario Minisymposium in Bio-Organic and Organic Chemistry* (QOMSBOC, Québec, QC, Canada, October 31-November 1, 2009). Lindsay, V. N. G.; Lin, W.; Charette, A. B. 'Stereoselective synthesis of *cis*-cyclopropane α -amino acids via a rhodium-catalyzed asymmetric cyclopropanation of alkenes with α -nitro diazoacetophenones'.
4. *19th Québec-Ontario Minisymposium in Bio-Organic and Organic Chemistry* (QOMSBOC, Toronto, ON, Canada, November 8-9, 2008). Lindsay, V. N. G.; Lin, W.; Charette, A. B. 'Stereoselective synthesis of *cis*-cyclopropane α -amino acids via a rhodium-catalyzed asymmetric cyclopropanation of α -diazo- α -nitroketones and alkenes'.
3. *89th Canadian Chemistry Conference and Exhibition* (CSC, Halifax, NS, Canada, May 27-31, 2006). Charette, A. B.; Côté, A.; Lindsay, V. N. G. 'Chiral Bisphosphine Monoxide as a New Class of Ligands in Catalytic Enantioselective Addition of Diorganozincs to β -Nitroalkenes'.
2. *3^e Symposium des étudiants gradués en chimie de l'Université de Montréal* (Montréal, QC, Canada, March 21, 2006). Côté, A.; Lindsay, V. N. G.; Desrosiers, J.-N.; Charette, A. B. 'BozPHOS in Catalytic Enantioselective Reduction and Addition of Diorganozinc Reagents to β -Nitroalkenes'.
1. *16th Québec-Ontario Minisymposium in Bio-Organic and Organic Chemistry* (QOMSBOC, S^e-Adèle, QC, Canada, November 11-13, 2005). Côté, A.; Lindsay, V. N. G.; Charette, A. B. 'Catalytic Enantioselective Addition of Diorganozinc Reagents to β -Nitroalkenes Using a Bisphosphine Monoxide Ligand'.

TEACHING EXPERIENCE

Courses taught at NCSU

Graduate courses

CH 755 – Organic Reaction Mechanisms

Fall 2021 (25 students)
Fall 2020 (22 students)
Fall 2019 (13 students)
Fall 2018 (17 students)
Fall 2017 (25 students)
Fall 2016 (28 students)

Undergraduate courses

CH 223 – Organic Chemistry II

Spring 2020 (230 students)
Spring 2019 (208 students)
Spring 2018 (176 students)

CH 227 – Organic Chemistry II (chemistry majors)

Spring 2021 (47 students)

Students/Postdocs mentored at NCSU

Postdoctoral Fellows

Manish K. Singh (Ph.D. The City College of The City University of New York) Jul 2017 – Aug 2018

Graduate students

Evan J. Anders (B.A. Hanover College) Oct 2016 – Jun 2018
Yujin Jang (B.S./M.S. Kwangwoon University) Oct 2016 – May 2021
Christopher M. Poteat (B.S./M.S. University of North Carolina Wilmington) Oct 2016 – May 2021
Marshall A. Tomat (B.A. Franklin & Marshall College) Oct 2016 – Dec 2018
Weixia Deng (B.S. University of Kentucky – Lexington) Oct 2017 – May 2020
Roger Machín-Rivera (B.S. University of Puerto Rico – Cayey) Oct 2017 – present
Jiancheng Zhu (B.S. Nankai University, B.E. Tianjin University, M.S. NC State University) Oct 2017 – Dec 2019
Myunggi Jung (B.S. Yeungnam University, M.S. Seoul National University) Oct 2018 – present
Kyle R. Penn (B.S. NC State University) Oct 2018 – present
Garim You (B.S./M.S. Seoul National University Science and Technology) Sept 2019 – Dec. 2020
Ivan Sprague (B.S./M.S. D. Mendeleev University of Chemical Technology) Oct 2020 – present
Zack Ferrin (B.S. University of California, Los Angeles) Oct 2021 – present
Joanna Muir (B.S. Florida Gulf Coast University) Oct 2021 – present
Brandon Sulc (B.S. University of North Carolina Wilmington) Oct 2021 – present

Undergraduate students

Kyle R. Penn (B.S. Chemistry, NC State University) Jan 2017 – May 2018
Mirna Dave (B.S. double major in Biol. Sciences/International studies, NC State University) Jan 2017 – May 2017
Héctor A. Muñoz Miró (B.S. University of Puerto Rico – Río Piedras, NSF REU) Jun 2017 – Aug 2018
Nikolas R. Burton (B.S. Chemistry, NC State University) Aug 2017 – May 2019
John D. Johnson (B.S. Chemistry, NC State University) Aug 2017 – May 2019
Rachel Williams (B.S. Chemical Engineering, NC State University) Sept 2017 – Aug 2018
Gabriel I. Figueroa-Martínez (B.S. University of Puerto Rico – Río Piedras, NSF REU) Jun 2018 – Aug 2018
Casey Thompson (B.S. Chemistry, NC State University) May 2019 – May 2021
Kaitlyn Flynn (B.S. University of Miami, Ohio, NSF REU) Jun 2019 – Aug 2019
Luke Call (B.S. Chemistry, NC State University) Sept 2019 – May 2021
Hayden Mann (B.S. Chemistry, NC State University) Sept 2021 – present
Emma Messina (B.S. Chemistry, NC State University) Sept 2021 – present
Maandvi Shah (B.A. Chemistry, NC State University) Sept 2021 – present

Training of undergraduate students prior to NCSU

Carole Pelletier (M.S. Chemistry, Québec-France Exchange Internship)	Sept 2008 – Aug 2009
Éric Lévesque (B.Sc. Chemistry, Université de Sherbrooke)	Sept 2009 – Dec 2009
Nicolas Bélanger-Desmarais (B.Sc. Chemistry, Université de Montréal)	May 2011 – Aug 2011

Teaching assistant experience

Teaching assistant, Organic Chemistry III (for 3 rd year undergraduate students)	Jan 2012 – May 2012
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SERVICE

Professional Service on campus

Graduate Admission Committee, NCSU Dept. of Chemistry	2016 – present
Graduate Students Advisory Committee (30 students), NCSU Dept. of Chemistry	2016 – present
Host for Seminar Speakers (9), NCSU Dept. of Chemistry	2016 – present
Graduate Student Representative (2 prelim., 1 thesis defense), NCSU College of Sciences	2016 – present
Safety Committee, NCSU Dept. of Chemistry	2017 – present
Organizer of Symposia on C–H Functionalization (14), NCSU Dept. of Chemistry	2017 – present
Reviewer for Undergraduate Research Grants, OUR, NCSU College of Sciences	2017 – present
NSF-REU Mentor (5 summers), NCSU Dept. of Chemistry	2017 – 2019
GSK Fellowship Committee, NCSU Dept. of Chemistry	2018 – 2019

Professional Service off campus

Reviewer for >20 scientific journals (>60 publications overall), including: <i>Journal of the American Chemical Society, Angewandte Chemie, ACS Catalysis, Chemical Science, Organic Letters, Chemical Communications, Advanced Synthesis & Catalysis, Organometallics, Journal of Organic Chemistry, Chemistry – A European Journal, European Journal of Organic Chemistry, New Journal of Chemistry, Tetrahedron Letters, Bioorganic & Medicinal Chemistry, Organic & Biomolecular Chemistry, Synlett, Synthesis, Asian Journal of Organic Chemistry, Beilstein Journal of Organic Chemistry</i>	2016 – present
Reviewer, ACS Petroleum Research Funds (5 reports)	2018 – present
Reviewer, FRQNT panel for Faculty Starting Grants (Canada, 8 reports)	2018 – present
Judge, Sci-athon 2020 (UNC Chapel Hill)	2020
Member, Science of Synthesis Early Career Advisory Board (Thieme Chemistry)	2022– present

RESEARCH SUPPORT

Faculty Research and Professional Development Program (NCSU College of Sciences, \$3,000) 'Construction of All Carbon Quaternary Centers by Azole-Catalyzed [3,3] Sigmatropic Rearrangement'	2018 – 2019
Faculty Early Career Development (CAREER) Program (NSF CAREER Award, DECLINED) 'CAREER: Unlocking Access to Cyclopropanone Analogues as Versatile High-Energy Intermediates in Synthesis'	2021 – 2026
Maximizing Investigators' Research Award (MIRA) for Early Stage Investigators (NIH R35, \$1.8M) 'Unlocking Access to Cyclopropanones as Divergent Reactive Intermediates in Synthesis'	2021 – 2026

REFERENCES

Available upon request.