

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)

- Jung, M.; Lindsay, V. N. G. *J. Am. Chem. Soc.* **2022**, *144*, 4764-4769. 'One-Pot Synthesis of Strain-Release Reagents from Methyl Sulfones'.
- 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.'
- 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'.
- 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)
- 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'.
- 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'.
- 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'.
- 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'.
- 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'.
- 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'.
- 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*)
- 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*-Heterocycles'.
- 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'.
- 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'.
- 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'.
- Moreau, B.; Alberico, D.; Lindsay, V. N. G.; Charette, A. B. *Tetrahedron* **2012**, *68*, 3487-3496. 'Catalytic Asymmetric Synthesis of Nitrocyclopropane Carboxylates'.
- 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 Diacceptor 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)

46. *Department 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* (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* (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* (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* (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. *258th ACS 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. *258th ACS 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. *248thACS 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. *240thACS 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. *258thACS 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 (QOMSBQC, 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 (QOMSBQC, 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 (QOMSBQC, 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 3rd year undergraduate students) Jan 2012 – May 2012

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.