

Timothy L. Troyer

Department of Chemistry
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Professional

- 2023-present Chaplain, Timbercrest Living Facility
- 2013-present Pastor, Huntington Church of the Brethren, Huntington, IN.
- 2018-2022 Visiting Assistant Professor of Chemistry, Denison University, Granville, OH.
- 2012-2018 Assistant Professor of Chemistry, Huntington University, Huntington, IN.
- 2008-2012 Assistant Professor of Chemistry, West Virginia Wesleyan College,
Buckhannon, WV.
- 2002-2003 Associate Research Scientist II, Bristol-Myers Squibb, Wallingford, CT.
- 2000-2002 Associate Research Scientist I, Bristol-Myers Squibb, Wallingford, CT.

Education

- 2019-2023 MDiv, Bethany Theological Seminary, Richmond, IN.
- 2016-2019 Certificate of Theological Studies, Bethany Theological Seminary, Richmond,
IN.
- 2006-2008 Ph.D. in Organic Chemistry, Vanderbilt University, Nashville, TN.
- 2003-2006 Graduate Studies in Organic Chemistry, Indiana University, Bloomington, IN.
- 1996-1999 M.S. in Bioorganic Chemistry, University of Michigan, Ann Arbor, MI.
- 1992-1996 B.A in Chemistry and Physics, Goshen College, Goshen, IN.

Courses Taught

- Denison University
 - Chem 131 – Atoms and Molecules: Structure and Dynamics
 - Chem 132 – Organic Structure and Reactivity
 - Chem 251 – Intermediate Organic Chemistry
- Huntington University
 - Chem 111 – Chemistry & Contemporary Society
 - Chem 141 – Intro to Biological Chemistry
 - Chem 141L – Intro to Biological Chemistry lab
 - Chem 263 – Organic Chemistry I

- Chem 263L – Organic Chemistry I lab
- Chem 411 - Biochemistry
- Chem 441 – Advanced Inorganic Chemistry
- NSJ164 – Drugs and Society
- West Virginia Wesleyan College
 - Chem 105/106 – General Chemistry for non-majors
 - Chem 130 – General Chemistry I for sci-majors
 - Chem 221/222 – Organic Chemistry
 - Chem 223L/224L – Organic Chemistry Lab
 - Chem 350 – Biochemistry
 - Chem 351L – Biochemistry Lab
 - Chem 370 – Advanced Topics: Medicinal Chemistry
 - Chem 370 – Advanced Topics: Advanced Spectroscopy

Professional Development

- 2018 Biennial Conference on Chemical Education (BCCE).
- 2016 Biennial Conference on Chemical Education (BCCE).
- 2016 Annual Conference of the Ohio Project Kaleidoscope (OH-PKAL).
- 2015 Annual Conference of the Midwest Association of Chemistry Teachers in Liberal Arts Colleges (MACTLAC).
- 2012 Annual Conference of the Midwest Association of Chemistry Teachers in Liberal Arts Colleges (MACTLAC).
- 2008 Biennial Conference on Chemical Education (BCCE).

Awards and Honors

- 2017 Professor of the Year finalist (top 5) – Huntington University
- Spring 2008 Teaching Partner with Prof. Sandra Rosenthal – Vanderbilt University.
- 2008 Center for Teaching and Learning Teaching Certificate – Vanderbilt University.
- 2007 Outstanding Teaching Assistant Award Nomination – Vanderbilt University.
- 2003 Eli Lilly Fellowship.
- 2002 Bristol-Myers Squibb Pharmaceutical Research Institute Star Award.
- 1997 Graduate Student Mentor – University of Michigan.

Activities and Associations

- 2015-present Midwest Religion and Science Society
- 2015-2018 Indiana Academy of Sciences
- 2012-2018 Midwest Association of Chemistry Teachers in Liberal Arts Colleges
- 1998-present American Chemical Society.

Institutional Service

- 2016-2017 2009-2012
- 2016 Core Committee
- 2015-2016 Honduras Spring Break Mission Trip Faculty Leader
- 2014-2015 Campus Ministries Committee
- 2013-2017 Campus Ministries Small Group Leader
- 2009-2012 Teacher Education Committee

Institutional Review Board
Research Admissions and Academic Standing Committee

Community Service

2015 Northeast Indiana Regional Science and Engineering Fair Judge
2014-2016 Northeast Indiana ACS section Chemistry Olympiad and scholarship exam
2015-2017 Walk Into My Future demonstrations
2014-2016 Science Discovery Day demonstrations
2010-2011 Junior Science and Humanities Symposium lab demonstration
2010-2011 West Virginia Wesleyan College Alternative Spring Break leader, New Orleans, LA
2017-2018 Huntington County Baseball T-ball Coach, IN
2011-2012 Upshur County Little League Baseball Coach, WV
2009-2010 West Virginia Secondary School Activities Commission Wrestling Referee
2000-2002 Connecticut Interscholastic Athletic Conference Wrestling Referee
1997-1999 Michigan High School Athletics Association Wrestling Referee

Presentations by Undergraduate Research Students (student presenter underlined)

“Metal-free dihydroxylation of alkenes in water.” McCombs, A. M.; Mahaffey, O. R.; Troyer, T. L. *Undergraduate Poster Session at the 263rd American Chemical Society National Meeting and Exposition*, San Diego, CA, March 20 – 24, 2022.

“Synthesis of 2,2-Dimethylpropanediol Carbonates and Thiocarbonates as Carbene Sources.” Sauve, V.; Troyer, T. L.; Knoph, K. E. *Undergraduate Poster Session at the 259th American Chemical Society National Meeting and Exposition*, Philadelphia, PA, March 22 – 26, 2020, cancelled due to COVID.

“Synthesis of Catechol Carbonates and Thiocarbonates as Carbene Sources.” Knoph, K. E.; Troyer, T. L.; Sauve, V. *Undergraduate Poster Session at the 259th American Chemical Society National Meeting and Exposition*, Philadelphia, PA, March 22 – 26, 2020, cancelled due to COVID

“Progress Towards the Development of a Novel aza-Petasis Ferrier Rearrangement.” Springer, K. R.; Handtke, J. A.; Troyer, T. L. *Indiana Academy of Sciences Annual Meeting*, 2015.

“Progress Towards the Development of a Novel aza-Petasis Ferrier Rearrangement.” Springer, K. R.; Handtke, J. A.; Troyer, T. L. *Butler Undergraduate Research Conference*, 2015.

“Progress Towards the Development of a Novel aza-Petasis Ferrier Rearrangement.” Springer, K. R.; Handtke, J. A.; Troyer, T. L. *Huntington University Undergraduate Research Forum*, 2015.

“The Direct Reductive Amination of Unprotected α -Amino Acids.” Cressman, S.; Weigold, S.; Troyer, T. L. *Huntington University Undergraduate Research Forum*, 2014.

“Reducing the Imine from the addition of an Aldehyde and Amino Acid.” Renfrew, K.; Troyer, T. L. *Huntington University Undergraduate Research Forum*, 2013.

“Synthesis of 1,2-dihydroxy-2-phenylpropanoic acids.” Savariar, A.; Troyer, T. L. *Huntington University Undergraduate Research Forum*, 2013.

“New Microboiling Point Technique for the Undergraduate Laboratory.” King, W. J.; Given, L. M.; Lehman, J. A.; Hood, M.; Whitlatch, K. N.; Wagoner, J. D.; Troyer, T. L. *Poster session at the Joint 46th Midwest and 39th Great Lakes Regional Meeting of the American Chemical Society*, St. Louis, MO, October 19 – 22, 2011.

“Recycling Gold from Electronics.” Hummer, A. W.; Gregg, H. J.; Troyer, T. L. *Poster session at the Joint 46th Midwest and 39th Great Lakes Regional Meeting of the American Chemical Society*, St. Louis, MO, October 19 – 22, 2011.

“Determination of Adenine Nucleotide Levels in Rat Kidney by HPLC to Elucidate the Role of Resveratrol in Reducing Cisplatin Toxicity.” Hummer, A. W.; Gregg, H. J.; Valentovic, M.; Troyer, T. L. *Poster session at the Joint 46th Midwest and 39th Great Lakes Regional Meeting of the American Chemical Society*, St. Louis, MO, October 19 – 22, 2011.

“Isolation and Characterization of Novel Natural Products Isolated from Plants Utilized in Traditional Folk Medicine.” Whitlatch, K. N.; Wagoner, J. D.; Sparks, J.; Huggins, L. G.; Troyer, T. L. *Symposia at the Joint 46th Midwest and 39th Great Lakes Regional Meeting of the American Chemical Society*, St. Louis, MO, October 19 – 22, 2011.

“Isolation and Structural Characterization of Novel Natural Products from *Rhizophora mangle*.” Whitlatch, K. N.; Wagoner, J. D.; Miller, M. J.; Huggins, L. G.; Troyer, T. L. *WV-INBRE Summer Research Symposium poster session*, 2011.

“The Use of Antibacterial and Cytotoxic Activity Assays for the Isolation of Biologically Active Natural Products from *Rhizophora mangle*.” Whitlatch, K. N.; LaFata, G. L.; Cook, S. E.; Wagoner, J. D.; Sparks, J.; Troyer, T. L.; Huggins, L. G. *WV-INBRE Summer Research Symposium poster session*, 2010.

“Isolation and Structural Characterization of Novel Natural Products from *Rhizophora mangle*.” Wagoner, J. D.; Sparks, J.; Whitlatch, K. N.; LaFata, G. L.; Cook, S. E.; Huggins, L. G.; Troyer, T. L. *WV-INBRE Summer Research Symposium poster session*, 2010.

“Investigation of Kinetic and Mechanistic Aspects of the Corey-Winter Olefination.” Dranichak, D. M.; Dill, T. L.; Warner, A.; Wolf, J. A.; Wriston, A. S.; Troyer, T. L. *Poster session at the Central Regional Meeting of the American Chemical Society*, Cleveland, OH, May 20 – 23, 2009.

“Development of the aza-Petasis Reaction for the Efficient Synthesis of Pyrrolidine Containing Bioactive Substances.” Dill, T. L.; Dranichak, D. M.; Wolf, J. A.; Troyer, T. L. *WV-INBRE Summer Research Symposium poster session*, 2009.

“The Isolation of Potent Cytotoxic Natural Products from *Centaurea cyanus*.” Warner, A.; Hicks, M.; Bailey, M. A.; Hua, M. S.; Troyer, T. L.; Huggins, L. *WV-INBRE Summer Research Symposium poster session*, 2009.

Presentations

“Readily accessible vicinal diols for a kinetic study of the Corey-Winter olefination .” Troyer, T. L.; McCombs, A. M.; Mahaffey, O. R. *Symposia at the 263rd American Chemical Society National Meeting and Exposition*, San Diego, CA, March 20 – 24, 2022.

“Generating Dioxacarbenes from Carbonates and Thiocarbonates and the Implications for the Mechanism of the Corey-Winter Olefination.” Troyer, T. L.; Sauve, V.; Knoph, K. E. *Symposia at the 259th American Chemical Society National Meeting and Exposition*, Philadelphia, PA, March 22 – 26, 2020, cancelled due to COVID.

“Exploring the Effect of Reagent and Solvent on the Electrophilic Addition of Bromine to Cinnamic Acid in the Undergraduate Organic Laboratory.” Troyer, T. L. *Symposia at the 25th Biennial Conference on Chemical Education*, Notre Dame, IN, July 29 – August 2, 2018.

“Using Nerf Guns to Explain Equilibrium.” Troyer, T. L. *Symposia at the 25th Biennial Conference on Chemical Education*, Notre Dame, IN, July 29 – August 2, 2018.

“The Joy of Discovery in the Search to Improve the Treatment of Disease.” Troyer, T. L. *Northeast Indiana ACS section Annual Banquet keynote address*, May 2016.

“Progress Towards the Development of a Novel aza-Petasis Ferrier Rearrangement.” Springer, K. R.; Handtke, J. A.; Troyer, T. L. *Symposia at the Joint 41st Great Lakes and 46th Central Regional Meeting of the American Chemical Society*, Grand Rapids, MI, May 27-30, 2015.

“The Direct Reductive Amination of Unprotected α -Amino Acids” Troyer, T. L. *Taylor University Seminar Series*, September 2013.

“Breaking Tim: Twenty Years of Making Drugs Legally.” Troyer, T. L. *Huntington University Smith Lecture Series*, March 2013.

“The Isolation of New Bioactive Compounds from Plants.” Troyer, T. L. *Junior Science and Humanities Symposium keynote address*, April 2012.

“Assessing the Impact of Chemistry in Context Vignettes on Student Engagement and Learning.” Troyer, T. L.; Rosenthal, S. J. *Poster session at the 20th Biennial Conference on Chemical Education*, Bloomington, IN, July 27 – July 30, 2008.

“The Development of a New syn-Glycolate Mannich Reaction.” Troyer, T. L.; Muchalski, H.; Johnston, J. N. *Symposia at the 60th Southeastern Regional Meeting of the American Chemical Society*, Nashville, TN, November 12-15, 2008.

Student Thesis

"A kinetic study of the elimination of various 1,2 diols" McCombs, A. M. *Student Scholarship*, **2022**, 98.

Peer Reviewed Publications

“A Versatile and Efficient, Green Dihydroxylation of Alkenes using *N*-Bromosuccinimide.” Troyer, T. L.; McCombs, A. M.; Mahaffey, O. R.; Callahan, M.; Rios Arango, C. *manuscript in preparation*.

“Modified Siwoloboff-Wiegand Procedure for the Determination of Boiling Points on a Microscale.” Troyer, T. L.; Mounsey, K. R.; King, W. J.; Givens, L. M.; Hutton, J. A.; Hood Benges, M.; Whitlatch, K. N. and Wagoner, J. D. *J. Chem. Ed.* **2018**, 95, 1406-1410.

“Antibacterial and cytotoxic effects of Red Mangrove (*Rhizophora mangle* L. Rhizophoraceae) fruit extract.” Hicks, M.; Bailey, M. A.; Thiagarajan, T. R.; Troyer, T. L.; and Huggins, L.G. *European J. Sci. Res.* **2011**, 63, 439-446.

“Origins of Selectivity in Brønsted Acid Promoted Diazoalkane-Azomethine Reactions (The aza-Darzens Aziridine Synthesis)” Troyer, T. L.; Muchalski, H. M.; Hong, K.B.; Johnston, J. N. *Org. Lett.* **2011**, 13, 1790-1792.

“Preparation of Isopropyl 2-Diazoacetyl(phenyl)carbamate.” Muchalski, H.; Doody, A. B.; Troyer, T. L.; Johnston, J. N. *Org. Synth.* **2011**, 88, 212-223.

“To Protonate or Alkylate: Stereoselective Brønsted Acid Catalysis of Carbon-Carbon Bond Formation Using Diazoalkanes, Leading to Highly Functionalized Chiral Small Molecules” Johnston, J. N.; Muchalski, H.; Troyer, T. L. *Angew. Chem., Int. Ed.* **2010**, 49, 2290-2298.

“Solid Phase Synthesis of Novel Pyrrolidinedione Analogs as Potent HIV-1 Integrase Inhibitors” Pendri, A.; Troyer, T. L.; Sofia, M. J.; Walker, M. A.; Naidu, N.; Banville, J.; Meanwell, N. A.; Dicker, I.; Lin, A.; Krystal, M.; Gerritz, S. J. *J. Comb. Chem.* **2010**, 12, 84-90.

“Brønsted Acid Activation of a α -Diazo Imide: A syn- Selective Glycolate Mannich Reaction.” Troyer, T. L.; Muchalski, H. M.; Johnston, J. N. *Chem. Comm.* **2009**, 6195-6197.

Grants

“Continued development of an aza-Petasis Ferrier Rearrangement.” Troyer, T. L. *Hammel Research Endowment Grant*, **2015**, \$5,000.

“The development of an aza-Petasis Ferrier Rearrangement.” Troyer, T. L. *Hammel Research Endowment Grant*, **2014**, \$6,500.

“The reductive amination of unprotected α -amino acids.” Troyer, T. L. *Hammel Research Endowment Grant*, **2013**, \$6,000.

“Isolation of potential lead compounds from nontraditional sources.” Troyer, T. L.; Huggins, L. G. *WV-INBRE Outreach Core Faculty Research Development Grant*, **2010-2011**, \$46,000.

“West Virginia IDeA Network of Biomedical Research Excellence (WV-INBRE).” Rankin, G. O.; Valentovic, M.; Hardman, E. W.; Troyer, T. L. *NIH administrative supplement*, **2009-2011**, \$151,316.

“Modernization of the Undergraduate Organic Chemistry Laboratory to Enable the use of Microscale Reactions and Green Chemistry” Troyer, T. L. *WV EPSCoR Innovation Grant*, **2009-2010**, \$40,000.

“Isolation of Biologically Active Substances from *Centaurea Cyanus*.” Troyer, T. L.; Huggins, L. G. *WV-INBRE Outreach Core Faculty Research Development Grant*, **2009**, \$50,000.

“A Short and Efficient Synthesis of Cyclopropanones: a Versatile Intermediate for the Synthesis of Biologically Active Molecules.” Troyer, T. L. *NASA-WV EPSCoR Research Seed Grant*, **2009**, \$10,000.

“A Short and Efficient Synthesis of Cyclopropanones: a Versatile Intermediate for the Synthesis of Biologically Active Molecules.” Troyer, T. L. *NASA-WVSGC Research Enhancement Grant*, **2008**, \$3000.

References

Available upon request