STEVEN L. TRIPP

Department of Chemistry
Indiana Wesleyan University
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Marion, IN 46953

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EDUCATION

Ph.D. Organic Chemistry — 2003

Purdue University, West Lafayette, IN
Research Thesis: "TEM and STS studies of Resorcinarene-Passivated Nanostructured Interfaces."
Dr. Alexander Wei

Applied Management Principles Program, Krannert School of Management — 2002
Purdue University, West Lafayette, IN

B.S. Biology and Chemistry — 1996
Indiana Wesleyan University, Marion, IN

PROFESSIONAL EXPERIENCE

Indiana Wesleyan University – Department of Chemistry — 2007 – Present
Assistant Professor of Chemistry (2007 – 2011)
Associate Professor of Chemistry (2011 – Present)
Department Coordinator, Chemistry (2015 – 2023)

Indiana Wesleyan University – Division of Natural Sciences — 2021
Interim Division Chair

Purdue University – Department of Industrial and Physical Pharmacy — 2005 – 2007
Postdoctoral Research Associate
Dr. Lynne Taylor

Purdue University – Department of Physics — 2003 – 2005
Postdoctoral Research Associate
Dr. Ronald Reifenberger

Purdue University – Department of Chemistry — 1997 – 2003
Doctoral Research Assistant
Dr. Alexander Wei

Purdue University – Department of Chemistry — 1997 – 2003
Course Supervisor and Teaching Assistant for Organic Chemistry Laboratory

Strauss Veal Feeds, Inc., North Manchester, IN — 1996 – 1997
Laboratory Technician

AWARDS AND HONORS

Brown-Wetherill Teaching Fellowship, Purdue University 1997
Summa Cum Laude Graduate, Indiana Wesleyan University 1996

PROFESSIONAL ASSOCIATIONS

American Chemical Society
American Scientific Affiliation

GRANT AND FUNDING ACTIVITIES

Hodson Summer Research Institute Award 2025
- Development of a multi-probe water analysis system
- Design of a liquid flow system for mixing and monitoring chemical reactions.

Hodson Summer Research Institute Award 2023
- Reduction of Disposal Cost of Used Aqueous Inorganic Salt Solutions from Teaching Laboratories
- Development of Analytical Techniques for the Identity of Water and Soil Contaminants Toward the Organization of a Long-Term Environmental Study of the Mississinewa Watershed

Hodson Summer Research Institute Award 2022
- Design and Implementation of a Low-Cost Modular Spectrometer for Teaching Laboratory and Demonstration Applications
- Reduction of Disposal Cost of Used Aqueous Inorganic Salt Solutions from Teaching Laboratories

Hodson Summer Research Institute Award 2021
- Impact of Student Design, Construction, and Implementation of Low-Cost Spectrophotometers in the Science Curriculum

Lilly Strategic Emphasis Award 2019 – 2020
- Impact of Student Designed and Constructed Low-Cost Spectrophotometers in the Collegiate and Secondary Science Curriculum

Hodson Summer Research Institute Award 2019
- Investigation into the Effect of Extraction Methods and Chemical Composition on the Antimicrobial Properties of Essential Oils

Hodson Summer Research Institute Award 2018
- Investigation into the Effect of Extraction Methods and Chemical Composition on the Antimicrobial Properties of Essential Oils

Hodson Summer Research Institute Award 2017
- Investigation into the Effect of Humidity, Purity, and Particle Size on Vitamin Degradation Kinetics
- Investigating the Effect of Mobile Application Instruction on Student Performance

Hodson Summer Research Institute Award 2015
- Covalent Incorporation of Dyes and Antimicrobial Agents onto Monomeric Substrates for Polymer Studies
- Synthesis and Isomerization of Ant Pheromones

Lilly Research Load Award 2013 – 2014
- Data Analysis and Manuscript Preparation for Demonstrations and Laboratory Experiments in Undergraduate Organic Chemistry

Hodson Summer Research Institute Award 2013
- Study of Covalent Incorporation of Dyes and Antimicrobial Agents onto Monomeric Substrates for Polymer Studies

Lilly Scholarship of Teaching and Learning Award 2012 – 2013
- Modernization and Enhancement of a Gas Chromatograph for Student Research and Instruction

Hodson Summer Research Institute Award 2012
- Nucleophilic Reaction POGIL Activity Development for Integrated Laboratory and Lecture

Hodson Summer Research Institute Award 2011
- Nucleophilic Reaction POGIL Activity Development for Integrated Laboratory and Lecture

Lilly Scholarship of Teaching and Learning Award 2009 – 2010
- Teaching development and applied scientific training of undergraduate students while studying 'Drug Stability as a Function of Excipient Hygroscopicity.'

Lilly Scholarship of Teaching and Learning Award 2008 – 2009
- Teaching development and applied scientific training of undergraduate students while studying 'Drug Stability as a Function of Excipient Hygroscopicity.'

PUBLICATIONS

1. Devers, C.; Devers, E.; Alayan, A.; Echeverry, S.; Uros-Yarid, A.; Robertson, J.; Baquet, Z.; Heavner, S.; Ruiz, R.; Miller, P.; Ho, N., Davis, K.; Johnson, A.; Deeter, C.; Tripp, S.; Leonard, S. "The Impact of Text Message Quizzing on Course Performance in General Chemistry." *Proceedings of Innovate Learning Summit 2021*; Bastiaens, T., Eds.; United States: Association for the Advancement of Computing in Education (AACE), 2021; 515-522. Online, retrieved January 28, 2022 from https://www.learntechlib.org/primary/p/220323/

2. Devers, C.; Devers, E.; Alayan, A.; Deeter, C.; Johnson, A.; Echeverry, S.; Tompkin, N.; Tripp, S.; Leonard, S. "Supporting Student Success: Implementing Evidence Based Approaches using Text Messaging." *Proceedings of Innovate Learning Summit 2020*; Bastiaens, T., Marks, G., Eds.; United States: Association for the Advancement of Computing in Education (AACE), 2020; 660-666. Online, retrieved January 28, 2022 from https://www.learntechlib.org/primary/p/218862/

3. Wei, A.; Tripp, S. L.; Liu, J.; Kasama, T.; Dunin-Borkowski, R. E. "Calixarene-Stabilized Cobalt Nanoparticle Rings: Self-Assembly and Collective Magnetic Properties." Supramolecular Chemistry, 21 (3/4), 189 (2009).
4. Kasama, T.; Dunin-Borkowski, R. E.; Scheinfein, M. R.; Tripp, S. L.; Liu, J.; Wei, A. "Reversal of Flux Closure States in Cobalt Nanoparticle Rings With Coaxial Magnetic Pulses." Advanced Materials, 20, 4248 (2008).
5. Jana, A.; Dhayal, B.; Tripp, S. L.; Raman, A.; Reifenberger, R. G. "Microcantilever mechanics in flowing viscous fluids." Appl. Phys. Lett. 90, 114110 (2007).
6. Dunin-Borkowski R. E.; Kasama, T.; Wei, A.; Tripp, S. L.; Hÿtch, M. J.; Snoeck, E.; Harrison, R. J.; Putnis, A. "Off-axis electron holography of magnetic nanowires and chains, rings, and planar arrays of magnetic nanoparticles." Microscopy Research And Technique 64, 390 (2004).
7. Kim, B.; Carignano, M. A.; Tripp, S. L.; Wei, A. "Cluster Size Analysis of Two-Dimensional Order in Colloidal Gold Nanoparticle Arrays." Langmuir 20, 9360 (2004).
8. Tripp, S. L.; Dunin-Borkowski, R. E.; Wei, A. "Flux Closure in Self-Assembled Cobalt Nanoparticle Rings." Angew. Chem. Int. Ed. Engl. 42, 5591 (2003).
9. Tripp, S. L.; Pusztay, S. V.; Ribbe, A.; Wei, A. "Self-Assembly of Cobalt Nanoparticle Rings", J. Am. Chem. Soc. 124, 7914 (2002).
10. Balasubramanian, R.; Kim, B.; Tripp, S. L.; Wang, X.; Lieberman, M.; Wei, A. "Dispersion and Stability Studies of Resorcinarene-encapsulated Gold Nanoparticles." Langmuir 18, 3676 (2002).
11. Labonté, A. P.; Tripp, S. L.; Reifenberger, R.; Wei, A. "Resistance Measurements of Highly Insulating Self-assembled Monolayers on Au(111) by Scanning Tunneling Spectroscopy", J. Phys. Chem B, 106, 8721 (2002).
12. Kim, B.; Tripp, S. L.; Wei, A. "Self-Organization of Large Gold Nanoparticle Arrays." J. Am. Chem. Soc. 123, 7955 (2001).
13. Wei, A.; Kim, B.; Sadtler, B.; Tripp, S. L. "Tunable Surface-enhanced Raman Scattering from Large Gold Nanoparticle Arrays." ChemPhysChem 2, 743 (2001).
14. Kim, B.; Tripp, S. L.; Wei, A. "Tuning the Optical Properties of Gold Nanoparticle Arrays." Mater. Res. Soc. Symp. Proc. Ser. 676, Y.6.1 (2001).
15. Wei, A., Kim, B.; Pusztay, S. V.; Tripp, S. L.; Balasubramanian, R. "Resorcinarene-encapsulated Nanoparticles: Building Blocks for Self-Assembled Nanostructures." J. Inclusion Phenomena Macrocyclic Chem. 41, 83 (2001).
16. Kim, B.; Tripp, S. L.; Sadtler, B.; Wei, A. "Nanostructured Materials as Biomolecular Sensors for Cell Transport." IEEE/LEOS 2001 Annu. Mtg., 263 (invited paper).
17. Ostrander, J.; Laudermilch, E.; Linna, N.; Tripp, S. L. "Demonstration of Variables Affecting the rate of Unimolecular Substitution Reactions," manuscript in preparation.

PRESENTATIONS

1. Poster Presentation, Leonard, S., Tripp, S., Devers, E. E., Devers, C. J., Deeter, C., Johnson, A., Heavner, S., & Tompkin, N. *Improving Learning Using Text Messaging.* Poster presented at the Association for Psychological Science 32nd Annual Convention, Chicago, IL. (2020, May).

2. Poster Presentation, Gammon, B.C., Stephenson, Z., Tripp, S.L. *Investigation into the effect of extraction methods & chemical composition on the antimicrobial properties of essential oils*. West Michigan Regional Undergraduate Science Research Conference, Grand Rapids, MI, November, 2019.
3. Oral Presentation, Deeter, C., Devers, C. J., Leonard, S., Devers, E. E., Tripp, S., & Leonard, J. (2018, April). *A Text Messaging Approach to Learning in Chemistry*. Butler Undergraduate Research Conference, Indianapolis, IN, April 2019
4. Poster Presentation, Devers, E. E., Leonard, S., Devers, C. J., Tripp, S., Johnson, A., & Alayan, A. J. *A text messaging approach to improving learning*. Poster presented at the Association for Psychological Science 31st Annual Convention, Washington, DC. (2019, May).
5. Poster Presentation, Devers, C. J., Leonard, S., Devers, E. E., Tripp, S., Leonard, J., Johnson, A., & Alayan, A. J. *Supporting evidence-based practices using text messaging in general chemistry.* 25th Biennial Conference on Chemical Education, Notre Dame, IN, July 2018.
6. Oral Presentation, Johnson, A., Devers, C. J., Leonard, S., Devers, E. E., Tripp, S., & Leonard, J. (2018, April). *Daily Student Engagement with Text Messages in General Chemistry*. Butler Undergraduate Research Conference, Indianapolis, IN, April 2018.
7. Poster Presentation, Devers, C. J., Leonard, S., Devers, E. E., Tripp, S., Leonard, J., Johnson, A., & Alayan, A. J. *Supporting evidence-based practices using text messaging*. Poster presented at the Association for Psychological Science 30th Annual Convention, San Francisco, CA (2018)
8. Poster Presentation, "Demonstrations of variables affecting the rate of unimolecular nucleophilic substitution." Ostrander, J. S.; Tripp, S.L. American Chemical Society National Meeting, Indianapolis, IN, September 2013.
9. Oral Presentation, Ostrander, J.S., Tripp, S.L. "Demonstrations of Unimolecular Substitution Reactions and the Effects of the Leaving Group, Solvent, Structure, and Temperature on the Rate of Reaction." Butler University Undergraduate Research Conference. Indianapolis, IN (2013)
10. Oral Presentation, "Crystallization Employing Emulsions." Tripp, S.L.; Taylor, L.S.; Byrn, S.R. Particle Technology & Crystallization Consortium Semi-Annual Meeting, Chicago, IL, October 2007.
11. Oral Presentation, "Microcantilever Arrays as Biological and Chemical Sensors." Tripp, S. L.; Dhayal, B.; Reifenberger, R. G. Electronic Materials Conference, South Bend, IN, June, 2004.
12. Poster Presentation, "Self-Assembly and Characterization of Cobalt Nanoparticle Rings." Tripp, S. L.; Dunin-Borkowski, R. E.; Pusztay, S. V.; Wei, A. International Symposium on Clusters And Nano-Assemblies: Physical and Biological Systems, Richmond, VA, November 2003.
13. Poster Presentation, "TEM Image Analysis of Self-Organized Large Gold Nanoparticle Arrays." Tripp, S. L.; Kim, B.; Wei, A. Microscopy & Microanalysis 2002, Quebec City, Quebec, Canada, August 2002.
14. Poster Presentation, "Insulating Self-Assembled Monolayers on Au(111): Estimating Molecular Resistance Using Scanning Tunneling Spectroscopy." Labonté, A. P.; Tripp, S. L.; Reifenberger, R.; Wei, A. 222nd American Chemical Society National Meeting, Chicago, IL, August 2001.

INDIANA WESLEYAN UNIVERSITY INTERNAL PRESENTATIONS

1. Poster Presentation, “Development of a Programmable Pump System for Exploring Chemical Kinetics in the Laboratory” Burns, K.I.; Tripp, S.L. HRI Colloquium, October 2025.

2. Poster Presentation, “Development of Analytical Techniques for the Identity of Water and Soil Contaminants: Digestion and Analysis of Heavy Metal Contaminants in Water” Van Wyngarden, T.G.; Snyder, J.M.; Tripp, S.L. HRI Colloquium, October 2023.

3. Poster Presentation, “Development of Analytical Techniques for the Identity of Water and Soil Contaminants” Snyder, J.M.; Tripp, S.L. HRI Colloquium, October 2023.

4. Poster Presentation, “Development and Implementation of Low-Cost Spectrophotometers in Science Curriculum” Tripp, B.L.; Tripp, S. L. HRI Colloquium, October 2022.

5. Poster Presentation, “Reduction of Disposal Cost of Used Aqueous Inorganic Salt Solutions from Teaching Laboratories” Snyder, J.M.; Tripp, S.L. HRI Colloquium, October 2022.

6. Poster Presentation, “Impact of Student Design, Construction, and Implementation of Low-Cost Spectrophotometers in the Science Curriculum.” Tripp, B.L.; Tripp, S. L. HRI Colloquium, October 2021.

7. Poster Presentation, “Effect of extraction method and solvent on chemical composition of *Eucalyptus globulus* and *Ocimum basilicum* essential oils.” Gammon, B. C.; Sprinkles, J. K.; Tripp, S. L. HRI Colloquium, October 2018.

8. Poster Presentation, “Investigation into the Effect of Extraction Methods and Chemical Composition on the Antimicrobial Properties of Essential Oils.” Lovins, A. R.; Gammon, B. C.; Sprinkles, J. K.; Tripp, S. L. HRI Colloquium, October 2018.

9. Poster Presentation, “The Effect of Humidity, Purity, and Particle Size on Vitamin Degradation Kinetics.” Potts, L.; Tripp, S. L. Celebration of Scholarship, April 2018.

10. Poster Presentation, “Daily Student Engagement with Text Messages in General Chemistry.” Johnson, A.; Tripp, S. L. Celebration of Scholarship, April 2018.

11. Poster Presentation, “Investigation into the Effect of Humidity, Purity, and Particle Size on Vitamin Degradation Kinetics” Potts, L.; Tripp, S. L. HRI Colloquium, October 2017

12. Poster Presentation, “Investigating the Effect of Mobile Application Instruction on Student Performance in General Chemistry.” Johnson, A.; Devers, C.; Leonard, S.; Devers, E. Tripp, S. L. HSRI Colloquium, October 2017.

13. Oral Presentation, “Covalent Incorporation of Antibacterial Agents onto Monomeric Substrates for Polymer Studies.” Gormong, E.; Tripp, S. L. Celebration of Scholarship, April 2017.

14. Poster Presentation, “Covalent Incorporation of Antibacterial Agents onto Monomeric Substrates for Polymer Studies.” Gormong, E.; Tripp, S. L. HSRI Colloquium, October 2016.

15. Poster Presentation, “Synthesis and Derivatization of Hexanolide Pheromone Derivatives for *Camponotus* Response Studies.” Croyle, B.; Tripp, S. L. Celebration of Scholarship, April 2016.

16. Poster Presentation, “Synthesis and Derivatization of Hexanolide Pheromone Derivatives for *Camponotus* Response Studies.” Croyle, B.; Tripp, S. L. HSRI Colloquium, October 2015.

17. Poster Presentation, “Study of Covalent Incorporation of Dyes and Antibacterial Drugs onto Monomers for Polymer Studies.” Cheesman, N.; Batman, B.; Tripp, S. L. Celebration of Scholarship, April 2014.

18. Oral Presentation, “Study of covalent incorporation of dyes & antibacterials onto monomers for polymer studies.” Cheesman, N.; Tripp, S. L. HSRI Colloquium, October 2013.

19. Poster Presentation, “Study of covalent incorporation of dyes & antibacterials onto monomers for polymer studies.” Cheesman, N.; Tripp, S. L. HSRI Colloquium, October 2013.

20. Poster Presentation, “Demonstrations of Variables Affecting the Rate of Unimolecular Substitution.” Ostrander, J.; Tripp, S. L. Celebration of Scholarship, April 2013.

21. Poster Presentation, “Nucleophilic Reaction POGIL Activity Development for Integrated Laboratory and Lecture.” Cunningham, C.; Tripp, S. L. Celebration of Scholarship, April 2013.

22. Poster Presentation, “Nucleophilic Reaction POGIL Activity Development for Integrated Laboratory and Lecture.” Cunningham, C.; Tripp, S. L. HSRI Colloquium, October 2012.

23. Poster Presentation, “Demonstration of Variable Effects on Unimolecular Nucelophilic Substitution.” Ostrander, J.; Tripp, S. L. HSRI Colloquium, October 2012.

24. Poster Presentation, “Nucleophilic Reaction POGIL Activity Development for Integrated Laboratory and Lecture.” Laudermilch, E.; Linna, N.; Tripp, S. L. Celebration of Scholarship, April 2012.

25. Poster Presentation, “Nucleophilic Reaction POGIL Activity Development for Integrated Laboratory and Lecture.” Laudermilch, E.; Linna, N.; Tripp, S. L. HSRI Colloquium, October 2011.

26. Poster Presentation, “High Performance Liquid Chromatography Method Development for Water-Soluble Vitamins.” Hodge, J.; Timm, A.; Winter, M.; Tripp, S. L. Celebration of Scholarship, April 2011.

27. Poster Presentation, “Degradation of Aspirin.” Young, N.; Tripp, S. L. Celebration of Scholarship, April 2009.

28. Poster Presentation, “Degradation of Folic Acid and Niacinamide in the Presence of Select Excipients.” Rittichier, J.; Foss, J.; Tripp, S. L. Celebration of Scholarship, April 2009.

CONFERENCES AND WORKSHOPS ATTENDED

1. "Tee up for 2024" Atomic Spectroscopy Seminar, Fishers, IN, August 2024.
2. 28th Biennial Conference on Chemical Education, University of Kentucky, KY, July 2024.
3. American Chemical Society Spring Meeting, Indianapolis, IN, March 2023.
4. 27th Biennial Conference on Chemical Education, Purdue University, IN, July 2022.
5. Agilent Lunch and Learn for ICP & ICP-MS, Fort Wayne, IN, February, 2019.
6. 25th Biennial Conference on Chemical Education, Notre Dame, IN, July 2018.
7. Creating Great Separations Seminar, Waters Corporation, Indianapolis, IN, April 2018.
8. Butler Undergraduate Research Conference, Indianapolis, IN, April 2018.
9. 246th American Chemical Society National Meeting, Indianapolis, IN, September 2013.
10. POGIL / SWH Workshop. University of Wisconsin – Platteville, Platteville, WI, July 2009.
11. 20th Biennial Conference on Chemical Education, Indiana University, Bloomington, Indiana, July 2008.
12. 15th Annual Symposium, Purdue / Michigan Program. "The Study of Supramolecular Assemblies and Solid-State Properties." Purdue University, West Lafayette, IN, September 2006.
13. 14th Annual Symposium, Purdue / Michigan Program. "The Study of Chemical and Physical Stability of Solid Pharmaceuticals." Purdue University, West Lafayette, IN, September 2005.
14. 46th Electronic Materials Conference, South Bend, IN, June, 2004.
15. International Symposium on Clusters and Nano-Assemblies: Physical and Biological Systems, Richmond, VA, November 2003.
16. Microscopy & Microanalysis 2002, Quebec City, Quebec, Canada, August 2002.
17. 222nd American Chemical Society National Meeting, Chicago, IL, August 2001.

UNIVERSITY SERVICE

CAS Academic Policies Committee	2024 – 2026
CAS Faculty Development Committee	2021 – 2023
CAS General Education Committee	2022 – 2023
CAS Curriculum Committee	2020-2022
SPAS Curriculum Committee	Fall 2021
Academic Affairs Council	Fall 2021
University Instructional Technology Council	2020-2021
CAS Assessment Committee	2014 – 2016
CAS Technology Committee	2009 – 2012
Strategic Planning Committee	2009 – 2010

UNIVERSITY INVOLVEMENT

"Universal Design for Inclusive Flourishing" Workshop, May 2023

Courageous Conversation: Breaking Down Silos: Encouraging Overlap and Interdisciplinary Thinking Between Academic Divisions, 2023

Scholarship Council Research & Writing Group, 2022-2023

Scholarship Council Writing Retreat, 2022

Strengths-Based Teaching Workshop, 2010

Instructional Design Workshop, 2010

Rank Promotion and the Portfolio Development Process Workshop, 2009

Life Calling Workshop for Faculty: Understanding the Life Calling Model, 2008

COMMUNITY INVOLVEMENT

Science Coach, *American Association of Chemistry Teachers, American Chemical Society* 2022-2024

Sonshine Preschool Board, Parent Representative 2019 – 2021

Greentown Wesleyan Church

- Head Trustee 2014 – 2018
- Board of Trustees 2012 – 2018
- Local Board of Administration 2012 – 2018
- Local Church Nominating Committee 2011
- Vacation Bible School Instructor 2010

ACADEMIC INVOLVEMENT

J.B. Scientific, GC & GC-MS Training 2019

Bruker Scientific, ESI Ion Trap Training Course 2017