Philip P. Lampkin

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Education

Ph.D. University of Wisconsin–Madison, Madison, WI — June 2019 – Aug 2025
GPA: 4.0
Areas: Catalysis and Physical Organic Chemistry

B.S. University of San Francisco, San Francisco, CA — Aug 2015 – May 2019
GPA: 3.98 (*Summa Cum Laude*)
Majors: Chemistry and Philosophy

Employment and Research History

Graduate Researcher, University of Wisconsin–Madison, Department of Chemistry — June 2019 – Present
Advisor: Samuel H. Gellman

- Developed families of bifunctional organocatalysts with flexible and foldamer molecular scaffolds to assess the contributions of diad connection and preorganization to catalyst reactivity.
- Created an open-source platform for low-cost, high-performance 3D printed photoreactors.
- Led teams to recreate the Advanced Organic Chemistry Laboratory curriculum at UW–Madison.

Undergraduate Researcher, University of San Francisco, Department of Chemistry — May 2017 – May 2019
Advisors: Claire Castro and William L. Karney

- Analyzed contributions of carbon atom tunneling to kinetics of isomerization reactions using DFT.
- Reported first instance of tunneling control where the preferred reaction is dominated by motions of heavy atoms.

Publications (Undergraduate Mentees, Graduate Mentees, (*) = Corresponding Author)

1. Michel, C. S.; **Lampkin, P. P.;** Shezaf, J. Z.; Castro, C.*; Karney, W. L.* "Tunneling by 16 Carbons: Planar Bond Shifting in [16]Annulene" *J. Am. Chem. Soc.* **2019**, *141*, 13, 5286–5293. https://doi.org/10.1021/jacs.8b13131

2. Girvin, Z. C.; **Lampkin, P. P.;** Liu, X.; Gellman, S. H.* "Catalytic Intramolecular Conjugate Additions of Aldehyde-Derived Enamines to α,β-Unsaturated Esters" *Org. Lett.* **2020***, 22,* 11, 4568–4573. https://doi.org/10.1021/acs.orglett.0c01666

3. **Lampkin, P. P.**; Thompson, B. J.; Gellman, S. H.* "Versatile Open-source Photoreactor Architecture for Photocatalysis Across the Visible Spectrum" *Org. Lett.* **2021**, *23*, 13, 5277–5281. https://doi.org/10.1021/acs.orglett.1c01910

4. Śmiłowicz, D.; Eisenberg, S.; Ahn, S. H.; Koller, A. J.; **Lampkin, P. P.;** Boros E.* "Radiometallation and photo-triggered release of ready-to-inject radiopharmaceuticals from the solid phase*" Chem. Sci.,* **2023**, *14*, 5038–5055. https://doi.org/10.1039/D2SC06977F

5. **Lampkin, P. P.***; Xu, A.; Esselman, B. J.; Schwarz, C. E.; Thompson, S. D.; Gellman, S. H. Hill, N.* "Energy Transfer Photocatalytic (*E*) → (Z) Isomerization of 2-Nitrocinnamaldehyde using an Inexpensive, 3-D Printed Photoreactor Monitored by ^{1}H NMR Spectroscopy and Computational Modeling" *J. Chem. Educ.,* **2024**, 101, 9, 3949–3957. https://doi.org/10.1021/acs.jchemed.4c00620 – ***ACS Editors' Choice Award***

6. **Lampkin, P. P.**; Gellman, S. H.* "Dual Activation Modes Enable Bifunctional Catalysis of Aldol Reactions by Flexible Dihydrazides" *J. Am. Chem. Soc.* **2025**, *147*, 4, 3731–3739. https://doi.org/10.1021/jacs.4c16143

7. **Lampkin, P. P.**; Guzei, I., A.; Sanders, K. M.; Gellman, S. H.* "Bifunctional Catalysis of Aldol Reactions by Dihydrazide Foldamers: Assessment of Conformational Preorganization" *Under review for JACS,* **2025**.

8. **Lampkin, P. P.**; Roberts, R. C.; Czeslawski, B.; Gellman, S. H.* "Tailoring Linker Composition of Simple Diamines to Enhance Bifunctional Catalysis of Crossed Aldol Condensations" *Manuscript in preparation,* **2025**.

Open-Source Software and Hardware

Wisconsin Photoreactor Platform (WPP)
Repository: https://github.com/uw-madison-chem-shops/wisconsin-photoreactor/

- An open-source architecture for low-cost, high-performance photoreactors for synthetic organic chemistry.
- WPP reactors are composed of a 3D-printed enclosure, an inexpensive LED light source, off-the-shelf electronics and a custom circuit board.
- Dimensions and features of WPP devices are readily varied, enabling users to produce photoreactors tailored to diverse experimental needs.
- Academic, industrial and instructional laboratories across the world use Wisconsin Photoreactors.

Awards, Honors and Funding

Graduate

William B. Dickinson Fellowship in Organic Chemistry (Departmental Award)	2024
Dorothy Powelson Award for Advanced Achievement in Teaching (University Award)	2024
Graduate Student Faculty Liaison Committee – Travel Award (Peer award)	2024
Graduate Student Faculty Liaison Committee – Mentorship Award (Peer Award)	2023
Robert C. Doban Mentor Award (Departmental Award)	2022
Outstanding Chemistry Teaching Assistant Award (Departmental Award)	2022
NSF GRFP – Honorable Mention (National Award)	2020

Undergraduate

Dr. Mel Gorman Award in Chemistry (Departmental Award)	2019
The American Institute of Chemists Student Award (Departmental Award)	2019
Robert M. Makus Memorial Service Award in Philosophy (Departmental Award)	2019
Whitehead Summer Research Fellowship in Chemistry (University Award)	2018
Dr. Ron Najafi Innovations and Entrepreneurship Award in Chemistry (Departmental Award)	2018

Professional Service and Outreach

TA Feedback Session: L&S Framework for Advancing Teaching Excellence – PhD Student Representative — Apr 2025
UW–Madison Letters & Sciences - Teaching & Learning Administration
https://teachlearn.ls.wisc.edu/ls-teaching-excellence/

TA Expectations Committee – PhD Student Representative — Mar - Sep 2025
UW–Madison Chemistry Department

Demystifying Graduate School Dinner – Event, Panelist — Feb 2025
UW-Madison Letters & Sciences - Honors Program
https://honors.ls.wisc.edu/event/demystifying-graduate-school-dinner-interactive-qa/

Facilitating More Effective Teaching Teams – Article, Contributor — Dec 2024
UW-Madison Letters & Sciences - Instructional Design Collaborative
https://idc.ls.wisc.edu/ls-design-for-learning-series/more-effective-teaching-teams/

Better Teaching Through Collaborative Instructor-TA Partnerships – Event, Panelist — May 2024
UW-Madison Teaching and Learning Symposium

The Benzine: A Graduate Student–Led Zine Celebrating Art and Chemistry – Article, Coauthor — Sep 2021
ACS Graduate & Postdoc Chemist Magazine
https://gpchemist.acs.org/lab-life/the-benzine.html

The Benzine – PhD Student Organization, Founder and Head Editor — Sep - Aug 2019 - 2022
UW–Madison Chemistry Department
https://chem.wisc.edu/thebenzine/

Teaching

Curriculum Development Volunteer, University of Wisconsin–Madison Jan 2022 – Present

- Developed, implemented and taught 3 new Advanced Organic Chemistry Laboratory instructional experiments focused on modern synthetic photocatalysis methods (4 semesters).
- A report on a photosensitized alkene isomerization instructional experiment was published in *J. Chem. Educ.* and received an *ACS Editors' Choice* award. I am one of two corresponding authors on this report.
- Two reports on instructional modules involving metallaphotoredox and organic photocatalysts are in preparation. Former mentees Riley Lehman and Bianca Czeslawski will be authors on these works.

Teaching Assistant, University of Wisconsin–Madison June 2019 – Jan 2022

- Led weekly Organic Chemistry Lab sections and pre-lab discussions (3 semesters).
- Taught biweekly discussion sections for Organic Chemistry I & II (3 semesters).

Mentees

Graduates	Years mentored	Current Role
Theodore Gierszel	2023 – 2024	Chemistry Education PhD Student (Stowe Group, UW-Madison)
R. Charles Roberts	2024 – Present	Organic Chemistry PhD student (Gellman Group, UW-Madison)
Undergraduates		
Angie Xu	2020 – 2022	Instructor (Teach for America)
Riley F. Lehman	2022 – 2023	Postbaccalaureate Fellow (Appella group, NIH), Incoming Organic Chemistry PhD Student (University of California San Diego)
Bianca Czeslawski	2023 – 2024	Incoming Organic Chemistry PhD Student (University of Utah)

References

Samuel H. Gellman, Professor and Chair, Department of Chemistry, University of Wisconsin–Madison
Research Advisor
gellman@chem.wisc.edu

Nicholas J. Hill, Organic Chemistry Lab Director, Department of Chemistry, University of Wisconsin–Madison
Academic Staff Member
hill@chem.wisc.edu

Riley F. Lehman, Postbaccalaureate Fellow, National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health
Former Undergraduate Mentee
rileylehman3@gmail.com

Postdoctoral Advisor

Matthew S. Sigman, Professor, Department of Chemistry, University of Utah
sigman@chem.utah.edu