

Curriculum Vitae

Brandon E. Haines, Ph.D.

Associate Professor of Chemistry, Westmont College, Santa Barbara, CA

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Faculty appointments

Associate Professor of Chemistry, Westmont College, June 2022 to present

Assistant Professor of Chemistry, Westmont College, August 2018 – June 2022

Education

Post-doctoral Fellow, NSF Center for C–H Functionalization (CCHF), Emerson Center for Scientific Computation and Chemistry Department, Emory University, Atlanta, GA, April 2014 – August 2018
Advisor: Dr. Jamal Musaeu

Doctor of Philosophy in Chemistry, University of Notre Dame, Notre Dame, IN, April 2014

Advisor: Dr. Olaf Wiest

Thesis title: “Computational Studies on the Mechanism of HMG-CoA reductase and Grignard $S_{RN}1$ Reaction”

Bachelor of Science in Chemistry, Grand Valley State University, Allendale, MI, May 2009

Research

Computational Models to Study Reactive Intermediates and Transition States Toward New Reactivity
Westmont College Chemistry Department, Santa Barbara, CA, August 2018 – present

Computational Studies of Transition Metal-Catalyzed C–H Functionalization. With Dr. Jamal Musaeu
NSF Center for C–H Functionalization (CCHF), Emerson Center for Scientific Computation and Chemistry Department, Emory University, Atlanta, GA, April 2014 – August 2018

Computational Studies on the Mechanism of HMG-CoA reductase and Grignard $S_{RN}1$ Reaction
With Dr. Olaf Wiest, University of Notre Dame Department of Chemistry and Biochemistry, Notre Dame, IN, Sept. 2009 – April 2014

Peer-reviewed Publications (ORCID: 0000-0002-5013-8396)

Independent Career (Westmont undergraduate students underlined, * indicates corresponding author)

6. Bruggeman, H. E.; Lorson, R.; Allen, L. J.; Jackson, L. G.; Gee, W.; Haines, B. E*. “A Computational Study of Gold(I)-Catalyzed Isomerization of Cyclooctyne: A Case Study on the Mechanism of C(sp³)-H insertion by Cationic Gold Alkyne Complexes and Model Studies”, *Organometallics*, **2024**, 43, 2147-2157, DOI: 10.1021/acs.organomet.4c00359.
5. Vaishnav, N. K.; Eghbarieh, N.; Jagtap, R. A.; Gose, A. E.; Haines, B. E.*; Masarwa, A.*, “Stereoselective C–B and C–H Bonds Functionalization of PolyBorylated Alkenes” *Angew. Chem. Int. Ed.*, **2024**, 136, e202412167, DOI: 10.1002/anie.202412167
4. Zahara, A.; Haines, B. E.*; Wilkerson-Hill, S.*, “Programmed Heterocycle Synthesis Using Halomuconitriles as Pyridinimine Precursors” *Org. Lett.* **2024**, 26, 2976–2981, DOI: 10.1021/acs.orglett.4c00547 (Pre-print: *ChemRxiv*, **2022**, DOI: 10.26434/chemrxiv-2022-9dftp)
3. Warioba, C. S.; Jackson, L. G.; Neal, M. A.; Haines, B. E*. “A Computational Study on the Role of Zn(II) Z-type Ligands in Facilitating Diaryl Reductive Elimination from Pt(II)” *Organometallics*, **2023**, 42, 16-26. DOI: 10.1021/acs.organomet.2c00305
2. Pan, A.; Chojnacka, M.; Crowley III, R.; Göttemann, L.; Haines, B. E.*; Kou, K. G. M.* “Synergistic Brønsted/Lewis Acid Catalyzed Aromatic Alkylation with Unactivated Tertiary Alcohols or Di-*tert*-Burylperoxide to Synthesize Quaternary Carbon Centers” *Chem. Sci.* **2022**, 13, 3539-3548, DOI: 10.1039/D1SC06422C.
1. Woods, E. F.; Berl, A. J.; Kantt, L. P.; Eckdahl, C. T.; Wasielewski, M. R.; Haines, B. E.*; Kalow, J. A.* “Light Directs Monomer Coordination in Catalyst-Free Grignard Photopolymerization” *J. Am. Chem. Soc.* **2021**, 143, 18755-18765, DOI: 10.1021/jacs.1c09595.

Mentored Work – 31 total

Mentoring

Maintain a research group of 3-6 undergraduate students per semester and 2-3 per summer.

- 26 total Westmont students
- 4 Major honors projects

Funding and Resources

Computational resources

- Allocation of ~100k core hours per year maintained through XSEDE and ACCESS since 2019
- Current – NSF ACCESS Explore (CHE190033), “Computational Models to Study Reactive Intermediates and Transition States Toward New Reactivity”
2/7/2025 – 5/11/2026 SDSC Expanse, 100K core hours

Grant submissions

- Petroleum Research Fund, Undergraduate Research Grant, “Computational Studies of the Excited States of Transition-metal Complexes with Z-type ligands”, Submitted 3/5/26, decision anticipated in fall 2026
- National Science Foundation, “RUI/Collaborative Research – Co-PI, Dr. Kevin Kou, Department of Chemistry, UC Riverside, submitted 2x
 - “Electrophilic Oxygen from Coordination Stabilized Aryloxenium Ions” (67% of requested funding, Submitted 9/28/23 (not funded)
 - “A Combined Theoretical and Experimental Approach to Investigating”, PI (67% of requested funding), Submitted 9/30/22, (not funded)

Professional Service

Peer Reviewer for:

ACS Catalysis, Journal of Organic Chemistry, Organometallics, Journal of Undergraduate Chemistry Research – 26 manuscripts since 2019
Tenure/Promotion packages – Two external cases

Awards and Honors

NSF Career Workshop attendee, Alexandria, VA, 2019

Emerson Center Symposium Poster Award, Emerson Center Symposium, Atlanta, GA, 2017

63rd Lindau Nobel Laureate Meeting, Young Researcher, US Delegation, Sponsor: Oak Ridge Associated Universities, 2013

Jeremiah P. Freeman Award for Teaching in Organic Chemistry, University of Notre Dame, Notre Dame, IN, 2013

Ruth L. Kirschstein National Research Service Award, Chemistry-Biochemistry-Biology Interface (CBB) Program, University of Notre Dame, Notre Dame, IN, 2010 – 2012:

Professional Affiliations

American Chemical Society, Member, 2023 – present

Professional Presentations

Independent Career

Invited and Contributed talks

- “Computational Studies of Transition-metal β -effects” *UC Riverside Organic Division Seminar*, Riverside, CA, February 13, 2026 [Invited]
- “Computational Studies of β -transition metal-stabilized vinyl cations” *ACS National Meeting*, Atlanta, GA, March 2026 [Contributed]

Contributed conference talks/posters by undergraduates (14)

ACS National Meeting, San Diego, CA, (2x, 2025), Atlanta, GA, (2026)

Mercury Conference for Undergraduate Computational Chemistry Research, UC Merced 2024

Westmont College Celebration of Summer Research (12x, 2019–2024)

Westmont College Student Research Symposium (4x, 2021, 2024)