

Cody R Aldaz

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Education

- August 2015–August 2020 **University of Michigan** | Ann Arbor, Michigan
Doctor of Philosophy in Chemistry,
Specialty: Physical
- September 2011–May 2015 **University of New Mexico** | Albuquerque, New Mexico
Bachelor of Science in Chemistry, GPA 3.91
Minor in Physics

Research Experience

- September 2020-Present **Stanford Science Fellow** | Stanford University, Stanford, California |
Advisor: Todd Martinez
Work in theoretical chemistry, focusing on reaction mechanisms in photochemistry and synthesis planning.
- June 2018 – August 2018 **Department of Energy Science Graduate Student Fellow** | Stanford Linear Accelerator (SLAC), Menlo Park, California | Advisor: Todd Martinez
High-throughput non-adiabatic calculations for studying photochemical syntheses.
- January 2016-August 2020 **PhD Candidate Research** | University of Michigan, Ann Arbor, Michigan |
Advisor: Paul Zimmerman
Developed automated procedures to study photochemical reactions, and methods to study reactions in large multi-molecular simulations such as crystals and proteins.
- June 2015-December 2016 **Pre-Candidate Research and Rotations** | University of Michigan, Ann Arbor, Michigan |
Advisors: Paul Zimmerman and Roseanne Sension
Studied the photochemistry of ultrafast water soluble photoacids.
- June 2013-May 2015 **Maximizing Access to Research Careers (MARC) Scholar** | University of New Mexico, Albuquerque, New Mexico |
Advisors: John Grey, Diane Marshall
Studied organic photovoltaic solar cells and conducting polymers with absorption and Raman spectroscopies.
- June 2014-September 2014 **Hooked on Photonics Research Experience for Undergraduates** | Georgia Institute of Technology, Atlanta, GA |
Advisors: Jean-Luc Brédas
Studied charge transfer in conducting polymers with computational chemistry.

Publications & Manuscripts

Cody Aldaz, Todd Martinez, Paul Zimmerman, The Mechanics of Bicycle Pedal Photoisomerization in Crystalline Cis,Cis-1,4-diphenyl-1,3-butadiene, The Journal Of Physical Chemistry A [In Review]

Cody Aldaz, Ted Wiley, Nicholas A. Miller, Kenneth G. Spears, Nawodi Abeyrathna, Yi Liao, Paul Zimmerman, Roseanne Sension, Experimental and theoretical characterization of ultrafast water-soluble photochromic photoacids [In preparation]

Cody Aldaz, Josh Kammeraad, Paul Zimmerman. Discovery of conical intersection mediated photochemistry with growing string methods. Physical Chemistry Chemical Physics, 20, 27394-27405, 2018

Jian Gao, Alan K. Thomas, Jianzhong Yang, Cody Aldaz, Guoshun Yang, Yang Qin, John K. Grey
Polythienylene-vinylene Structure-Function Correlations Revealed from Resonance Raman Spectroscopy and Photocurrent Imaging. The Journal of Physical Chemistry C., vol. 119, 8980, 2015

Honors & Awards

August 2019	Californian Research Exchange Alliance (\$1500)
July 2019	Margaret & Herman Sokol Graduate Summer Research Fellowship (\$5,550)
September 2018	Rackham Professional Development Grant (\$400)
August 2017	DOW Karle Symposium Poster award (\$400)
August 2016	Rackham Travel grant (\$800)
September 2014	American Chemical Society Scholar (\$5000)
May 2014	Paul Mozley Award (\$500)
May 2014	Dean E. Uhl Merit Award (\$500)
September 2014	SACNAS Travel Scholarship (Lodging and Airfare est. \$550)
September 2013	SACNAS Travel Scholarship (Lodging and Airfare est. \$550)

Select Presentations

Poster Presentations:

Cody Aldaz, Paul Zimmerman (November 2018). High-Fidelity Computational Screening of Arene-Alkene Photochemistry. University of Waterloo Symposium on Chemical Physics, On, Canada

Cody Aldaz, Josh Kammeraad, Paul Zimmerman (August 2018). Photochemistry via strings connecting funnels. American Chemical Society National Conference, Boston, MA.

Cody Aldaz, Theodore E Wiley, Nicholas Miller, Nawodi Abeyrathna, Yi Liao, Roseanne Sension, Paul Zimmerman (August 2017) Excited state dynamics and mechanism in two water-soluble photochromic photoacids. Karle Symposium, University of Michigan, Ann Arbor, MI.

Cody Aldaz and Paul Zimmerman (May 2017) New Methods to Find Conical Intersections: An application to Arene-Alkene Photochemistries. Ohio Photochemical Society Organization Meeting, Maumee Bay, OH.

Seminar Presentations:

Cody Aldaz, and Paul Zimmerman, Navigating Hyperspace to Study the Photochemistry of Isomerization and Cycloaddition, Stanford University, August 2019. A special 1-hour lecture sponsored by the California Research Alliance.

Cody Aldaz, and Paul Zimmerman. Advancements in the Prediction and Study of Photochemical Reactions with Computation. Ohio Photochemical Society Organization Meeting, Maumee Bay, OH, May 2019

Cody Aldaz, Roseanne Sension, Combined experimental and theoretical characterization of ultrafast water soluble photoacids, American Chemical Society Fall Meeting, Boston MA, 2018

Extracurricular Training

Programming with R

2018

- Two-day intensive training in statistical modeling and theory with R, provided through the University of Michigan Center for Statistics Consulting and Research (CSCAR)

Electronic Structure Summer School at Stanford University

2018,2019

- Three-day intensive training in computational chemistry tools and theory

Professional Memberships & Leadership Experience

American Chemical Society (ACS)

June 2014-Present

- Attended 3 conferences
- Vice President of the University of New Mexico Student Chapter (2014-2015)
- Outreach Coordinator American Chemical Society-UNM (2013-2014)

Society for the Advancement of Chicanos and Native Americans in Science (SACNAS)

2013-Present

- Attended 4 conferences
- President of the University of New Mexico Student Chapter (2014-2015)

Community Outreach and Teaching Experience

Guest Lecturer, Computational Chemistry, University of Michigan

April 2020

- Designed a guest lecture and laboratory for two sections of the senior computational chemistry course, Supervised by Professor Raoul Kopplemann

Guest Lecturer, Electronic Structure Theory Summer School, Stanford University

August 2019

- Designed and presented a guest lecture for the Stanford Electronic Structure Theory Summer School, Supervised by Professor Todd Martinez

Science Fair Mentor at Forsythe Middle School, Ann Arbor, MI

2017, 2018

- Helped middle school students design and implement science experiments.
- Participated in judging and giving feedback to the students projects.

Graduate Student Instructor

2015, 2016

- Graduate Student Instructor, Physical Chemistry CHEM 230, University of Michigan, MI
- Graduate Student Instructor, General Chemistry CHEM 130, University of Michigan, MI
- Graduate Student Instructor, Molecular and Statistical Mechanics CHEM 453, University of Michigan, MI

Afterschool Tutor

2011, 2012

- Upward Bound, Highland High School, Albuquerque, NM
- Cesar Chavez Elementary School