Seth Martin

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Education

Ph.D. Chemistry — *Univ. of Kansas*
Thesis: Structure and thermodynamics of solid/fluid interfaces: simulation and theory — June 2021
Advisor: Brian Laird — with Honors

B.S. Chemistry — *Univ. of Kansas*
May 2010

Professional Experience

Assistant Professor

Univ. of Saint Mary
Department of Chemistry
August 2021 - present

Teach a range of chemistry and physics classes, advise students, mentor research projects

Hazardous Materials Technician

Univ. of Kansas
Dept. of Environment, Health & Safety
Sep 2011 - Aug 2016

Collect, classify, and prepare hazardous waste for disposal:

- Safely collect all hazardous waste (laboratory, facilities/mainenance, etc) on campus and transport to central storage facility
- Be familiar with all applicable state and federal regulations for transport, storage, and safe handling of hazardous substances
- Coordinate with laboratory personnel regularly to ensure proper disposal of laboratory generated waste, including developing waste disposal plans for new waste streams
- Take part in chemical spill response
- Develop SOP's for waste handling and spill response activities

QC extraction chemist

Clinical Reference Laboratories
Lenexa, KS
Jun 2010 - Sep 2011

Prepare samples for chromatographic analysis:

- Perform SPE and liquid-phase extractions and derivatizations of human samples for drug testing (including GCMS, LCMS, ICP-MS, Head space GCMS)

- Preparation and analysis of immunoassay samples
- Prepare stock solutions for use in extractions

Research Experience

Graduate Research Assistant — *Univ. of Kansas*
Advisor: Brian Laird — Spring 2017 - Fall 2020

- Use simulation and theory to probe the structure and thermodynamics of interface systems. Systems studied include the aluminum(l)/alumina(s); the hard disk fluid at hard, structureless walls; and the amorphous silica surface.

Graduate Research Assistant — *Univ of Kansas*
Advisor: Marco Caricato — Fall 2016

- Use Gaussian software to find ground states of model electron transfer systems and apply a diabatization scheme to find couplings between diabatic states.

Teaching Experience

Assistant Professor — *Univ. of Saint Mary*
General Chemistry I — Fall 2021
Physics I — Fall 2021
Science of Cooking — Fall 2021

Graduate Teaching Assistant — *Univ. of Kansas*
Dept. of Chemistry

Physical chemistry for engineers lecture TA: — Fall 2020

- Lead weekly virtual discussion sessions to practice problem solving and review concepts. Zoom breakout sessions allowed for smaller groups which I could check in with separately.
- Hold regular office hours. Help students learn general problem solving approaches and discuss concepts.
- Write detailed solutions and grade weekly problem sets and computational exercises.
- Grade exams.

Physical chemistry laboratory instruction including: — Spring 2020

- Shift lab sessions to online format during campus shutdown due to COVID-19
- Lead pre-lab discussions focused on connecting the procedure to the underlying concepts.
- Oversee lab procedures and troubleshoot wet lab and computational exercises.
- Hold office hours. Provide guidance and lead students towards solving problems independently.
- Grade informal and formal lab reports, including design of my own rubric

Organic chemistry laboratory instruction including: Fall 2016

- Lead pre-lab discussions
- Provide safety lessons and ensure compliance with safety procedures
- Grade lab reports and tests
- Hold office hours to facilitate student problem solving and writing

Undergraduate research mentor *Univ. of Kansas*
Fall 2019 - Spring 2021

- Provide context and guidance for approaching computational research.
- Introduce programming skills necessary for computational research.
- Assess understanding of the research question, and problem solve alongside the student to improve weak spots.

Service

Secretary, Chemistry Graduate Student Organization *Univ. of Kansas*
Served as Secretary of the inaugural administration of the Chemistry GSO. 2017-2018

- Serve as a founding member of ChemGSO, including registering ChemGSO as an official student organization.
- Help plan meetings with the whole Chemistry graduate student body.
- Take and organize minutes of meetings.
- Volunteer in ChemGSO organized events.
- Manage ChemGSO files.

Facilitator, Jayhawks Give a Flock *Univ. of Kansas*
Served as a volunteer for University mandatory sexual assault prevention training. Sept. 2019

- Co-lead discussion with around 20 undergraduate students focused on identifying sexual assault and ways to actively prevent it.
- Review information provided by the KU Sexual Assault Prevention and Education Center to become familiar with active bystander sexual assault prevention.
- Attend training sessions for volunteers to prepare for leading discussions.

Scholarships & Awards

Paul and Helen Gilles Award 2021

Kristina May Paquette Scholarship 2020

Takeru Aya Higuchi Graduate Scholarship in Physical Chemistry 2019

Cornelius McCollum Research Scholarship 2018

Undergraduate Scholarship 2005-2006

Conferences & Presentations

American Physical Society March Meeting — *Virtual Meeting*
Talk – Hard disks in confinement: the thermodynamic effects of container shape — March 2021

Virtual Conference on Theoretical Chemistry — *Virtual Meeting*
Lightning talk & Poster – Interfacial free energy of curved surfaces in two dimensions — July 2020

American Physical Society March Meeting — *Virtual Meeting*
Virtual Presentation – Up against a wall: interfacial free energies at curved surfaces — March 2020

Gordon Research Conference: Chemistry and Physics of Liquids — *Holderness, NH*
Poster – Morphometric Thermodynamics: Testing Theory with Simulation — August 2019

DFT Spring School — *Albert Ludwigs Universität Freiburg im Breisgau, Germany*
Short Talk & Poster – Surface free energies in two dimensions: Comparing theory to simulation — March 2019

Kansas Physical Chemistry Symposium — *Kansas State University*
Talk – Surface Free Energy in Two Dimensions — September 2018

ACS Midwest Regional Meeting — *University of Kansas*
Talk – Surface Free Energy in 2D: Comparing Theory to Simulation — October 2017

Kansas Physical Chemistry Symposium — *Wichita State University*
Poster – Probing electron transfer between covalently bonded donor-acceptor fragments — February 2017

Specialized Training

DFT Spring School — *Albert Ludwigs Universität Freiburg im Breisgau, Germany*
Spring school focused on classical density functional theory. — March 2019

CCP5 Summer School — *Lancaster University, UK*
Summer school focused on molecular simulation techniques and theory. — July 2017