

Summary: I combine a multidisciplinary research background with extensive experience in STEM teaching, focusing on inclusive teaching practices to target all learning styles. My contributions at a wide range of universities have helped me better understand the needs of the modern STEM student. I believe that understanding and communicating modern science are essential tools for our increasingly complex world, and that a comprehensive STEM background applies to all fields. I strive to increase Diversity, Equity and Inclusion in the sciences and am always seeking professional opportunities to better accomplish this goal.

Education

Tulane University, Ph.D. Chemical and Biomolecular Engineering, New Orleans, LA (2018)
Yale University, B.S. Chemistry, New Haven, CT (2011)

Professional Experience

Teaching Assistant Professor in SASC at CU Boulder, Boulder, CO (August 2020 – present)

- Instructs General Chemistry 1 and 2 for Student Academic Success Center (SASC), with a focus on inclusive education for first-generation and socioeconomically disadvantaged students
- Leads and advises team of STEM Instructional Assistants: high performing undergraduates in their first teaching role
- Directs STEM Club at SASC, a pre-professional organization designed to connect students with the skills and opportunities needed in STEM careers
- Promotes graduate study of the sciences as career track, advising and mentoring students on navigation of potential career pathways
- Conducts synchronous classes, with complete integration of course material into Canvas LMS
- Records classes and additional lectures for robust asynchronous complement to class
- Provides comprehensive student outreach by collaborating with SASC academic coordinators
- Published OER series “Open Chemistry Online” a free resource for General Chemistry openly distributed through CU Scholar and published with a Creative Commons License (CC BY)

Adjunct Instr. at Front Range Community College, Westminster, CO (June 2021 – present)

- Instructs Introduction to Chemistry with Laboratory online, creating additional lab activities and new active learning components to enrich course each semester
- Instructs General Chemistry 1 with Laboratory in a hybrid course with in-person activities
- Deploys course using D2L Brightspace along with ALEKS and Connect eLearning by McGraw Hill
- Provides consistency for students through coverage of both lab and lecture, focusing on connections between theory and practice.

Visiting Professor at Chamberlain University, New Orleans, LA (September 2018 – present)

- Instructs Introduction to General Organic and Biological Chemistry with lab at New Orleans campus and Algebra for College Students online, leading all activities for these 4 credit courses in a student-centric 8-week semester
- Networks with Chemistry and Mathematics teams to assess and improve course offerings
- Provides one-on-one student support through consistent outreach practices and office hours

Data Visualization Specialist at Xavier University, New Orleans, LA (May 2019 – August 2020)

- Directed and managed Data Visualization Lab in University Library
- Created and instructed hands-on software workshops for Xavier students and faculty
- Hired and supervised student employees in library, completing visualization projects and educating students about current data science technologies
- Led library assessment team, creating assessment framework and reporting system for our collections and patron satisfaction from scratch

Adjunct Professor at Dillard University, New Orleans, LA (August 2018 – May 2019)

- Instructed General Chemistry Laboratory 1 and 2 during Fall and Spring semesters
- Designed lectures for laboratory modules, focusing on safety and scientific fundamentals
- Provided all grading, instruction and point of contact for ~50 students over multiple sections

Visiting Assistant Professor at Bard Early College, New Orleans, LA (January 2019 – May 2019)

- Instructed as full-time faculty for Bard Early College, a program granting Bard College credit and associates degrees to students upon graduation
- Launched Mathematics department on New Orleans campus, providing first course offerings
- Developed curriculum and led instruction for course titled Elements to Calculus

Mentor for Undergraduate Research Experience, New Orleans, LA (Summer 2016)

- Mentored research of two undergraduates, with results described in peer-reviewed publications
- Introduced computational chemistry techniques to engineering students
- Presented computational results at research competition upon program completion

Tutor at Freudigman & Billings Educational Solutions, Westport, CT (2012 – 2013)

- Created and directed individual and group lessons for students grades 7-12
- Specialized in calculus, algebra, chemistry, physics and writing skills
- Coordinated lessons with educational therapy services, to aid students with learning disabilities

Yale University Summer Teaching Fellow, New Haven, CT (2011 – 2013)

- Instructed academic year of general chemistry with lab over two five-week sessions under Dr. John Cramer. (9+ credit hour equivalent)
- Tailored self-designed lectures on difficult material as requested by students
- Supervised all lab activities, focusing on: safety, proper lab technique, efficient experimentation, accuracy and precision, formal laboratory records

Yale Science and Quantitative Reasoning Tutor, New Haven, CT (2010 – 2011)

- Instructed students struggling with science or math subjects in one-on-one weekly sessions
- Designed lessons to address fundamental concepts for long term success
- Experienced strong results with organic chemistry and physics in first tutoring role

Publications

- Open Chemistry Online – CHEM 2. Saltzman, A. *CU Scholar – Open Educational Resources*. 2023. <https://scholar.colorado.edu/concern/defaults/5712m802b>
- Open Chemistry Online – CHEM 1. Saltzman, A. *CU Scholar – Open Educational Resources*. 2022. <https://scholar.colorado.edu/concern/defaults/z029p599j>
- Nonpolar Solute Cononsolvency in Water/Ethanol Mixtures – Connections to Solvent Structure. Saltzman, A.; Houser, H.; Langrehr, M. E.; Ashbaugh, H.S. *Journal of Molecular Liquids*. 2020

- Emergence of Non-Monotonic Deep Cavity Cavitand Assembly with Increasing Portal Methylation. Saltzman, A.; Tang, D.; Ashbaugh, H.S. *Molecular Systems Design & Engineering*. 2019
- **Dissertation:** Cononsolvency and Effects on Hydrophobic Hydration. Presented and defended July 30th, 2018
- Connections between the Anomalous Volumetric Properties of Alcohols in Aqueous Solution and the Volume of Hydrophobic Association. Ashbaugh, H.S; Barnett, J.W.; Saltzman, A.; Langrehr, M. E.; Houser, H. *J. Phys. Chem. B*. 2017
- Stiffening of Dilute Alcohol Mixtures with Water. Ashbaugh, H.S; Barnett, J.W.; Saltzman, A.; Langrehr, M. E.; Houser, H. *Journal of Chemical Physics*. 2016

Professional Trainings and Certifications

- **Active Learning Institute**, Front Range Community College (Fall 2022)
- **Equity Academy for Instruction**, Front Range Community College (Fall 2022)
- **Climate Across the Curriculum**, University of Colorado at Boulder (Summer 2022)
- **Online Teaching Academy**, University of Colorado at Boulder (Spring 2022)
- **Online Essentials Training**, Front Range Community College (Summer 2021)

Conferences and Presentations

- Research Data Access and Preservation Association Summit 2020, “Connecting Non-scientists with Modern Data Techniques: Launching the Data Visualization Lab at Xavier University of Louisiana.” Santa FE, NM (**Speaker: March 2020**)
- Southeast Data Librarian Symposium, “Promoting free-to-use software in the VizLab at Xavier to increase information literacy.” New Orleans, LA (**Speaker: October 2019**)
- AIChE Annual Meeting poster presentation, “Supramolecular Polymer Inspired Molecular Dynamics Study of Octa-acid Cavitand and Adamantane Shows Co-nonsolvency Effects in Ethanol/Water Mixtures.” San Francisco, CA (**Poster: November 2016**)
- SMATDAP annual meeting (**Poster: 2015, 2016, 2017**)
- Tulane School of Science and Engineering research day (**Poster: 2014, 2015, 2017**)