Jonathan Lee Gertner

www.linkedin.com/in/jonathan-gertner/
jgertner@uccs.edu

EDUCATION

Master of Science in Chemistry **December 2024**
University of Colorado Colorado Springs Colorado Springs, CO
Thesis: *Elucidating the Mechanistic Pathway of Electrospray-Induced Fragmentation of Dimerized Tetramine: A Theoretical and Experimental Approach*
Emphasis: Computational and Analytical Chemistry
4.0 GPA

Bachelor of Science in Chemistry **May 2024**
University of Colorado Colorado Springs Colorado Springs, CO
3.889 GPA | *magna cum laude*

EXPERIENCE

PROFESSIONAL ACADEMIC EXPERIENCE

Assistant Teaching Professor **January 2025 – Present**
Full-time
University of Colorado Colorado Springs — Department of Chemistry & Biochemistry
Courses: *Introduction to Chemistry Laboratory*; *Introduction to Organic and Biochemistry Laboratory*; *Introduction to General, Organic, and Biochemistry Laboratory (accelerated course)*; *General Chemistry I Laboratory*; *General Chemistry II Laboratory*
- Delivered engaging chemistry laboratory lectures while ensuring safe practices and fostering student skill development.
- Maintained professional communication and timely assessment for a diverse student body.

Lecturer **August 2024 – December 2024**
Part-time
University of Colorado Colorado Springs — Department of Chemistry & Biochemistry
Courses: *General Chemistry I Laboratory*
- Delivered engaging chemistry laboratory lectures while ensuring safe practices and fostering student skill development.
- Maintained professional communication and timely assessment for a diverse student body.

Graduate Research Assistant **June 2024 – August 2024**
Full-time
University of Colorado Colorado Springs — Department of Chemistry & Biochemistry
Computational Research Laboratory.....under supervision of Dr. Amanda Morgenstern
- Developed density functional theory (DFT) approaches to support LC–ESI–MS/MS analysis of molecular mass spectral fragments.
- Contributed to a novel study evaluating hypothesized in-source electrospray ionization fragmentation mechanisms.

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Graduate Teaching Assistant **August 2023 – May 2024**
Part-time
University of Colorado Colorado Springs — Department of Chemistry & Biochemistry
Courses: *General Chemistry I Laboratory*

- Delivered engaging chemistry laboratory lectures while ensuring safe practices and fostering student skill development.
- Maintained professional communication and timely assessment for a diverse student body.

Teaching Assistant **August 2020 – December 2024**
Part-time
University of Colorado Colorado Springs — Department of Chemistry & Biochemistry
Courses: *CSI Forensic Chemistry*; *CSI Forensic Chemistry Laboratory*; *General Chemistry I*; *General Chemistry I Laboratory*; *General Chemistry II*; *General Chemistry II Laboratory*; *Organic Chemistry I Laboratory for Majors*; *Organic Chemistry II Laboratory for Majors*

- Graded and provided feedback for up to eight concurrent chemistry courses averaging ~150 total students in formal semester terms.
- Provided analysis and feedback on course material, structure, and lecture pacing to optimize student learning.
- Proctored remote student Respondus administered exams to ensure academic integrity.

RESEARCH

Graduate Research **January 2022 – August 2024**
University of Colorado Colorado Springs — Department of Chemistry & Biochemistry
Computational Research Laboratory.....under supervision of Dr. Amanda Morgenstern
Analytical Research Laboratory.....under supervision of Dr. Janel Owens

- Conducted thermodynamic and kinetic computational analysis via density functional theory on electrospray-induced in-source fragmentation of neurotoxic rodenticide, tetramine.
- Developed working proficiency with Linux shell, Bash scripting, and Vim text editing.
- Assessed experimental in-source fragmentation of tetramine responsivity through variational LC–ESI–MS/MS data collection and spectral annotation.

Undergraduate Research **June 2021 – January 2022**
University of Colorado Colorado Springs — Department of Chemistry & Biochemistry
Computational Research Laboratory.....under supervision of Dr. Amanda Morgenstern

- Generated and compiled computational data for analysis of homogenous electric field effects on heteronuclear and homonuclear diatomic molecules.

PUBLICATIONS & PRESENTATIONS

Unraveling the Unique ESI Fragmentation of Tetramine*
*Manuscript in preparation for submission (with J. Owens, A. Morgenstern)

Sci-Mix and COMP Poster Sessions **August 2024**
American Chemical Society Fall Technical Program

Departmental Research Symposium **August 2022 & 2023**
University of Colorado Colorado Springs — Department of Chemistry & Biochemistry

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AWARDS

Graduate Research Fellowship **August 2023 – May 2024**
University of Colorado Colorado Springs Graduate School

Departmental Award in Physical Chemistry **August 2020 – May 2021**
University of Colorado Colorado Springs — Department of Chemistry & Biochemistry

TECHNICAL SKILLS

- High proficiency in using computational chemistry software Amsterdam Modelling Suite (AMS) for purposes of molecular optimization and transition state identification.
- Proficient in the theoretical basis of quantum mechanical analysis methods of Quantum Theory of Atoms in Molecules (QTAIM) and Interacting Quantum Atoms (IQA).
- Competent in the variational application of a Shimadzu LCMS-8030 mass spectrometer for sample preparation and mass spectral annotation and analysis.
- Capable of completing basic organic laboratory applications of synthesis, recrystallization, and TLC.
- Familiarity with chemical characterization methods of IR and NMR spectroscopy.
- Experience with use and interpretation of quantitative analysis methods including GC–MS, cyclic voltammetry, fluorescent spectroscopy, and visible spectroscopy.