

Optics 114

Education

Master of Science – Applied Physics, Optical Materials and Devices
University of Oregon

Expected Fall 2018

Bachelor of Science – Physics, Minor in Materials Science
Western Washington University
Cumulative GPA: 3.79

June 2017

Research Experience

Western Washington University – Principal investigator Dr. Armin Rahmani

November 2016-June 2017

- Studied topological defects in solids by developing Python programs to examine the effects of inserting $SO(3)$ monopoles into lattices with ordered spin textures.
- Created methodology for future studies by automating computation, data saving, and data analysis programs, as well as extensively documenting each routine.
- Gave a departmental talk and presented a poster during Western Washington University's Undergraduate Research Symposium.

Western Washington University – Principal investigator Dr. Janelle Leger

March 2015-June 2016

- Investigated the relationship between dopant concentration and semiconducting polymer charge carrier mobility for a variety of dopant materials by fabricating and testing the current-voltage characteristics of hundreds of organic field-effect transistors.
- Fabricated organic electronic devices using evaporation and sputtering deposition, nitrogen gloveboxes, spin-coating, and cyclic voltammetry.
- Characterized organic electronic devices using atomic force microscopy, x-ray diffractometry, and other methods.
- Developed Python programs to automate data analysis of current-voltage curves, increasing time efficiency by 50%.

Work Experience

Physics Laboratory Teaching Assistant
Western Washington University

January 2015-June 2017

- Guided roughly 20 students per quarter for eight quarters through both algebra and calculus-based introductory physics labs by challenging student understanding and grading student work.
- Ensured compliance with laboratory safety standards by demonstrating and enforcing the safe use of lasers, high voltage generators, and other equipment.

Independent Physics Tutor
Western Washington University

September 2015-June 2017

- Tutored more than 20 students by self-promoting across campus, facilitating one-one-one meetings with tutees, and adjusting tutoring approach to best meet student goals and learning styles.
- Coordinated with Western Washington University's disability resource center to tutor four students with learning disabilities.

Technical Skills

Programming

- Intermediate proficiency: Python, Mathematica

Instrumentation

- Intermediate proficiency: atomic force microscopy, x-ray diffractometry, ultraviolet-visual spectroscopy, cyclic voltammetry, nitrogen gloveboxes, evaporation and sputtering deposition