

Semi 207

Education

Masters of Science | Expected Completion Sept 2018 | University of Oregon

- Applied Physics: Photovoltaics and Semiconductor Device Processing

Bachelors of Science | June 2017 | Western Washington University

- Double Major: Physics, Mathematics
- Graduated with University Honors, 3.56 GPA

Technical Experience

Research Assistant | Organic Photovoltaic Project | June 2015-June 2017

Collaborated on interdisciplinary team of chemists and physicists under Dr. Janelle Leger to develop and characterize organic photovoltaic devices with novel polymerizable ionic liquids.

- Fabricated photovoltaic devices by plasma cleaning substrates, spin coating thin films of polymer in inert atmosphere, and performing physical vapor deposition.
- Investigated cause of shorting in devices and determined issue by using Atomic Force Microscope to show an increase in roughness after plasma cleaning, then proposed modification to procedure which research team adopted and improved device morphology.
- Troubleshooted the deposition chamber and glove box by examining manuals, contacting customer service, and collaborating with teammates and research advisor to resolve issues.
- Trained four incoming research team members on commonly glovebox, thermal deposition, and device fabrication procedures.
- Presented research talk for Physics Depart. and poster sessions at Conference for Undergraduate Women in Physics (Jan, 2017) and American Physical Society (Mar, 2017).
- Balanced summer classes with researching half time and continued to research for credit during the school year.

Physics Junior Lab | Independent lab course | Jan 2016-Mar 2016

Verified physics principles and constructed devices with minimal guidance from instructor.

- Set up a Michelson interferometer to determine properties of laser by examining polarization and interference patterns.
- Created diffraction gratings by exposing film to laser and developing the film in a dark room.
- Measured gamma ray radiation counts at varying angles to verify conservation of momentum.

Programming Experience

Expert | Python

- Created multidimensional computer models of physical phenomena in Python that agreed with literature concerning topics such as earthquakes, diffusion, and projectile motion.
- Analyzed experimental data by visualizing data in multiple ways and performing statistical analysis on results for Data and Tools Physics Course.
- Programmed projects in Python to identify trends in Twitter data and map a Sierpinski triangle using a chaos game method.

Proficient | LaTeX

- Submitted weekly lab reports detailing computer models in American Physical Society style.
- Compiled class notes daily to provide for students using the Disability Resource Center.

Competent | Mathematica

- Utilized regularly to detail complex mathematical functions and understand physical relationships for several classes including Multivariable Calculus and Quantum Physics.

Work Experience

Academic Tutor | Western Washington University | Sept 2015-June 2017

Worked part time by tutoring in central drop-in location as well as by leading study groups.

- Assisted an average of ten students per hour during drop in sessions by modeling successful study habits and enhancing their technical knowledge in physics and math.
- Discussed teaching methods and reviewed concepts with coworkers during down time.
- Facilitated student discussions and involvement during two hour study groups by establishing a welcoming atmosphere, encouraging students to work together, and providing real world connections to increase interest.
- Coordinated with professors weekly to discuss areas of student difficulties and recommend modifications to classroom presentations or request methods for improving the study group.

Program Support, Physics Dept. | Western Washington Univ. | Sept 2015-June 2016

Led cross cultural physics session for small group of students from Western Washington University and nearby Lummi tribe college, Northwest Indian College.

- Encouraged cultural awareness for faculty and students by facilitating discussions and mediating concerns between faculty and students.
- Aided students' success by clarifying concepts and encouraging students to work together.

Extra-Curricular

WWU Women in Physics | Jan 2015-June 2017

- Elected Vice President for one year where led club meetings when president was absent, initiated a department climate session for students to voice concerns and relayed concerns to faculty, and communicated with WWU Associated Students regarding club events.
- Chosen as Secretary for one year: maintained records of club meetings, organized club calendar, and distributed key information to fellow officers.
- Contacted representative of the International Society of Optics and Photonics (SPIE) and arranged a tour of the headquarters for club members by coordinating between the University and SPIE, establishing dates and times, and organizing transportation.
- Assisted with science outreach events by presenting independent research for community college students, operating physics demonstrations at University events, and encouraging scientific engagement for elementary students by visiting schools and hosting tours.

Circle K, Collegiate branch of Kiwanis | Sept 2013-June 2017

- Voted as Secretary for one year where communicated club updates to the district Kiwanis board, designed all of the club meeting presentations, organized volunteer transportation and staffing for events, and coordinated with other club officers.
- Coordinated with Kiwanis members monthly to host Kiwanis Bingo by assisting with setup, managing the register, and interacting with customers.
- Volunteered quarterly at local park restorations by collaborating and motivating others during large scale volunteer efforts.

Computer Science-Math Scholars Program | Sept 2013-June 2017

- Selected as 1 of 20 students out of 2,000 Western freshman for scholarship program for female students with high academic merit and demonstrated passion for STEM fields.
- Mentored younger cohorts of twenty students by checking in at scheduled events as well as initiating meetings outside of regular events.