

OPTICS 109

Education:

Oregon State University, Corvallis, OR
Bachelor of Science, Physics. Sep 2013 – Jun 2017

- Minor in mathematics.

University of Oregon, Eugene, OR
Masters of Science, Applied Physics. Expected graduation Sep 2018.

- Focused on optical materials and devices.

Research Experience:

Oregon State University, Corvallis, OR
Undergraduate Research Assistant, Sep 2015 - May 2017

Qualitative comparison of cell tracking algorithms:

- Conducted research on MDA-MP-231 breast cancer cell trajectories to compare the reliability of different tracking algorithms, showing that template matching produced reliable results for 5 of 5 trials while optical flow tracking produced reliable results for 3 of 5 trials.
- Ensured fresh samples for experiments by preparing weekly cell subcultures, allowing experiments to be done on time, while following strict safety procedures.
- Learned how to use *CellTrack* software, with limited available documentation, to quickly and efficiently analyze the trajectories of cells
- Created a timeline of goals and tasks for future research that is to be used to guide future undergraduate researchers.
- Communicated with individuals of various disciplines to gain understanding of previous research and procedures.
- Presented research procedures and results to a group of Oregon State University faculty and students.

Designing modular fluorescence microscope using 3D printing:

- Constructed imaging components using 3D printing for a 3D printed fluorescence microscope, whose purpose was for education outreach at local high schools.
- Designed components for 3D printing, including a cellphone mount for imaging, using AutoCAD.
- Repurposed parts from a fluorescence microscope in order to stay under a budget of \$1000, resulting in a using less than \$500.

Leadership Experience:

Oregon State University, Corvallis, OR
PH 201 Laboratory Teaching Assistant, Sep 2016 - Dec 2016

- Evaluated student performance by grading homework and tests and recording grades for teaching staff.
- Clarified misunderstandings and explained physics concepts to students in lab and office hours.
- Stimulated student learning by encouraging creativity and free thinking when dealing with problems.
- Improvised solutions to problems by troubleshooting equipment in lab, ensuring that students were always capable of finishing their work.
- Coordinated with other TA's to prepare labs and discuss grading to ensure fair treatment of all students.

Work Experience:

Carmike Cinemas, Corvallis, OR
Cashier, Aug 2016 – Dec 2016

- Operated cash register for cash and credit transactions without being over or under at the end of the shift.
- Cleaned and organized the theatre, including the concessions area and individual auditoriums, while under a strict time limit.
- Resolved all customer complaints in a polite and professional manner while prioritizing customer satisfaction.
- Stocked merchandise according to the store merchandising layout.
- Efficiently managed time when not helping customers by maintaining store cleanliness.