John L. Waczak

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INTERESTS
Computational Physics, Applied Mathematics, Spectroscopy

EDUCATION

Oregon State University, Corvallis, OR.   September 2015 – present
Bachelor of Science in Physics and Mathematics   (GPA 3.90/4.0)

TECHNICAL SKILLS

Programming and Scripting: Python, C++, C#, Mathematica, MS Word, MS Excel, Numpy, Matplotlib, SQLite, PID control, Modbus serial protocol
Electronics: Arduino, Raspberry Pi, Nation Instruments, Soldering, basic circuit design

EXPERIENCE

Roundy Research Group, Oregon State University   January 2017 – Present
Undergraduate Researcher   `github.com/john-waczak/dynein_walk`
I am working with Dr. Roundy to develop and test computational simulations which evaluate a physical model for the locomotion of the cellular motor protein Dynein. My duties include editing simulation code (C++), writing scripts to analyze and visualize large data sets (python), exploring the simulation space to find the best set of parameters to produce *physical* behavior, and presenting my findings at weekly group meetings.

Cooper Environmental Services, Beaverton, OR   March 2015 – September 2017
Intern
I designed and implemented controller logic (using a PID loop) for controlling a vacuum pump through C# in conjunction with a National Instruments IO board. Using Modbus serial communications protocol, I created code to make data accessible locally with a Modbus slave device. I wrote code using SQLite to send the same data to a local database for long term storage. I worked with production to solder wire assemblies that are used in the Xact.

Physis 199 TA, Oregon State University   January 2017 - April 2017
I served as one of two undergraduate TA's for the PH199 class designed for freshmen physics majors. I helped coordinate lab tours, talks from professors, and career workshops. In the final class, I organized a panel of fellow upper-division students to allow the class to ask questions about the major and what to expect.

Physics Exam Proctor, Oregon State University   September 2016 – Present
During the midterms and finals weeks I serve as an exam proctor. I meet with the professor, go over exam questions as well as suitable answers to potential questions. I administer the exams in the test room and ensure there is no cheating.

ACTIVITIES

Lambda Chi Alpha ($\Lambda X A$) Vice President   September 2015 to Present
I am the current Vice President of the Alpha Lambda chapter of Lambda Chi Alpha Fraternity. We are a 140 man organization devoted to building leaders and serving our community. My duties as VP include organizing weekly brotherhood events, presenting each week during our chapter meetings, talking with Alumni, and administering various executive committee responsibilities.
Society of Physics Students Member, Mentor   September 2015 to present
As a mentor, I am paired with a new undergraduate physics major whom I help acclimate to university classes (expectations, resources, class suggestions, etc...)
Sigma Pi Sigma ($\Sigma\Pi\Sigma$) National Phycsis Honor Society member   June 2017 to present
Community Outreach Inc. Corvallis, OR - Volunteer   September 2015 to present

AWARDS

Lambda Chi Alpha - Alpha Lambda Chapter Freshmen of the Year   June 2016

Awarded for grades, involvement, and overall chapter vote.

Oregon State honor roll   2015-present

Awarded for achieving above a 3.5 GPA and being enrolled in a minimum of 12 credit hours per term.