ROBERT 'BOB' CADDY

Department of Physics and Astronomy
University of Pittsburgh
3941 O'Hara St
Pittsburgh, PA 15260

+1 (765)-586-8882
r.caddy@pitt.edu
rcaddy586@gmail.com
robertcaddy.com
github.com/bcaddy
robertcaddy1
(US Citizen)

Research Interest: Computational Astrophysics

EDUCATION

University of Pittsburgh, Pittsburgh, PA 2018-Present
Ph.D. - Physics - Expected graduation 2024
Advisor: Dr. Evan Schneider

Bowling Green State University, Bowling Green, OH 2016-2018
M.S. - Physics
Thesis Title: *Time Series Photometery of the Symbiot Star V1835 Aql and New Variable Stars in Aquila*
Advisor: Dr. Andrew Layden

Purdue University, West Lafayette, IN 2012-2016
B.A. - Honors Physics, Astronomy minor. GPA: 3.40/4.00

EMPLOYMENT

Graduate Research Assistant, University of Pittsburgh, Pittsburgh, PA 2018-Present

- Conducting research with Professor Evan Schneider into numerical modeling of galactic winds using the GPGPU code Cholla

Graduate Research Assistant, Bowling Green, OH 2016-2018

- Conducted original thesis research into the properties of symbiotic star V1835 Aql with Professor Andrew Layden as advisor

Undergraduate Research Assistant, Purdue University, West Lafayette, IN 2015-2016

- Built an experimental two-channel dynamic digital holography system to investigate the time dependent effects of chemotherapy drugs on cancer tumors via biodynamic imaging.
- Improved efficiency & quality of large-scale (tens of terabytes) off-site data storage using HSI. Improved efficiency by a factor of 12.

FELLOWSHIPS AND AWARDS

Learning Beyond the Classroom Certificate, 2016
Presidential Scholarship, Purdue University, 2012-2016
Ascarelli Fellowship, Department of Physics and Astronomy, Purdue University, 2012
Eagle Scout, 2012

CONFERENCES AND PRESENTATIONS

2. *Time Series Photometry of the Symbiotic Binary NSV 11749*, Canadian-American-Mexican (CAM) Graduate Student Conference, *Poster Presentation*, August 2017
1. *Time Series Photometry of the Symbiotic Binary V1835 Aql*, Ohio Academy of Sciences (OAS) Meeting, *Poster Presentation*, April 2018

PROFESSIONAL EXPERIENCE

Computional:

Langues: C++, Python, Fortran, Bash

Packages & API's: MPI, CUDA, OpenMP, OpenACC, Numpy, Pandas, Scipy, Matplotlib, Astropy

Software Tools: git, LaTeX, GCC, Make, HDF5, HSI, PBS/Slurm/LSF, DAOPHOT, IRAF, SQL, mySQL

HPC Resources Used: Supercomputer clusters at Purdue University, University of Pittsburgh, High performance storage systems at Purdue University

Observing

PROMPT C1 & C5 at the Cerro Tololo Inter-American Observatory many nights observing the symbiotic star V1835 Aql

Service:

Member, Women and Minorities in Physics, Purdue 2014-2016
President, Purdue Society of Physics Students (SPS), 2016
Member, Women in Physics, Purdue 2014-2016
APS - Conference for Undergraduate Women in Physics (Purdue University, 2015) - Volunteer

Professional Development:

- XSEDE HPC Workshop Series: Attended the MPI, OpenMP,Python & Performance, OpenACC, and Big Data & Machine Learning workshops
- 2020 OLCF User Meeting
- 2020 Frontier Center of Excellence (COE) Workshop, *invite only*
- 2020 Intel Developer Tools Workshop
- 2021 XSEDE Webinar: Performance Tuning and Single Processor Optimization

Membership: AAS Member, APS Member

TEACHING

- University of Pittsburgh, 2018-Present:
  - Graduate Teaching Assistant for introductory physics and astronomy courses
- Bowling Green State University, 2016-2018:
  - Graduate Teaching Assistant for introductory physics courses
- Purdue University, 2013-2016:
  - Undergraduate Teaching Assistant for introductory physics courses