Alan Pearl

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Education

2017 - Pres. **University of Pittsburgh** – Pittsburgh, PA
GPA: 3.89

Dec 2018 Physics M.S.
Physics Ph.D. Candidate, *expected Spring 2022*
Thesis Title: *Probing the Galaxy-Halo Connection*
Thesis Advisor: Prof. Andrew Zentner

2013 - 2017 **Rensselaer Polytechnic Institute** – Troy, NY
GPA: 3.75

May 2017 Physics B.S., *magna cum laude*

Awards and Merit-Based Scholarships

Total: $86,500

2020 **Thomas-Lain Fund Scholarship** ($5,000): Essay contest
Dept. of Physics and Astronomy, Pitt

2017 **Class of 1902 Research Prize** ($500): For the best research results culminating in a paper
School of Science, RPI

Sigma Pi Sigma, Dept. of Physics, RPI

Honorable Mention for Poster Presentation
Undergraduate Research Symposium, RPI

2016 **Archimedean Society**: For at least one semester with a 4.0 GPA, RPI

2014 **Jarvis Memorial Scholarship** ($21,000): For excellence in first year of college
Manchester Scholarship Foundation

2013 **Rensselaer Medal** ($60,000), RPI

Research Projects

2020 - Pres. Implementing differentiable HOD models into `halotools` package
Advisor: Prof. Andrew Zentner

2019 - Pres. Constructing mock galaxy catalog for the PFS collaboration
Advisor: Prof. Rachel Bezanson

2016 - 2017 Used LAMOST data to construct a map of bulk velocity of the Milky Way disk
Advisor: Prof. Heidi Newberg

Refereed Journal Publications

2017 *A Map of the Local Velocity Substructure in the Milky Way Disk*
Pearl, Alan N.; Newberg, Heidi Jo; Carlin, Jeffrey L.; Smith, R. Fiona 2017, ApJ, 847, 123P

Software

`mocksurvey`
Lead developer, Python package that creates mock galaxy catalogs using UniverseMachine

`halotools`
Contributor, Python package that provides a wide array of galaxy-halo connection models

Talks and Presentations

Feb 2020 *Building Mock Universes with the Galaxy-Halo Connection*
Three Minute Thesis, Dept. of Physics and Astronomy, Pitt

Oct 2019 *Probing the Galaxy-Halo Connection*
Astrosnacks Seminar Series, Dept. of Physics and Astronomy, Pitt

Jan 2017 *Local Velocity Substructure in the Milky Way Disk*
American Astronomical Society, 229th AAS Meeting, id.142.14

Workshop Presentations

May 2020 *Debugging in Python*
AstroPGH Boot Camp 2020, University of Pittsburgh

Broader Impacts

Nov 2019 *Black Holes*
Astronomy on Tap Lecture, Pittsburgh

May 2017 *How to Become a Scientist – and Other Perks of Higher Education*
Guest Lecture, North End Middle School, Waterbury, CT

Teaching Assistant Appointments

Spring 2020 *Physics 0111 – Introduction to Physics 2.* Instructor: Matteo Broccio
Recitation TA, Undergraduate course, University of Pittsburgh

Fall 2019 *Mathematical Methods for Physics.* Instructor: Brian Batell
Grader, Graduate/Undergraduate course, University of Pittsburgh

Summer 2018 *Stars, Galaxies, and the Cosmos.* Instructors: Zeynep Kalendar, Melanie Good
Recitation TA, Undergraduate course, University of Pittsburgh

Spring 2018 *Galaxies and Cosmology.* Instructor: Jeffrey Newman
Grader, Graduate/Undergraduate course, University of Pittsburgh

Basics of Space Flight. Instructor: John Radzilowicz
Recitation TA, Undergraduate course, University of Pittsburgh

Fall 2017 *Hubble to Stonehenge.* Instructor: Jeffrey Newman
Recitation TA, Undergraduate course, University of Pittsburgh