

EDUCATION

Brown University

Doctor of Philosophy, Physics

Master of Science, Physics

Providence, RI USA

2018–2023

2020

– Advisor: Savvas Koushiappas, PhD

Carnegie Mellon University

Bachelor of Science, Physics

Pittsburgh, PA USA

2014–2018

PUBLICATIONS

1. “Viability of ultralight bosonic dark matter in dwarf galaxies”
Isabelle S. Goldstein, Savvas M. Koushiappas, and Matthew G. Walker
Phys. Rev. D 106, 063010 (2022)
2. “Could the $2.6 M_{\odot}$ object in GW190814 be a primordial black hole?”
Kyriakos Vattis, Isabelle S. Goldstein, and Savvas M. Koushiappas
Phys. Rev. D 102, 061301(R) (2020)

RESEARCH EXPERIENCE

Brown University

Graduate Student Research Assistant

2018–2023

- Experience in cosmology, astroparticle physics, axion-like dark matter, dwarf galaxy dynamics and primordial black holes.
- Coding fluency in Python, Fortran 90, C++, and Cluster high performance computing.

Carnegie Mellon University

Undergraduate Research Assistant with Dr. Matthew Walker

2017–2018

- Examined the strength of standard dwarf galaxy detection methods using gamma ray data with stellar data from the Sloan Digital Sky Survey and Pan-STARRS.

Lawrence Berkeley National Labs

Assistant Researcher with the DESI and BOSS collaborations

Summer 2016

- Tested ultra faint spectra sky subtraction by integrating the Spectroperfectionism method into DESI and BOSS data analysis pipelines.

Carnegie Mellon University

Undergraduate Student Research Assistant with Dr. Shirley Ho

2015–2016

- Dark matter and galaxy cross correlation bias for redshift dependance.

RESEARCH INTERESTS

My research interests lie in astrophysics and cosmology, particularly in the intersection between theory and observation. My previous work has focused on dark matter searches, as well as the large scale structure of dark matter in contrast to baryonic matter. I am interested in studying local group astrophysics to learn about the dark and light sector.

TEACHING EXPERIENCE

Brown University

Lab Instructor, PHYS 0470 Electricity and Magnetism	Fall 2018, 2019, 2020
– Course Instructor: Dr. Savvas Koushiappas Number supervised: 22, 24, 32	
Lab Instructor, PHYS 0060 & 0160	Spring 2019
– Course Instructor: Dr. Meenakshi Narain Number supervised: 15	
Lab Instructor, PHYS 0220 Astronomy	Spring 2020
– Course Instructor: Dr. Jonathan Pober Number of students: 200	
Course Teaching Assistant, PHYS 0070 Analytical Mechanics	Spring 2021
– Course Instructor: Dr. James Valles Number of students: 85	

SCHOLARSHIPS AND AWARDS

• Physics Merit Fellowship Brown University Department of Physics	2022-2023
• Award of Excellence as a Graduate Teaching Assistant Brown University Department of Physics, PHYS 0070	2021
• RI Space Grant Graduate Fellow with the NASA RI Space Grant Consortium	2021
• National Science Foundation Graduate Research Fellowship Program Honorable Mention	2020
• Associate Member of Sigma Xi Scientific Research Honors Society Brown University Chapter, Elected to Membership	2020
• Award of Excellence as a Graduate Teaching Assistant Brown University Department of Physics, PHYS 0470	2018
• Senior Leadership Recognition Award Carnegie Mellon University Department of Physics	2018
• NASA Pennsylvania Space Grant Investigating the CMB lensing potential: stacking with galaxies and gamma radiation density	2015
• H. Joseph Gerber Medal of Excellence Connecticut Academy of Science and Engineering	2014
• CERN Special Award at the Intel International Science and Engineering Fair European Organization for Nuclear Research	2014

CONFERENCE PRESENTATIONS

Workshop Papers or Presentations

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| Title: <i>The Viability Of Ultralight Bosonic Dark Matter In Dwarf Galaxies</i>
Presented at 243rd annual meeting of the American Astronomical Society | 2024 |
| Title: <i>The Viability Of Ultralight Bosonic Dark Matter In Dwarf Galaxies</i>
Presented at the Mitchell Conference on Collider, Dark Matter, and Neutrino Physics | 2022 |
| Title: <i>Cross correlations of the CMB lensing potential and Sloan Digital Sky Survey galaxies</i>
Presented at Essential Cosmology for the Next Generation | 2016 |

Conferences Organized

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| Local committee graduate student organizer for the Conference for Undergraduate Women in Physics
Cancelled due to Covid-19 | 2022 |
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Conferences Attended

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| LSST Dark Matter Workshop, Kavli Institute for Cosmological Physics at the University of Chicago | 2019 |
| Summer School on Cosmology, International Centre for Theoretical Physics | 2016 |

ADDITIONAL EXPERIENCE

Community outreach

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| • Guest speaker at the Urban Assembly School for Emergency Management (NYC, NY)
<i>Pursuing STEM in undergraduate and graduate level education</i> | 2022 |
| • Pittsburgh Glass Center teaching assistant for community glassblowing classes and demonstrations | 2015–2018 |

Additional Scholarships

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| • Pittsburgh Glass Center scholarship for advanced summer intensive
<i>Fictional Sculpting</i> | 2018 |
| • Corning Museum of Glass scholarship for advanced summer intensive
<i>Finding Your Voice: Glass Sculpting with Shelley Muzyłowski Allen</i>
<i>Cancelled due to Covid-19</i> | 2020 |