HALEY S. BOWDEN

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Pronouns: they/them/theirs

933 N. Cherry Ave.
Tucson, AZ 85721

EDUCATION

PhD Astronomy and Astrophysics   August 2026 (Expected)
Steward Observatory, University of Arizona
Advisor: Peter Behroozi

BS Physics (with highest honors)   June 2020
University of California, Santa Barbara (UCSB)

RESEARCH EXPERIENCE

Graduate Research Assistant   2020-Present
Steward Observatory, University of Arizona   Advisor: Peter Behroozi

- Investigating the connection between galaxies and their host dark matter halos
- Predicting halo properties based on environmental observables using neural networks

Post-Baccalaureate Researcher   Summer 2020
Undergraduate Research Assistant   2018-2020
UCSB Department of Physics   Advisor: Crystal Martin

- Simulated the behavior of interstellar matter under extreme conditions
- Analyzed spectroscopic observations of extreme dwarf galaxies known as "Green Peas"
- Developed spectral models for X-ray binaries

Science Intern   Summer 2017
Las Cumbres Observatory   Advisors: D. A. Howell, Curtis McCully

- Used MCMC methods to investigate the minimum information needed to recover supernova type from a light curve
- Investigated the Large Synoptic Survey Telescope's (LSST) observational potential for supernova research

RECENT PUBLICATIONS AND PRESENTATIONS

Halo Properties from Observable Measures of Environment: I. Halo and Subhalo Masses
H. Bowden, P. Behroozi, A. Hearing, 2023, arXiv:2307.07549

KITP Galaxy Evolution Conference. March 2023. *Finding Environmental Measures Sensitive to Halo Properties using Neural Networks* (Talk)

Santa Cruz Galaxy Workshop. August 2022. *Building Novel Neural Networks to Unveil the Connection between Galaxies, their Dark Matter Halos, and their Environment* (Talk)

Determining the Ionizing Source of Green Pea Galaxies, H. Bowden, 2020 (Bachelor's thesis)

American Astronomical Society Meeting #235. January 2020. *Determining the Ionizing Source of Green Pea Galaxies* (Poster)

APS Conference for Undergraduate Women in Physics. January 2019. *Determining the Ionizing Source of Green Pea Galaxies* (Talk & Poster)

HONORS AND AWARDS

NSF Graduate Research Fellowship, Honorable Mention	2020
UCSB, Department of Physics, Research Excellence Award	2020
Barry Goldwater Scholarship	2019
UCSB, Department of Physics, Department Service Award	2019
University of California, Leadership Excellence through Advance Degrees (UC LEADS) Scholar	2018-2020
UCSB Early Undergraduate Research and Knowledge Acquisition (EUREKA!) Scholar	2017

TEACHING EXPERIENCE

Graduate Teaching Assistant Fall 2023
University of Arizona Department of Astronomy
Course: Theoretical Astrophysics

Undergraduate Teaching Assistant Fall 2018, 2019
UCSB Department of Physics
Course: Electricity and Magnetism

OUTREACH & SERVICE

NOIRLab Teen Astronomy Cafes
Graduate Student Facilitator, 2021

UCSB, College of Creative Studies
Peer Mentor, 2019-2020

APS Conference for Undergraduate Women in Physics (CUWiP)
Local Organizing Committee, Southern California Region, 2018-2019