Haleigh E. Brown

Email: brow2467@purdue.edu
LinkedIn: www.linkedin.com/in/HaleighEBrown
GitHub: https://github.com/haleighebrown

Education

Ph.D. Student Planetary Science, 8/2023 - present
Purdue University, West Lafayette, IN
Advisor: Stephanie Olson

B.A. Computational Physics, 5/2023
University of Montana, Missoula, MT
Minors in Mathematics and Computer Science

Research Experience

Purdue Planetary Habitability and Biosignatures Lab: Graduate Research Assistant 8/2023 to present

- Investigating how steller flux, continental configuration, rotation rate, and surface pressure effect wet and dry cycles on early Earth and beyond

NASA - Montana Space Grant Consortium: Peer Leader Intern
6/2022 to 8/2022

- 400-hour, ten-week paid internship, focused on increasing the accuracy of balloon trajectory prediction software
- Significant emphasis on numerical weather modeling, python visualization methods, atmospheric fluid dynamics, and calculation-based trajectory prediction

NASA - Montana Space Grant Consortium: Apprentice
10/2021 to 12/2022

- 30-hour apprenticeship as a full-time student, focused on developing interactive educational videos for future eclipse campaign students
- Emphasis on equitable and inclusive methods of teaching

NASA - Montana Space Grant Consortium: Intern
5/2021 to 8/2021

- 400-hour, ten-week paid internship, focused on problem-solving and preparing training exercises for future National Eclipse Ballooning Project eclipse campaigns and for the Balloon Outreach, Research, Exploration And Landscape Imaging System (BOREALIS) program at Montana State University
- Worked extensively with Fusion 360, 3D printers, and on learning ballooning procedures in the field

Teaching

Teacher, PHSX 206N, College Physics I Laboratory (1 credit)
University of Montana - 9/2022 to 12/2022
- Responsible for initial lab lecture and answering student questions throughout labs

Co-Teacher, PHSX 206N, College Physics I Laboratory (1 credit)
University of Montana - 1/2022 to 5/2022
- Co-taught physics content during alternating weeks with two other upperclass physics students
- Responsible for initial lab lecture and student question aid

Presentations

Brown, H.E. (Jan. 2023). "***Balloon Trajectory Prediction: Improving Calculation-based Techniques,"*** Oral senior seminar for the University of Montana Physics Department, at the University of Montana, Missoula MT.

Brown, H.E. (Aug. 2022). "***Improving Calculation-based Balloon Trajectory Prediction,"*** Oral presentation for Montana Space Grant Consortium at the Missoula Public Library, Missoula MT.

Brown, H.E. (Dec. 2021). ***"Radiosonde Eclipse Campaign Education: Increasing Accessibility Through Adaptability and Affordability,"*** Poster presentation at the American Geophysical Union Conference, New Orleans LA.

Brown, H.E. (Aug. 2021). ***"Eclipse Campaign Simulation: Affordable Radiosonde Launches Using the Phantom 4,"*** Oral presentation for Montana Space Grant Consortium at the Missoula Public Library, Missoula MT.

Skills

Programs such as: Python, Java, Django, HTML, AutoCAD, MS Office suite, Fusion 360, 3D-printing slicers, Weather Research and Forecasting model, Vapor visualization tool, Kotlin

Certifications

Responsible Conduct of Research Training - 2021 to 2026

Acedemic Awards

Purdue, Earth, Atmospheric, and Planetary Sciences Department Ross Felloship - 2023
University of Montana President's 4.0 GPA List - 2019, 2021, 2022
Dean's List University of Montana - 2020
Montana State University Honors tuition waiver - 2019 through 2023
Shallenberger Scholarship - 2019, 2021
Valedictorian, Sentinel High School - 2019
John Pohl Musician's Scholarship - 2019