

Haleigh E. Brown

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- Summary** I am an undergraduate senior pursuing a degree in Computational Physics with minors in Mathematics and Computer Science. My research interests cover how subsurface, surface, and atmospheric processes past and present can relate to planet habitability. I am also greatly intrigued by topics such as planetary habitability, astrobiology, and human space exploration.
- Education** **University of Montana (UM), Missoula MT**
BA Computational Physics, minors in Mathematics and Computer Science
(2019 - Expected May 2023), GPA of 3.89
- Research Experience** **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	<p>Teacher, PHSX 206N, College Physics I Laboratory (1 credit) University of Montana - 9/2022 to 12/2022</p> <ul style="list-style-type: none"> - Responsible for initial lab lecture and answering student questions throughout labs <p>Co-Teacher, PHSX 206N, College Physics I Laboratory (1 credit) University of Montana - 1/2022 to 5/2022</p> <ul style="list-style-type: none"> - Co-taught physic content during alternating weeks with two other upperclass physics students - Responsible for initial lab lecture and student question aid
Presentations	<p>Brown, H.E. (Dec.2022). <i>“Balloon Trajectory Prediction: Improving Calculation-based Techniques,”</i> poster presentation at the American Geophysical Union Conference, Chicago IL.</p> <p>Brown, H.E. (Sep. 2022). <i>“Balloon Trajectory Prediction: Improving Calculation-based Techniques,”</i> Oral senior seminar for the University of Montana Physics Department, at the University of Montana, Missoula MT.</p> <p>Brown, H.E. (Aug. 2022). <i>“Improving Calculation-based Balloon Trajectory Prediction,”</i> Oral presentation for Montana Space Grant Consortium at the Missoula Public Library, Missoula MT.</p> <p>Brown, H.E. (Dec. 2021). <i>“Radiosonde Eclipse Campaign Education: Increasing Accessibility Through Adaptability and Affordability,”</i> Poster presentation at the American Geophysical Union Conference, New Orleans LA.</p> <p>Brown, H.E. (Aug. 2021). <i>“Eclipse Campaign Simulation: Affordable Radiosonde Launches Using the Phantom 4,”</i> Oral presentation for Montana Space Grant Consortium at the Missoula Public Library, Missoula MT.</p>
Skills	<p>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</p>
Certifications	<p>Responsible Conduct of Research Training - 2021 to 2026</p>

Awards	President's 4.0 GPA List - 2019, 2021, 2022 Dean's List University of Montana - 2020 MSU Honors tuition waiver - 2019 to present Shallenberger Scholarship - 2019, 2021 Valedictorian, Sentinel Highschool - 2019 John Pohl Musician's Scholarship - 2019 Buddy DeFranco Improvisation award - 2018
Community Involvement	Montana American Indians in Math and Science Camp, 2-day volunteer - 2021 Sentinel Honors Society Member - 2018, 2019 Sentinel High School Robotics Outreach Manager - 2018, 2019 Vice president of Sentinel Art Club - 2017, 2018 Zoo Town Art Community Center, part-time summer volunteer - 2014 to 2017 Missoula Food Bank, Volunteer, part-time summer - 2014 to 2016