

Arianna Nielsen

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Education

The Pennsylvania State University
Bachelor of Science in Astronomy and Astrophysics
Minor in Astrobiology

Aug 2022 – May 2026
GPA 3.5/4

Research Experience

Laser Injection Recovery Project

Research with Pinchen Fan and Jason Wright through the PSETI Center

State College, PA
May 2025 – Present

- Finding instrument efficiency using HPF observations and comparing to a model
- Injecting a single laser from a LFC into an observation
- Calculating the power required for our detection pipeline to flag a laser candidate

Calculating Atmospheric Escape Conditions

Research with Brad Foley in the Geoscience department

State College, PA
June 2024 – Dec 2024

- Read through papers on atmospheric escape to find what equations can be used in a model to use the atmospheric makeups to relate to a planets geological makeup

Pulsar Plot Grading Certification

Pulsar Science Collaboratory

Abington, PA
Aug 2022 – May 2023

- Took a course on neutron stars and pulsar plots
- Graded 1000 plots from real pulsar data

Extracurriculars

Physics and Astronomy for Women and Gender Minorities +

- Inclusivity Officer

State College, PA
March 2024 – Present

Astronomy Club

Aug 2023 - May 2024

Pulsar Science Collaboratory

Aug 2022 - May 2023

Research Skills

Python

- Experience using astropy, numpy, matplotlib, and netcdf4
- Tools Used: C++, MFC

AstroImageJ

- Measuring DN values, plotting FWHM, combining images to create flat fields, performing multiple aperture photometry

Academic Achievements

Dean's List

Spring 2023, Fall 2024, Spring 2024, Spring 2025

Science & Engineering outstanding achievement medal recipient

Spring 2023

Work Experience

Grading TA

January 2024 - May 2025

- Grading assignments in low level astronomy courses
- Setting up and calibrating telescopes for astronomy course observing sessions