Arianna Nielsen

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Education

The Pennsylvania State University *Aug 2022 – May 2026*
Bachelor of Science in Astronomy and Astrophysics *GPA 3.5/4*
Minor in Astrobiology

Research Experience

Laser Injection Recovery Project *State College, PA*
Research with Pinchen Fan and Jason Wright through the PSETI Center *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 *State College, PA*
Research with Brad Foley in the Geoscience department *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 *Abington, PA*
Pulsar Science Collaboratory *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 + *State College, PA*
March 2024 – Present

- Inclusivity Officer

Astronomy Club Aug 2023 - May 2024

Pulsar Science Collaboratory Aug 2022 - May 2023

Research Skills

Python/Jupyter Notebooks

- Experience using astropy, numpy, and matplotlib in Python and Jupyter Notebooks

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 - Present*

- Grading assignments, exams, and projects in introductory+ level astronomy courses
- Setting up and calibrating telescopes for astronomy course observing sessions