Kaylee E. Grace

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Education

2022 – Present **University of Delaware**, Newark, DE.
Ph.D. in Physics, expected in 2028. MSc in Physics, conferred in 2025.

Advisor: Dr. Judith L. Provencal

2018 – 2022 **University of Connecticut (UConn)**, Storrs, CT.
Bachelors of Science in Physics (Honors) and Bachelors of Arts in Women's Gender and Sexuality Studies with a minor in Astrophysics.

Thesis: Electromagnetic Detectability of Binary Supermassive Black Holes
Advisors: Dr. Jonathan Trump and Dr. Megan Davis

Research Positions

2022 - Present **Graduate Research Assistant**
University of Delaware and Mt. Cuba Astronomical Observatory with Dr. J. Provencal

- Utilized *Hubble Space Telescope* data and *TLUSTY* modeling software to determine the location of the blue edge of the helium atmosphere white dwarf instability strip
- Observes 60 nights per year using Southeastern Association for Research in Astronomy remote telescopes
- Participates in commissioning of new 1.3-m telescope and making updates to 0.6-m Tinsley telescope

2020 – 2022 Undergraduate Research Assistant in Binary Supermassive Black Hole Simulations for Rubin/LSST (UConn)

2021 Research Experience for Undergraduates (REU) Summer Researcher in Neutrino Astrophysics (UWRF)

Awards and Scholarships

2025 AAS FAMOUS Travel Grant

2024 Student Travel Grant to attend Current Challenges in the Physics of White Dwarf Stars

Recent Conferences

January 2025	245th American Astronomical Society Meeting, poster.
July 2024	EUROWD24: 23rd European Workshop on White Dwarfs, poster.
April 2024	InnovatHER: Research Showcase, talk.
March 2024	Current Challenges in the Physics of White Dwarf Stars, poster.
January 2024	243rd American Astronomical Society Meeting, poster.
November 2023	American Physical Society Mid-Atlantic Meeting, poster.

Teaching and Outreach Experience

2023 – Present **Mount Cuba Scholars Mentor**

- Acts as a mentor for a high school student, helping brainstorm, plan, and execute a research project over an academic year

2025 - Present **Technical Associate**
Mt. Cuba Astronomical Observatory

- Lead 12+ public programs for audiences of 28 each year
- Utilize the 1.3-m and 0.6-m telescopes for research and teaching

2023 – Present **Research Mentor of Undergraduate Students**

2025 – Present	Evelyn Palmer (UDel BSc '28)
2025 – Present	Benjamin Kaiser (UDel BSc '28)
2022 – 2025	Millie Dill (UDel BSc '25)

2025 **Teaching Assistant/Residential Mentor**
Summer Science Program at Colby College

- Provided academic support in physics, math, and computer science to 36 advanced high school students
- Supervised nightly on-site observations using a 0.7-m telescope and the LCO network

2022 - 2025 **Educational Associate** (Mt. Cuba Astronomical Observatory)

2022 - 2024 **Graduate Teaching Assistant**
University of Delaware

- PHYS 133 (two semesters): Lab for Introduction to Astronomy
- PHYS 221 (five semesters): Lab for algebra-based mechanics

Publication List

[1] Davis, Megan C. et al. "The Consequences of Rubin Observatory Time-Domain Survey Design and Host-Galaxy Contamination on the Identification of Binary Supermassive Black Holes". In: arXiv preprint arXiv:2508.05742 (2025).

[2] Davis, Megan C., **Grace, Kaylee E.** et al. "Reliable Identification of Binary Supermassive Black Holes from Rubin Observatory Time-Domain Monitoring". In: *The Astrophysical Journal* 965.1 (2024), p. 34.