

EDUCATION

- Florida Institute of Technology
 - Ph.D. - Space Sciences; GPA: 3.81Melbourne, FL, US
August 2023 - Present
 - Florida Institute of Technology
 - B.S. - Astrobiology; GPA: 3.81; Summa Cum LaudeMelbourne, FL, US
August 2021 - May 2023
 - Lincoln Memorial University
 - B.S. - Pre-Med Biology; GPA: 3.65; Magna Cum LaudeHarrogate, TN, US
August 2017 - May 2021

SKILLS SUMMARY

- Technical Skills: Python (Advanced), C++ (Intermediate), LaTeX (Advanced), Fortran 95 (Beginner), ADSQL (Beginner)

PUBLICATIONS

- Potential for Life to Exist and be Detected on Earth-like Planets Orbiting White Dwarfs
 - Corresponding Author, Published December 12, 2024 in The Astrophysical Journal Letters

RESEARCH

- Atmospheric modeling of a white dwarf exoplanet
 - Advisors: Dr. Howard Chen & Dr. Luis Henry Quiroga-Nuñez
 - May 2025 - Present
 - Overview: Using WACCM to model the climate chemistry and atmospheric dynamics of a synchronously ultra-fast rotating Earth-like planet orbiting within the habitable zone of a white dwarf. Simulations are being performed on the NSF NCAR Derecho supercomputer through an Exploratory Allocation.
- Habitability and detection of white dwarf exoplanets
 - Advisor: Dr. Luis Henry Quiroga-Nuñez
 - August 2023 - Present
 - Overview: Modelling the habitable zone of a temperate planet around a white dwarf, and predicting the presence of conditions that could accommodate abiogenesis or photosynthesis. Also evaluating observation targets and the time required to detect signs of life using JWST.
- Energetic approach to habitability of Europa
 - May 2022 - May 2023
 - Advisor: Dr. Manasvi Lingam
 - Overview: Using a bioenergetic model (NutMEG) to predict the amount of biomass and presence of biosignatures in the subsurface ocean of Europa. Based on a computational model developed to track the energy consumption of basic lifeforms in subsurface oceans.

PRESENTATIONS

- Advancing the Search for Technosignatures IAUS 404
 - Online
 - Presentation - The White Dwarf Technosignature Opportunity
 - March 2026
- UCF SpaceU Symposium
 - Orlando, FL, US
 - Poster - White Dwarf Exoplanets: Habitability & Detection
 - November 2025
- Florida Tech GSS Seminar
 - Melbourne, FL, US
 - Presentation - White Dwarf Exoplanet Habitability
 - October 2024
- Exoplanets 5 Conference
 - Leiden, NL
 - Poster - Potential for an Earth-like planet orbiting a white dwarf to host life
 - June 2024
- UCL MSSL Astrophysics Seminar
 - Dorking, London, UK
 - Presentation - Potential for an Earth-like planet orbiting a white dwarf to host life
 - June 2024

EMPLOYMENT

- Ortega Observatory
 - Melbourne, FL, US
 - Observatory Assistant
 - August 2024 - Present
 - Experience: Oversee daily observatory operations, projects, and outreach events. Currently leading mobile observatory educational outreach partnership with NASA KSCVC.
- Florida Institute of Technology
 - Melbourne, FL, US
 - Graduate Teaching Assistant
 - December 2023 - Present
 - Experience: Instructor of Physics 1 lab (Spring 2024) and Observational Astronomy (Current). Responsibilities include lesson planning, leading instruction, designing and grading assignments, etc.

NOTABLE AWARDS

- NASA DARES RFI Workshop ECR Travel Award - 2025
- NCAR/CISL Exploratory Allocation - 2025
 - Graduate Outstanding Student of the Year - 2025