

Connor Ross Rosenthal

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Last updated November 4th, 2025

Education

Cornell University, College of Arts and Sciences, Ithaca, NY | August 2021 - May 2025

Bachelor of Arts | Physics major, Astronomy minor

Cum Laude | Cumulative GPA 3.69/4.3

Research Experiences

Post-Baccalaureate Research | University of Michigan | August 2025 - Present

- Conducting exoplanetary research with Dr. Mary Anne Limbach
- Analyzing photometry and infrared spectra of two white dwarfs from the James Webb Space Telescope (*JWST*) for signs of close-orbit planetary emission
- Eliminating systematic effects and fitting possible planetary emission models to the data
- Planning future *JWST* proposals to continue to look for planets around white dwarfs

Independent Research in Astronomy | Cornell University | October 2022 - June 2025

- Led independent research with the Carl Sagan Institute under Professor Lisa Kaltenegger.
- Identified habitable exoplanet candidates using data from the NASA Exoplanet Archive.
- Simulated atmospheric spectra for TRAPPIST-1f and analyzing *JWST*'s ability to detect signs of habitability given stellar contamination, using the POSEIDON atmospheric retrieval package.
- Conducted similar analysis of model Earth-like planets around white dwarf stars.
- Preparing TRAPPIST-1f results for publication

Independent Research in Physics | Cornell University | June 2024 - December 2024

- Conducted research in the observational cosmology lab as part of the CCAT-Prime collaboration, supervised by Professor Michael Niemack.
- Programmed a Fourier Transform Spectrometer (FTS) for remote operation integrated with the Observatory Control System (OCS). Adapted FTS data analysis programs and characterized the passband of the Mod-Cam receiver.
- Designed and new lab equipment using SolidWorks and successfully implemented it in the lab.
- Designed and soldered printed circuit boards using ExpressPCB.
- Maintained, updated, and repaired the Mod-Cam receiver and its cryostat, applying hands-on hardware skills.

The Yale Summer Program in Astrophysics | Yale University | July 2020 - August 2020

- Studied a variety of topics during the competitive six-week program, including optical observation, Python programming, and stellar evolution.
- Collaborated in a team of four to conduct observations of an active supernova and classify it.
- Studied under Yale professors and graduate students, receiving direct mentorship.

Publications

- Rosenthal, C., Kaltenegger L., MacDonald R., Payne R., Mullens E. 2025, Veiled in Starlight: Impacts of Stellar Contamination on Retrievals of TRAPPIST-1f's Atmospheric Composition, *In Preparation (expected submission by November 2025)*.

Allocated Observing Time

- A Search for Life Around Two Dead Stars | Co-investigator | GO 7564, JWST Cycle 4 | 27.4 allocated hours

Posters and Presentations

- Hidden Worlds Around Dead Stars: Infrared Spectra of Two Nearby White Dwarfs with JWST. GLEAM Poster, November 2025.
- TRAPPIST-1f Atmospheric Retrieval Analysis for JWST with Stellar Contamination. ERES IX Poster, July 2024.

Skills

- Programming | Advanced proficiency with Python | Intermediate proficiency with Julia, MPI, Solidworks, Express PCB, and LaTeX | Familiar with Java and the Observatory Control System (OCS)
- Lab experience | Cryogenic lab safety training, soldering, hardware and software troubleshooting, custom PCB design, observational instrumentation.
- Communication and leadership | Lead a team of 25+ at the Cornell Undergraduate Research Journal (CURJ), edited and authored submitted research papers .

Work Experiences

Woodward Academy | Advancement Office Intern | College Park, GA | June - August 2022 and June - August 2023

- Developed new fundraising opportunities and organized alumni/community engagement events.
- Analyzed and updated alumni and donor databases, enhancing data-driven outreach strategies.

Extracurricular Activities

[*Cornell Undergraduate Research Journal*](#) | Co-Editor-in-Chief and Co-President | Cornell University | September 2021 - August 2024

- Spearheaded bi-annual peer-reviewed publications of undergraduate-led research across disciplines.
- Managed editorial teams, led weekly meetings, expanded journal impact.

Cornell Astronomical Society | Keyholder | Cornell University | August 2021 - May 2025

- Operated the historical Fuertes observatory for weekly open houses.

- Operated telescopes and assisted public outreach.
- Conducted night sky tours and educated visitors on astronomy.

Interests

- Exoplanet habitability | Observational cosmology | Astrophysical instrumentation | Astronomy Outreach | Space mission design | Software development