Kaila Ronayne

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(LinkedIn) (Github) (Personal Website) (ADS Library)

Research Interests

Observational astronomy, high z universe, galaxy-formation, galaxy cluster, protoclusters, star formation, star formation history, galaxy evolution, active galactic nuclei (AGN), polycyclic aromatic hydrocarbons (PAHs)

Education

PhD Astronomy Expected Graduation: Aug-2028
Astrostatistics Track
Texas A&M University, College Station, TX
Advisor: Casey Papovich

M.S. Astronomy Expected Graduation: May-2025
Texas A&M University, College Station, TX
Advisor: Casey Papovich

B.S. Aerospace Engineering Graduated: Dec-2021
Minors in Astrophysics and Mathematics
Texas A&M University, College Station, TX

Research Appointments

Graduate Student Jan 2022 - Present
Texas A&M University
Department of Physics and Astronomy
Advisor: Casey Papovich

Assistant Researcher Aug 2020 - Dec 2021
Texas A&M University
Department of Physics and Astronomy
Advisors: Casey Papovich and Guang Yang

Assistant Researcher May 2018 - May 2019
Texas A&M University
Department of Aerospace Engineering
Research Group: SpaceCRAFT
Advisor: Gregory E. Chamitoff

Internships

Airworthiness Intern May 2021 – Dec 2021
Lockheed Martin, Fort Worth, TX

- Used software skills to optimize current data analysis methods. Aim was to improve previous methods of data processing to increase efficiency of work on the airworthiness team, as well as the chief engineers office.

Publications

First Author

- CEERS: 7.7 μm PAH Star Formation Rate Calibration with JWST MIRI; Ronayne et al. 2024

Co-Author

- CEERS: Spatially Resolved UV and mid-IR Star Formation in Galaxies at $0.2 < z < 2.5$ The Picture from the Hubble and James Webb Space Telescopes; Shen et al. 2023
- CEERS: Increasing Scatter along the Star-Forming Main Sequence Indicates Early Galaxies Form in Bursts; Cole et al. 2023
- The HST–Hyperion Survey: Grism Observations of a z∼2.5 Proto-Supercluster; Forrest et al. 2025
- The HST–Hyperion Survey: Companion Fraction and Overdensity in a z 2.5 Proto-supercluster; Giddings et al. 2025

Contributing Author

- A Long Time Ago in a Galaxy Far, Far Away: A Candidate z ∼ 14 Galaxy in Early JWST CEERS Imaging; Finkelstein et al. 2022
- A dusty starburst masquerading as an ultra-high redshift galaxy in JWST CEERS observations; Zavala et al 2022

Honors and Awards

Avilés-Johnson Doctoral Fellowship Jan.2022–Aug.2027
Awarded $184,733

NASA/ Texas Space Grant Consortium Fellowship 2022–2023
Awarded $5,000

Graduate Student Research and Presentation Travel Award Feb.2025
Awarded $1,000

Awarded Time/Archival Funding

(CO-I) JWST Cy3 AR-5075
Unveiling the Morphological Evolution of Galaxies in Protoclusters: Insights from JWST Imaging

(CO-I) JWST Cy2 GO-3794
MEGA Mass Assembly at Cosmic Noon: MIRI EGS Galaxy and AGN Survey

Certifications

An Introduction to Evidence-Based Undergraduate STEM Teaching Apr.2024
Certification of Completion (Certification Link)

Presentations

Talks

- Texas A&M Astro-symposium Aug.–2022
- Astronomy on Tap - Bryan College Station (AoT BCS) Oct.–2022
- CEERS Team Meeting May–2023
- Texas A&M Astro-symposium Aug.–2023
- Astronomy on Tap - Bryan College Station (AoT BCS) Feb.–2024
- STSci Spring Symposium Apr.–2024
- CEERS Team Meeting May–2024
- Brazos Valley Atronomy Club June–2024
- Texas A&M Astro-symposium Aug.–2024
- *(Invited)* TAMU Department of Atmospheric Sciences Seminar Series Sept.–2024
- The Inagural Cosmic Frontier Center Conference May–2025

Posters

- Bashfest Symposium at University of Texas at Austin Oct.–2023
- American Astronomical Society (AAS) 243rd meeting Jan.–2024
- STSci Spring Symposium Apr.–2024
- Crisol 2025: Galaxy Origins in the JWST Era May–2025

Collaborations

Cosmic Evolution Early Release Science (CEERS) Survey, JWST/MIRI EGS Galaxy and AGN (MEGA) Survey, Charting Cluster Construction with VUDS and ORELSE (C3VO) Survey

Leadership

MAGIC* Coordinator — Aug.2023–Nov.2024
Astronomy on Tap - Bryan College Station - Treasurer — Aug.2022–Nov.2024

Mentorship/Outreach

MAGIC* Graduate Student Mentor — Aug.2022–Nov.2024
Adopt-a-Physicist† — Oct.2024–

Teaching

Teaching Assistant

- INTRO GALAXIES AND COSMOLOGY — Spring 2022
- OVERVIEW OF MODERN ASTRONOMY — Fall 2022–Spring 2023
- STARS AND EXTRASOLAR PLANETS — Fall 2023

Programming

Fluent: Python, LaTex, Linux, Unix

Experience: MATLAB, Robot C, Visual Basic for Applications (VBA), bash, R, HTML, Image Reduction and Analysis Facility (IRAF)

*Mentoring And Advising Graduates In An Inclusive Community (MAGIC)
†See more about Adopt-a-Physicist