

Jenny Calahan

Planet Formation & Exoplanet Fellow

jcalahan13@gmail.com | jkcalahan.github.io

Education/Work Experience

Max Planck Institut Für Astronomie Planet Formation & Exoplanet Fellow Sept 2026 - present
Harvard University, Kavli-Laukien Origins of Life Fellow Sept 2023 – Aug 2026
University of Michigan, PhD in Astronomy and Astrophysics Sept 2018 – July 2023

- **Thesis:** Characterizing the 2D Properties of Protoplanetary Disks Using Thermo-Chemical Modeling Techniques and High-Resolution Observations
- **Selected Honor:** Baldwin Thesis Prize in Astronomy & Space Sciences. Awarded in 2025

University of Arizona, B.S. in Astronomy with Honors & B.S. in Physics August 2014 – June 2018

- **Undergraduate Thesis:** Constraining Massive Star Formation
- **Selected Honor:** Most Outstanding Senior in the College of Science - Award given to one undergraduate across the College of Science

Publications

First Author Publications (8 Total)

- **Calahan**, Öberg, Booth: *The Impact of External Radiation on the Inner Disk Chemistry of Planet Formation*, published September 2025
- **Calahan**, Bergin et al.: *Complex Organics Surrounding the FU Ori-Type Object V1057 Cyg Indicative of Sublimated Ices*, published September 2024
- **Calahan**, Bergin et al.: *High Mass Inner Regions Found in Five Outbursting Sources*, published May 2024
- **Calahan**, Bergin, et al: *UV-Chemistry as a Signpost for the Late Stages of Planet Formation* - Accepted to Nature Astronomy, published Jan. 2023
- **Calahan**, Bergin, and Bosman 2022: *Water UV-shielding in the Terrestrial Planet-forming Zone: Implications for Oxygen-18 Isotope Anomalies in H218O Infrared Emission and Meteorites*
- **Calahan**, Bergin, Zhang et al. 2021b: *Molecules with ALMA at Planet-forming Scales (MAPS) XVII: Determining the 2D Thermal Structure of HD 163296*
- **Calahan**, Bergin, Zhang et al. 2021a: *The TW Hya Rosetta Stone Project III: Resolving the Gaseous Thermal Profile of the Disk*
- **Calahan**, Shirley, Svoboda et al. 2018: *Searching for Inflow Toward Massive Starless Clump Candidates Identified in the Bolocam Galactic Plane Survey*

Papers in Preparation

- **Calahan**, Diziire, Öberg in prep.: *The Impact of Accretion on IR Emissive Lines* - Submitted March 2025
- **Calahan**, JDISCs Collaboration et al.: *Thermo-chemical Evolution of Water Undergoing Transport via Dust Grains* - In progress

Selected Co-Authored Works (25 Total)

- Piacentino, Balkanski, **Calahan** et al. 2025: *The survival of aromatic molecules in protoplanetary disks*
- Ilee, Walsh, **Calahan** 2025: *Methanol emission tracing ice chemistry and dust evolution in the TW Hya protoplanetary disk*
- Booth et al. 2025 (incl. **Calahan**): *Ice Sublimation in the Dynamic HD 100453 Disk Reveals a Rich Reservoir of Inherited Complex Organics*
- Colmenares et al. 2024 (incl. **Calahan**): *JWST/MIRI Detection of a Carbon-rich Chemistry in the Disk of a Solar Nebula Analog*
- Romero-Mirza et al. 2024 (incl. **Calahan**): *Retrieval of Thermally Resolved Water Vapor Distributions in Disks Observed with JWST-MIRI*

- Bergin et al. 2024 (incl. **Calahan**): *The Carbon Isotopic Ratio and Planet Formation*
- Pontoppidan et al. 2024 (incl. **Calahan**): *High-contrast JWST-MIRI Spectroscopy fo Planet-forming Disks for the JDISC Survey*
- Bosman, Bergin, **Calahan** et al. 2022: *Water UV-shielding in the Terrestrial Planet-forming Zone: Implications for Carbon Dioxide Emission*
- Bosman, Bergin, **Calahan**, et al. 2022: *Water UV-shielding in the Terrestrial Planet-forming Zone: Implications from Water Emission*
- Schwarz, **Calahan**, Zhang et al. 2021: *Molecules with ALMA at Planet-forming Scales (MAPS) XX The Massive Disk around GM Aurigae*
- Öberg et al. 2021 (incl. **Calahan**) *Molecules with ALMA at Planet-forming Scales (MAPS I) Program Overview and Highlights*
- Cleeves et al. 2021 (incl. **Calahan**) *The TW Hya Rosetta Stone Project IV: A Hydrocarbon-rich Disk Atmosphere*
- Impey, Wenger, Austin, **Calahan**, and Danehy 2018 *Videos for Astronomy Education and Outreach*

On-going Collaboration Memberships

DECO - *Stemming from an ALMA large program, I am on the modeling team of this collaboration. We are working on a code comparison of the field's most widely utilized thermo-chemical codes of protoplanetary disks .* 2022 - present

JDISCs - *A consortium of JWST observers with data that is shared within the group. I organize and lead the modeling arm of this collaboration.* 2023 - present

Selected Invited and Accepted Talks

The Pennsylvania State University Center for Exoplanets & Habitable Worlds- <i>Invited</i>	2026
Harvard Origins of Life Chalk Talk Series - <i>Invited</i>	2026
University of Connecticut Physics Department; Astronomy Seminar - <i>Invited</i>	2026
Baldwin Prize Lecture - <i>Invited</i>	2025
Yale Exoplanet Seminar - <i>Invited</i>	2025
A Sharper View: Three Years of JWST Conference - <i>Invited</i>	2025
Born in Fire Conference - <i>Accepted</i>	2024
UMass Lowell Star & Science Seminar - <i>Invited</i>	2024
5 Colleges Star & Planet Formation Seminar - <i>Invited</i>	2024
IRAM & Wisconsin Radio Seminar - <i>Invited</i>	2024
50 Years of Astrochemistry in Protoplanetary Disks - Ringberg Conference - <i>Invited</i>	2024
MIT Planetary Seminar - <i>Invited</i>	2023
Yale Exoplanets & Stars Seminar - <i>Invited</i>	2023
University of Wisconsin Science Seminar - <i>Invited</i>	2023
SMA Seminar - <i>Invited</i>	2022
University of Virginia Astrochemistry Group VICO Workshop, Speaker - <i>Invited</i>	2022
Space Telescope Science Institute Star and Planet Formation Group Talk	2022
Clouds to Planets II, Speaker - <i>Accepted</i>	2022
University of Pittsburgh Physics Department, Journal Club - <i>Invited</i>	2022
Flatiron Center for Computational Astrophysics, Journal Club - <i>Invited</i>	2022
CIERA - Northwestern, Science Happy Hour - <i>Invited</i>	2022
Stony Brook, Astronomy Seminar - <i>Invited</i>	2022
Astrochemical Discussions, Seminar - <i>Invited</i>	2021
University of California Berkeley, Lunch Talk - <i>Invited</i>	2021
University of Leicester, Planet and Disks Group Talk- <i>Invited</i>	2021
Five Years After HL Tau, Conference Talk- <i>Accepted</i>	2021
Astrochemical Frontiers, Conference Talk- <i>Applied and Accepted</i>	2021

Honors and Awards

Baldwin Prize Recipient - <i>PhD Thesis Prize for Astronomy & Space Sciences at the University of Michigan</i>	2025
Rackham Graduate School DEI Certificate Recipient - <i>Included completion of workshops and projects dealing with applications of Diversity, Equity, and Inclusion in our field</i>	2022
Margaret Ayer Host Award - <i>Recognizes Rackham students who have demonstrated exceptional scholarly achievement, a sense of social responsibility and service, and a lively interest in promoting the success of women in the academic community</i>	2022
Astronomy DEI Champion Award Recipient - <i>Given to members of the University of Michigan Astronomy Department who have worked to champion efforts in the realm of Diversity, Equity, and Inclusion</i>	2022, 2021
NASA FINESST Grant Recipient	2019
NSF Graduate Research Fellowship Program, Recipient	2019
NSF Graduate Research Fellowship Program, Honorable Mention	2018
Most Outstanding Senior - <i>College of Science, University of Arizona</i>	2018

Telescope Time Awarded

NOEMA, 2026 - 32 hours: Exposing the Chemical Reservoir Available to Forming Planets with NOEMA
NOEMA, 2024 - 16 hours: Constraining the Elusive Water Reservoir in a Planet-forming Disk
NOEMA, 2021 - 30 hours: A Robust Mass Determination of FU Ori Objects

Mentorship Experience

Ifediora Nwakuiche - <i>Du Bois Scholar</i>	Summer 2025
Tarisai Dziire - <i>Smithsonian Astrophysical Observatory REU</i>	Summer 2024
David DeOcampo - <i>Undergraduate Astronomy Major, Research experience for credit, University of Michigan</i>	Spring 2023
Ty Walker - <i>Undergraduate Research Opportunities: Community College Bridge Program</i>	Summer 2022

Work and Teaching Experience

Research Experience for Undergrads Summer Lecturer - Smithsonian Institute	2025
Planetarium Operator - University of Michigan Natural History Museum	2019-2023
Graduate Student Instructor Astronomy 102 - <i>University of Michigan</i>	Winter 2019
Teaching Assistant, Intro to Astronomy for Majors <i>University of Arizona</i>	Fall 2018
Instructional Developer <i>University of Arizona</i>	2015-2018

Outreach and Service Activities

Service for my Research Community

Member of AAS's Committee for Sexual-Orientation & Gender Minorities in Astronomy (SGMA)	2023-present
Gordon Research Seminar Chair	2025
NSF Grant Panelist	2025
NASA Panel Grand Chair	2024
Reviewer for the Open Journal of Astrophysics	2025
Reviewer for the Astrophysical Journal	2021-present
Reviewer for the Astronomy & Astrophysics Journal	2023-present
Reviewer for the Journal of Astronomical Telescopes, Instruments, and Systems	2024
Reviewer for Nature Astronomy	2023

NASA Panel Secretary

2023

Service for my Department

Founded and led CfA PASTA Symposium
(Postdocs in Astrophysics, Space sciences, and Terrestrial Atmospheres) May 2026
Interviewed on behalf of postdoc community, SAO Permanent Track Research Associate 2026
Founded and led CfA Postdoc Summer Games Summer 2025
Interviewed on behalf of postdoc community, SAO Permanent Track Research Associate 2025
Postdoc Council Chair for the Center for Astrophysics 2025-present
Postdoc Council Member for the Center for Astrophysics 2024-present
Deputy Chair of the Committee on Equity, Diversity, Inclusion, and Belonging *Harvard & Smithsonian | Center for Astrophysics* 2023-2025
Graduate Curriculum Full Committee Member-*University of Michigan Astronomy Department* 2022
Graduate Admissions Full Committee Member-*University of Michigan Astronomy Department* 2022
Anti-racism Book Club 2020 - 2023

Service for Early Career Scientists

Astronomy Mentorship Program for Upcoming Postdocs (AMP-UP) Organizer 2024-present
Astronomy Mentorship Program for Upcoming Postdocs (AMP-UP) Mentor 2023-present
Astrobites: astrobites.org
• Author 2019-2021
• Admin Co-chair 2020-2023
• Admin Committee 2019-2023
• Scheduling Committee Member and Chair 2019-2023
Astronomy Camp Counselor-*University of Arizona* Summer 2019

Service for the Public

SPARK Program Volunteer - Center for Astrophysics Representative 2025
Girls In STEM Boston Area Speaker 2025
Public Observatory Night at the CfA: Origins of Life Speaker 2024
Letters to a Pre-Scientist Letter Writer 2019 - 2023
FEMMES Outreach for Local Middle School Girls, Group Leader-*University of Michigan* 2019 - 2022
Astronomy on Tap, Ann Arbor 2019-2020
Science Olympiad Coach - Solar System Event-*Slauson Middle School* 2019 - 2020
Futures Unlimited, Workshop Organizer-*Oakton Community College, Des Plaines IL* Winter 2019

Formal Outreach Training

National Science Communication Conference Attendee 2021
RELATE Science Communication Summer Workshop 2020