SOPHIE CAMILLE CLARK

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EDUCATION

University of Arizona 8/2025 - present
Ph.D. in Planetary Sciences
Advisor: Dr. Ilaria Pascucci
Relevant Coursework: Principles of Planetary Physics, Writing Across Space Sciences, Stars & Planets, Cosmochemistry, Astronomical Instrumentation

University of Florida 8/2020 - 12/2024
B.S. in Physics & Astrophysics, *summa cum laude* Cumulative GPA: 3.98/4.0
Thesis Advisor: Dr. Elizabeth Lada

RESEARCH EXPERIENCE

University of Arizona, Tucson, AZ 8/2025 - present
Graduate Research Assistant (Advisor: Dr. Ilaria Pascucci)
Using radiative transfer modeling & JWST observations to characterize MHD outflows from protoplanetary disks
Leading analysis of data from JWST Cycle 4 program on winds from low-mass stars

University of Florida, Gainesville, FL 1/2021 - 7/2025
Undergraduate Research Assistant (Advisor: Dr. Elizabeth Lada)
Analyzed Gaia, 2MASS, & Spitzer data to constrain star cluster membership, proper motions, and correlation to large feedback events in Orion

SETI Institute, Mountain View, CA 6/2024 - 8/2024
REU Intern (Advisor: Dr. Uma Gorti)
Developed software to model protoplanetary disk winds and applied it to JWST observations to infer mass loss rates & morphology

California Institute of Technology, Pasadena, CA 6/2023 - 8/2023
Summer Undergraduate Research Fellow (Advisor: Dr. Matthew Graham)
Constrained AGN luminosity variability using an automated machine learning pipeline to analyze TESS and ZTF time series data

PUBLICATIONS

S. C. Clark, U. Gorti, I. Pascucci, T. Beck, N. Bajaj (in prep.) *A low mass loss rate in the inner disk wind of HH30 as measured by JWST*

N. Bajaj, I. Pascucci, S. Cabrit, S. Edwards, G. Cugno, A. Sellek, J. Najita, K. Zhang, R. Alexander, G. Herczeg, U. Gorti, **S. C. Clark**, & T. Beck (2026), *JWST/MIRI Reveals the Evolution from Molecular to Atomic Disk Winds*, The Astronomical Journal, arXiv:2607.21733

HONORS & AWARDS

Best GSC Talk, Lunar & Planetary Laboratory Conference (LPLC) *2026*
GRFP Honorable Mention, National Science Foundation (NSF) *2026*
Astronomy Department Best Thesis Award, University of Florida *2024*
Distinguished Undergraduate Awards Honorable Mention, USRA *2024*
SETI Institute REU Award of Excellence, SETI Institute *2024*

Chambliss Astronomy Achievement Student Award, American Astronomical Society *2023*
University Scholars Program (USP) Research Award, University of Florida *2023*
Phi Beta Kappa, University of Florida Phi Beta Kappa *2022*
Florida Academic Scholar, Florida Bright Futures Scholarship Program *2020-2024*

PRESENTATIONS

Constraining MHD Disk Wind Mass Loss Rates from Multiple Molecular Lines: An Application to HH30
Missing Links in Planet Formation: From Embedded Disks to Planets, Contributed Talk
11/12/2026 at ASIAA in Taipei, Taiwan

Modeling JWST Observations of Protoplanetary Disk Outflows with RADMC-3D
The 245th Meeting of the American Astronomical Society, Oral Sessions
1/15/25 in National Harbor, Maryland

A High-Resolution Study of AGN Variability with TESS
The 243rd Meeting of the American Astronomical Society, Oral Sessions
1/10/24 in New Orleans, Louisiana

Analyzing the Structure and Motions of the NGC 1977 Cluster with Gaia DR3
The 242nd Meeting of the American Astronomical Society, iPoster Sessions
6/6/23 in Albuquerque, New Mexico

TEACHING EXPERIENCE

Post-baccalaureate Teaching Assistant, University of Florida
PHY2049L, Physics 2 Laboratory (3 sections) *Spring 2025*
IDS2935, The Art & Science of Astrophotography *Spring 2025*

Undergraduate Teaching Assistant, University of Florida
IDS2935, The Art & Science of Astrophotography *Fall 2023, Spring 2024, Fall 2024*
MAC2312, Analytic Geometry & Calculus 2 *Spring 2023*
HUM2930, Research & Creativity *Summer 2021, Fall 2021*

LEADERSHIP & OUTREACH

Outreach Volunteer, University of Florida Department of Astronomy 2022 - 2025
- Various events, usually operating telescopes for the public to observe

URSP Student Advisory Board, UF Center for Undergraduate Research 2021 - 2024
- External Director, 2023 - 2024
- Director of Research Seminars, 2022 - 2023
- Research Seminar Committee Member, 2021 - 2022

Mentor, Women in Astronomy & Astrophysics Mentorship Program (WAAM) 2023 - 2024
- Mentored undergraduate students on summer research opportunities and career plans

PROGRAMMING SKILLS

Languages: Python, LaTeX, MATLAB
Systems: Linux/Unix, Windows OS, Mac OS, Git
Applications: data analysis, image processing, radiative transfer, MCMC, machine learning
Facilities: Gaia, 2MASS, Spitzer, TESS, JWST, ALMA

MEDIA APPEARANCES

SETI Institute to Honor Contributions to Exoplanet Research with its Carl Sagan Center Director's Award, SETI Institute Press Release

A Picture is Worth a Thousand Stars, Florida Gator Magazine Fall 2024

Stars in Astronomy visible right here on campus, UF Liberal Arts & Sciences News