

# SARAH JIANG

University of California San Diego ◊ San Diego, CA

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## EDUCATION

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**University of California San Diego** — Ph.D. in Astronomy and Astrophysics

September 2024-Present

**Georgetown University** — B.S. in Physics

August 2017-May 2021

Minor: Biology

## RESEARCH/WORK EXPERIENCE

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**Graduate Student Researcher** — University of California San Diego

September 2024-Present

Graduate student researcher working with Dr. Chris Theissen to:

- Characterize the lowest-mass stars in a sample of nearby ultracool dwarfs (UCDs) using low-resolution spectra from NASA IRTF/SpeX
- Investigate a potential link between spectral peculiarities and terrestrial planet occurrence

**Associate Data Analyst** — Technomics, Inc.

January 2023-August 2024

- Developed and utilized data analysis/modeling tools to support program planning and operations research to help inform decision-making for the DOE/NNSA
- Prepared effective data products and reports to communicate progress and insights to stakeholders at all levels of the process

**Research Intern** — Space Telescope Science Institute

October 2021-October 2022

Research intern working with Dr. Arpita Roy to:

- Develop and use machine learning models to analyze stellar spectra using extreme precision radial velocity (EPRV) measurements to detect exoplanets
- Train models to predict stellar activity signals from spectral features and distinguish between stellar activity and small planetary signals to help improve the sensitivity of the RV method to Earth-sized exoplanets
- Analyze stellar spectra for activity-correlated/sensitive features to identify informative inputs and calibrate predictions for model
- Perform data reduction/processing and analysis on various datasets, including both solar and stellar data from the high-precision spectrographs HARPS-N and NEID
- Attend weekly team meetings and communicate progress/results of research to both internal and external collaborators

**Research Assistant** — Georgetown University Department of Physics

September 2019-August 2021

Research assistant to Professor Edward van Keuren, working to:

- Develop, synthesize, and analyze polymer nanoparticles for treating acute kidney injury
  - Assembled optical and scientific instrumentation for experiments to help determine properties of particles
  - Collected, processed, and analyzed data to characterize and improve synthesis of particles
  - Completed senior thesis on novel techniques for the analysis of the sedimentation of the particles in solution, presented to 30+ peers and professors

- Synthesize and analyze of the photoconductivity of organic charge transfer materials (PVK-TCNQ) for potential use as/in optoelectronic devices. Funded by DC Space Grant.

## PUBLICATIONS

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Jiang, S., Roy, A., Halverson, S., et al. "Revisiting  $\epsilon$  Eridani with NEID: Identifying New Activity-Sensitive Lines in a Young K Dwarf Star," 2023, The Astronomical Journal, 167, 9, doi: [10.3847/1538-3881/ad0b0b](https://doi.org/10.3847/1538-3881/ad0b0b)

## PRESENTATIONS

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### Posters

- AAS 245, National Harbor, MD January 2025  
"Revisiting  $\epsilon$  Eridani with NEID: Identifying New Activity-Sensitive Lines in a Young K Dwarf Star"

## GRANTS, FELLOWSHIPS, & AWARDS

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NSF Graduate Research Fellowship — NSF Graduate Research Fellowship Program 2025

UCSD Astronomy & Astrophysics Graduate Student Travel Award — AAS 245 Fall 2024

UCSD Graduate and Professional Student Association Travel Grant — AAS 245 Fall 2024

## COMMUNITY INVOLVEMENT

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Member — UCSD Astronomy & Astrophysics Outreach Committee September 2025-Present

Member — UCSD Astronomy & Astrophysics Colloquium and Journal Club Committee September 2025-Present

Graduate Student Lead — UCSD Astronomy & Astrophysics JEDI League March 2025-Present

- Help organize and lead meetings of the UCSD Astronomy & Astrophysics Justice, Equity, Diversity, and Inclusion (JEDI) League
- Act as an advocate for JEDI efforts in the department

Co-Organizer — Astronomy on Tap San Diego February 2025-Present

- Help coordinate and host Astronomy on Tap San Diego events, including maintaining the mailing list, arranging speakers, and communicating with venue/public

Volunteer — 2025 APS Conference for Undergraduate Women in Physics (CU\*iP) @ UCSD January 2025

- Volunteered at the 2025 APS CU\*iP at UCSD to assist with setup and running of the conference
- Served on impostor syndrome panel and as judge for undergraduate poster sessions

Mentor — UCSD Astronomy & Astrophysics Peer-to-Peer Mentoring Program October 2024-Present

Member — EPRV Research Coordination Network October 2022-Present

- Participate in periodic meetings to help coordinate EPRV research efforts across the community
- Provide input and perspective on relevant goals of the EPRV RCN

Member — APS CUWiP Student Advisory Council May 2021-June 2022

- Participated in bi-monthly meetings to help plan for the 2022 and 2023 APS Conferences for Undergraduate Women in Physics (CUWiP)
- Conducted various tasks to help increase engagement, assist with recruitment efforts, and provide feedback on structure and programming

**Co-President — Georgetown University Astronomical Society**

September 2019-May 2021

- Planned and ran weekly meetings, including conducting presentations on astronomical topics, and coordinated special events
- Helped maintain the Heyden Observatory, its telescopes, and other historical astronomical materials
- Conducted external outreach by reaching out to professionals in space science and astronomy and hosting speakers

**Undergraduate Liaison — Georgetown University Women in Physics**

January 2020-May 2021

- Helped plan and run monthly meetings and assisted with coordinating special events, including conducting external outreach to speakers and facilitating group/panel discussions
- Represented undergraduate interests in the organization while helping plan events and advocacy efforts

**Member — Georgetown University Physicists Against Racism**

July 2020-May 2021

**Member — Georgetown University Society of Physics Students**

September 2019-May 2021

**TEACHING EXPERIENCE****Teaching Assistant — UCSD Department of Astronomy & Astrophysics**

January 2025-June 2025

Teaching assistant for ASTR 3: Planetary Systems Near and Far and ASTR 60: Antiracism in Physics and Astronomy.

**Planet Finder Academy — California Institute of Technology**

July 2022-May 2024

- Helped coordinate and lead the Caltech Planet Finder Academy, an introductory exoplanet science-focused educational program for Pasadena-area high school students
- Created Jupyter notebooks, tutorials, and exercises to introduce students to fundamentals of coding and exoplanet science
- Assisted with day-to-day planning and operations of program

**Teaching Assistant — Georgetown University Department of Physics**

September 2019-May 2021

Teaching assistant for PHYS 101: Principles of Physics I and PHYS 102: Principles of Physics II.

**OBSERVING EXPERIENCE****Co-I**

- IRTF — Characterizing the Ultracool TESS Targets: Investigating the Role of Gravity in Planet Hosts — 2025  
32 hours

**Other**

- IRTF — Characterizing Cool Hosts of Candidate Transiting Exoplanets with IRTF/SpeX — 2025  
4 hours

**SKILLS****Computing Skills Languages**Python, C++, Java, R, SQL, LaTeX, MATLAB, Wolfram Mathematica, Microsoft Office, Git  
English, German

- Highly driven, organized, and efficient, with good multitasking and time management skills
- Extensive experience in scientific programming, data processing and analysis, and machine learning
- Strong background in scientific research and problem solving
- Adaptable, quick learner; comfortable in a dynamic environment

- Ability to work well in a team and/or independently
- Proficient in scientific writing and communication

## REFERENCES

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Chris Theissen — University of California San Diego

Arpita Roy — Schmidt Sciences