SARAH JIANG

University of California San Diego ◇ San Diego, CA
sajiang@ucsd.edu ◇ sarahxj.github.io

EDUCATION

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

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

Jiang, S., Roy, A., Halverson, S., et al. "Revisiting ϵ 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

PRESENTATIONS

Posters

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

GRANTS, FELLOWSHIPS, & AWARDS

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

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-Present

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
  21.5 hours

Other

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

SKILLS

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

Chris Theissen — University of California San Diego ctheissen@ucsd.edu
Arpita Roy — Schmidt Sciences arpita308@gmail.com