

SAL WANYING FU

Department of Astronomy, University of California, Berkeley
Campbell Hall 407D, Berkeley CA 94720-3411

Email: swfu@berkeley.edu

Website: swfu.github.io

RESEARCH INTERESTS

Near-Field Cosmology, Galactic Chemical Evolution, Dwarf Galaxies;
Photometric Metallicities, Stellar Chemical Abundances, Resolved Stellar Spectroscopy

EDUCATION

Ph.D., Astrophysics, University of California, Berkeley May 2025 (anticipated)
Advisor: Dr. Dan Weisz
Thesis: “Detailed Views Into the Baryon Cycle of Dwarf Galaxies from HST Narrowband Imaging”
M.A., Astrophysics, University of California, Berkeley May 2021
B.A., Physics, *magna cum laude*, Pomona College May 2019
Academic Advisor: Dr. Philip Choi
Research Advisor: Dr. Josh Simon
Thesis: “Small-Scale Tests of Λ CDM Cosmology”

RESEARCH POSITIONS

Paul and Daisy Soros Fellow & NSF GRFP Fellow, UC Berkeley 2019–
Visiting Graduate Student Researcher, Kyung Hee University, Suwon, South Korea Summer 2022
Summer Postbaccalaureate Researcher, Carnegie Observatories Summer 2019
CASSI Summer Undergraduate Researcher, The Carnegie Observatories Summer 2016, 2017, 2018

HONORS & AWARDS

Paul and Daisy Soros Fellow 2020-2022
Hertz Fellowship Finalist 2020
NSF Graduate Research Fellow 2019-2024
Cranor Fellow, UC Berkeley 2019-2025
Goldwater Scholarship 2018
Tileston Junior Physics Prize, Pomona College, 2018
FUTURE of Physics at Caltech November 2018
Pomona College Scholar June 2016-May 2019
Tileston Sophomore Physics Prize Jan 2018
Moncrief Astronomy Prize Sep 2017

TEACHING, PEDAGOGY & SERVICE

Referee, Astronomy & Astrophysics

UC Berkeley

Institute for Scientist & Engineer Educators Professional Development Program 2024
Graduate Student Instructor, ASTRON218, *Galaxies* Fall 2021
Graduate Student Instructor, Ay160, *Stellar Physics* Fall 2019

Pomona College

Student Mentor, PHYS128, *Electronics (with community partnership)* Spring 2019
Student Mentor & Lab TA, ASTR101, *Observational Astronomy* Fall 2018
Student Mentor, ASTR51, *Introductory Astronomy* Spring 2018
Student Mentor & Lab TA, ASTR101, *Observational Astronomy* Fall 2017
Student Mentor, ASTR51, *Introductory Astronomy* Spring 2017
Student Mentor, PHYS70, *Spacetime, Quanta and Entropy* Fall 2016

AWARDED TELESCOPE TIME

*co-I (PI Dan Weisz): Keck/Subaru Exchange - 2 nights <i>Resolved Metallicity Maps of M31's Halo</i>	2024B
*co-I (PI Dan Weisz): Keck/Subaru Exchange - 1 night <i>Metallicity Distributions of Ultra-Faint Dwarf Galaxies Using Wide-Field HSC Ca H&K Narrow-Band Imaging</i>	2024A
co-I (PI Nathan Sandford): JWST GO (Cycle 3) - 23.11 hours <i>A Closer Look at the Formation and Evolution of M31's Inner Disk</i>	2024
co-I (PI Alessandro Savino): JWST GO (Cycle 3) - 24.30 hours <i>Anchoring the JWST Population II Distance Ladder to Gaia</i>	2024
co-I (PI Dan Weisz): JWST GO (Cycle 2) - 24.21 hours <i>Alpha Elements and the Baryon Cycle in Isolated Dwarf Galaxies</i>	2023
co-I (PI Dan Weisz): HST GO (Cycle 29) - 30 orbits <i>The Metallicity Distribution Functions of Faint M31 Satellites</i>	2021
PI: HST GO (Cycle 28) - 23 orbits <i>The Metallicity Distribution Functions of Quenched Field Dwarf Galaxies</i> (* Lead investigator; graduate students cannot PI UC Keck proposals)	2020

Publications: ([ADS Bibliography](#))

- **Fu, S. W.** et al. “Stellar Metallicities and Gradients in the Faint M31 Satellites Andromeda XVI and Andromeda XXVIII,” Submitted to ApJ, [arXiv:2407.04698](#)
- Sandford, N., Weinberg, D., Weisz, D. & **Fu, S. W.**, “Strong Outflows and Inefficient Star Formation in the Reionization-era Ultra-faint Dwarf Galaxy Eridanus II,” 2024, [MNRAS](#), **530**, 2315S
- **Fu, S. W.** et al. , “Stellar Metallicities and Gradients in the Isolated, Quenched Low-Mass Galaxy Tucana,” 2024, [ApJ](#), **965**, 36F
- **Fu, S. W.** et al., “Metallicity Distribution Function of 13 Ultra-Faint Dwarf Galaxy Candidates from Hubble Space Telescope Narrow-band Imaging,” 2023, [ApJ](#), **958**, 167.
- **Fu, S. W.** et al. “Metallicity Distribution Function of the Eridanus II Ultra-Faint Dwarf Galaxy from Hubble Space Telescope Narrow-band Imaging,” 2022, [ApJ](#), **925**, 6.
- **Fu, S. W.** et al. “Dynamical Histories of the Crater II and Hercules Dwarf Galaxies”, 2019, [ApJ](#), **883**, 11.
- **Fu, S. W.** et al. “The Origin of the 300 km s⁻¹ Stream Near Segue 1”, 2018, [ApJ](#), **866**, 42.

Talks: (**invited*)

Princeton Galread, Princeton, NJ, USA	(planned) November 2024
Yale Galaxy Lunch Seminar, New Haven, CT, USA	(planned) November 2024
Small Galaxies, Cosmic Questions II, Durham, UK	July 2024
Dwarf Galaxies, Star Clusters, and Stellar Streams in LSST Era, Chicago, IL, USA	July 2024
*UC Davis Cosmology Seminar	March 2024
Galactic Archaeology Workshop, Matsushima, Japan	March 2024
National Astronomical Observatory of Japan Seminar, Tokyo, Japan	February 2024
The Milky Way is not an Island, Sesto, Italy	January 2024
University of Toronto Astronomy Lunch Talk Seminar, Toronto, Canada	January 2024
Seoul National University Seminar, Seoul, South Korea	September 2022
Korean Astronomical Space Institute Seminar, Daejeon, South Korean	September 2022
IAUGA 2022 Division H, Busan, South Korea	August 2022
A Comprehensive View of Galaxy Evolution from the Milky Way to I Zwicky 18, Sesto, IT	July 2022
Observatoire astronomique de Strasbourg Seminar, Strasbourg, France	July 2022
Kapteyn Astronomical Institute Seminar, Groningen, Netherlands	July 2022
240th AAS Meeting, Pasadena, CA, USA	June 2022
KIPAC “Local Local Group” meeting, Stanford, CA, USA	November 2019
“Exploring the Galaxy and the Local Group with WFIRST”, Pasadena, CA, USA	June 2019

Posters:

S4 Symposium at European Astronomical Society meeting, Valencia, Spain	June 2022
Virtual “Local Group Symposium” hosted by STScI	September 2020
233rd AAS Meeting, Seattle, WA, USA	January 2019
231st AAS Meeting, Washington, D.C., USA	Jan 2017
229th AAS Meeting, Grapevine, TX	Jan 2017