

Cecilia Steel

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in <https://linkedin.com/in/ceciliazsteel/> 🌐 <https://ceciliazsteel.github.io/>

Education

University of California - Davis

- Ph.D in Physics

Davis, CA
Sep 2024 – Present

University of Pittsburgh

- BS in Physics and Astronomy, *with Honors, magna cum laude*
- Minor in Mathematics

Pittsburgh, PA
Aug 2020 – April 2024

Research

Stellar Dynamics in Milky Way–Mass Galaxies

Advisor - Andrew Wetzel

UC Davis
June 2025 – Present

- Investigate stellar dynamics in Milky Way–mass galaxy disks using cosmological zoom-in simulations, with emphasis on quantifying the nature of radial redistribution and the evolution of stellar orbits over time.

Modeling Star Formation Histories of Galaxies at Half the Age of the Universe

Advisor - Rachel Bezanson

University of Pittsburgh
May 2022 – Aug 2024

- Measured empirically motivated star-formation history predictions of massive galaxies from the UniverseMachine model and compared to previously measured star formation histories derived directly from observations.

Survey of Transitioning Extrasolar Planets of the University of Pittsburgh (STEPUP) Member

University of Pittsburgh
May 2022 – Aug 2024

- Member of an undergraduate research team that uses the Keeler Telescope at the Allegheny Observatory. We observe and detect exoplanets, collect and process data on their transits, and generate light curves.

Publications

Hot or Cold? Radial Redistribution of Stars in FIRE Simulations of Milky Way–Mass Galaxies and the Asymmetry of Inward versus Outward Migrators

June 2026

Cecilia, Steel, Andrew Wetzel, Rori Kang, Fiona McCluskey, Sarah R. Loebman, and Kathryn J. Daniel. In: arXiv e-prints, doi: [10.48550/arXiv.2607.00077](https://arxiv.org/abs/10.48550/arXiv.2607.00077) [🔗](#). arXiv: [2607.00077](https://arxiv.org/abs/2607.00077) [🔗](#) [astro-ph.GA].

Radial redistribution of stellar orbits in FIRE simulations of Milky-Way-mass galaxies

May 2026

Bellardini, Matthew A., Fiona McCluskey, Andrew Wetzel, Cecilia Steel, Sarah R. Loebman, and Jorge Moreno. In: arXiv e-prints, doi: [10.48550/arXiv.2605.06781](https://arxiv.org/abs/10.48550/arXiv.2605.06781) [🔗](#). arXiv: [2605.06781](https://arxiv.org/abs/2605.06781) [🔗](#) [astro-ph.GA].

A Comparison of Star-Formation Histories Derived from UniverseMachine and LEGA-C at $0.6 < z < 1$

January 2024

Cecilia, Steel, Alan Pearl, Yasha Kaushal, and Rachel Bezanson. In: *Research Notes of the American Astronomical Society* 8.1, 16, p. 16. doi: [10.3847/2515-5172/ad1be9](https://arxiv.org/abs/10.3847/2515-5172/ad1be9) [🔗](#). arXiv: [2401.05313](https://arxiv.org/abs/2401.05313) [🔗](#) [astro-ph.GA].

Awards and Honors

Graduate Research Mentorship Fellowship - \$70,000

UC Davis 2026

Ling-Lie Chau Fellowship - \$6,000

UC Davis 2025

Julia Thompson Award For Excellence in Undergraduate Writing

University of Pittsburgh
2024

Sigma Pi Sigma, the National Physics Honor Society Membership

*University of Pittsburgh
2024*

NASA Pennsylvania Space Grant Consortium - \$9,000

*University of Pittsburgh
Summer 2022; Spring,
Summer, Fall 2023*

Presentations

CUWiP

*United States Military
Academy West Point
Spring 2024*

Testing the Star-Formation Histories of Massive Galaxies in the UniverseMachine Model at $z \sim 0.8$ with the LEGA-C Survey

Cecilia Steel, Rachel Bezanson, Alan Pearl, Yasha Kaushal, Poster

243rd AAS Meeting

*New Orleans, LA Spring
2024*

Testing the Star-Formation Histories of Massive Galaxies in the UniverseMachine Model at $z \sim 0.8$ with the LEGA-C Survey

Cecilia Steel, Rachel Bezanson, Alan Pearl, Yasha Kaushal, iPoster

Undergraduate Poster Session

*University of Pittsburgh
Fall 2023*

Testing the Star-Formation Histories of Massive Galaxies in the UniverseMachine Model at $z \sim 0.8$ with the LEGA-C Survey

Cecilia Steel, Rachel Bezanson, Alan Pearl, Yasha Kaushal, Poster

Undergraduate Poster Session

*University of Pittsburgh
Spring 2023*

Testing a Theoretical Model (“UniverseMachine”) for Galaxy Star Formation Histories Derived from the LEGA-C Survey

Cecilia Steel, Rachel Bezanson, Alan Pearl, Yasha Kaushal, Poster

CUWiP

*Pennsylvania State
University Spring 2023*

Testing a Theoretical Model (“UniverseMachine”) for Galaxy Star Formation Histories Derived from the LEGA-C Survey

Cecilia Steel, Rachel Bezanson, Alan Pearl, Yasha Kaushal, Poster

Duquesne Symposium

*Duquesne University
Summer 2022*

Comparing BAGPIPES-derived Star Formation Histories to the UniverseMachine in Early Universe LEGA-C Galaxies

Cecilia Steel, Rachel Bezanson, Alan Pearl, Yasha Kaushal, Poster

Leadership and Outreach

UC Davis Astronomy and Cosmology Journal Club

UC Davis 2025 – Present

Organize and lead weekly discussions on current papers in astronomy and cosmology for graduate students and faculty.

Astronomy on Tap Davis

UC Davis 2025 – Present

Helped revive Astronomy on Tap at UC Davis; manage the trivia and information table at public outreach events.

Teaching Assistant Appointments

PHY 157 - Astronomy Instrumentation & Data Analysis Laboratory

Instructor: Tucker Jones

*UC Davis
Spring 2025*

PHY 7A - General Physics I

Instructor: Dina Zhabinskaya & Thomas Weideman

PHY 7B - General Physics II

Instructor: Sergey Savrasov

*UC Davis
Winter 2025*

*UC Davis
Fall 2024*