

Galen Bergsten | Curriculum Vitae

PhD Candidate | gbergsten@arizona.edu

Lunar and Planetary Laboratory, University of Arizona

Education

Lunar and Planetary Laboratory, University of Arizona Expected 2026

PhD in Planetary Sciences, Minor in Astrobiology (Thesis Advisor: Dr. Ilaria Pascucci)

MS in Planetary Sciences 2023

University of Utah 2020

Honors BS in Physics, Minors in Astronomy (Thesis Advisor: Dr. Gail Zasowski)

BS in Biology, Minor in Environmental & Organismal Biology

Research & Professional Experience

Graduate Research & Teaching Assistant, University of Arizona 2020 - Present

Demographics of exoplanet systems and their dependence on host star properties; atmospheric evolution of small planets; the frequency of Earth-like habitable planets.

Physics and Astronomy REU, University of Utah Summer 2018

Spectroscopic modeling of stellar populations to constrain cluster chemistry and dynamics.

Undergraduate Research & Teaching Assistant, University of Utah 2017 - 2020

Characterization of spectroscopic signatures in the interstellar medium associated with massive evolved stars; chemical enrichment via supernova remnant ejecta absorption features.

Publications

8. Schlecker, M., Apai, D., Lichtenberg, T. et al. (**Bergsten, G.** 4th author) 2023, submitted: *Bioverse: The Habitable Zone Inner Edge Discontinuity as an Imprint of Runaway Greenhouse Climates on Exoplanet Demographics*
7. Wanderley, F., Kunha, C., Souto, D. et al. (**Bergsten, G.** 13th author) 2023, [ApJ, 951, 90](#): *Stellar Characterization and Radius Inflation of Hyades M Dwarf Stars from the APOGEE Survey*
6. Hardegree-Ullman, K. K., Apai, D., **Bergsten, G.** et al. 2023, [AJ, 165, 267](#): *Bioverse: A Comprehensive Assessment of the Capabilities of Extremely Large Telescopes to Probe Earth-like O₂ Levels in Nearby Transiting Habitable Zone Exoplanets*
5. **Bergsten, G.**, Pascucci, I., Mulders, G. D. et al. 2022, [AJ, 164, 190](#): *The Demographics of Kepler's Earths and super-Earths into the Habitable Zone*
4. Fernandes, R. B., Mulders, G. D., Pascucci, I. et al. (**Bergsten, G.** 4th author) 2022, [AJ, 164, 78](#): *pterodactyls: A Tool to Uniformly Search and Vet for Young Transiting Planets in TESS Primary Mission Photometry*
3. Koskinen, T. T., Lavvas, P., Huang, C. et al. (**Bergsten, G.** 4th author) 2022, [ApJ, 929, 52](#): *Mass loss by atmospheric escape from extremely close-in planets*
2. Hinkel, N. R., Pepper, J., Stark, C. C. et al. (**Bergsten, G.** 15th author) 2021, [arXiv:2112.04517](#): *Final Report for SAG 22: A Target Star Archive for Exoplanet Science*

1. Ashok, A., Zasowski, G., Seth, A., et al. (**Bergsten, G.** 5th author) 2021, [AJ](#), **161**, 167:
The APOGEE Library of Infrared SSP Templates (A-LIST): High-resolution Simple Stellar Population Spectral Models in the H Band
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Selected Talks and Posters

1. AAS Meeting #241 (Contributed Talk; In-Person) January 2023
Demographics of Kepler's Small Planets into the Habitable Zone.
 2. Jet Propulsion Laboratory Exoplanet Journal Club (Online) October 2022
The Demographics of Kepler's Earths and super-Earths into the Habitable Zone.
 3. SIG2 Monthly Telecon (Online) May 2022
The Demographics of Kepler's Earths and super-Earths into the Habitable Zone.
 4. Exoplanets IV (Poster; In-Person) May 2022
The Demographics of Kepler's Earths and super-Earths into the Habitable Zone.
 5. Origins Seminar Series (Seminar; In-Person) May 2022
The Long & Short of It: the Population of Earths, from Short Periods to the Habitable Zone.
 6. PLATO Conference 2021 (Contributed Talk; Online) October 2021
Kepler's Small Planets and their Dependence on Stellar Mass.
 7. TESS Science Conference 2 (Poster; Online) August 2021
Demographics of Small Kepler Planets and their Dependence on Stellar Mass
 8. Sagan Workshop (Poster; Online) July 2021
Stellar Mass Dependence in the Abundance of Small Kepler Planets.
 9. AAS Meeting #233 (Poster; In-Person) January 2019
An APOGEE-2 Survey of the Stellar Populations in the M31 Group
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Awards & Achievements

Honors

Best Graduate Student Talk Award (Lunar and Planetary Laboratory Conference)	2021
BS in Physics and Astronomy (University of Utah), Magna cum Laude with Honors	2020
Undergraduate Research Scholar	2020
Crocker Science House Scholar	2017

Scholarships

Galileo Circle Scholarship	2023
Thomas J. Parmley Scholarship for Outstanding Students in Physics and Astronomy	2019
Walter W. Wada Endowed Scholarship in Physics and Astronomy	2018
Utah Student Success Scholarship	2016, 2017
University of Utah President's Scholarship	2016

Professional Activities

Science Committees and Affiliations

Science Interest Group 2, <i>Exoplanet Demographics</i>	2022 - Present
NASA's Nexus for Exoplanet System Science Alien Earths Team Member	2021 - Present
Study Analysis Group 22, <i>Investigating an Exoplanet Target Star Archive</i>	2020 - 2021

American Astronomical Society	2018 - Present
Society of Physics Students (Vice President), University of Utah Chapter	2016 - 2020

Teaching Assistantships

Building a Habitable World - Instructor: Dr. Mark Marley (LPL)	2022
Introductory Mechanics - Instructor: Mr. Adam Beehler (Utah)	2019
Foundations of Astronomy - Instructor: Dr. Gail Zasowski (Utah)	2018, 2019

Leadership in Inclusion, Diversity, Equity, & Accessibility

Department Leadership

Journal Club Coordinator, Lunar and Planetary Laboratory	2022 - Present
DEI Committee, Lunar and Planetary Laboratory	2022 - Present
Department Life Committee, Lunar and Planetary Laboratory	2022 - Present
Graduate Student Colloquium Organizer, Lunar and Planetary Laboratory	2022 - Present
Undergraduate Women in Physics & Astronomy, University of Utah	2018 - 2020

University Leadership

Inclusive Leadership Institute, University of Arizona	2022 - 2023
Culturally Inclusive Planetary Engagement Workshop, Planetary ReaCH Program	2022

Outreach

The Art of Planetary Science Volunteer	2020 - Present
Tucson Festival of Books - Science City Volunteer	2023
University of Utah Observatory Public Viewing Nights Volunteer	2017 - 2020
Outreach Coordinator for Salt Lake City K-12 Public Schools	2016 - 2020

Mentorship

Colin Boecker-Grieme , Paradise Valley High School	2022 - 2023
Project: <i>Habitability and Terrestrial Analogs of Europa's Subsurface Ocean</i>	
Abhinav Vatsa , University of Arizona (Undergraduate)	2022
Project: <i>Searching for Young Habitable Planets around Low-Mass M Dwarfs with TESS</i>	
Abhinav Vishnuvajhala , BASIS Phoenix High School	2022
Project: <i>Indicators of Uninhabitable Worlds with Machine Learning</i>	