

SPENCER HURT

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EDUCATION

University of Oregon September 2022 – March 2023
Ph.D. Candidate in Earth Science (Geophysics, Geochemistry, Volcanology, and Planetary Science)

- Advisor: Dr. Josef Dufek

University of Colorado, Boulder May 2020 – May 2022
B.A. in Astronomy and Astrophysics (Planetary Science Track)

- *Summa Cum Laude*
- Thesis Title: ‘Measuring the Alignment Between Resolved Debris Disks and Their Host Stars’
- Advisor: Dr. Meredith MacGregor

Harvard University August 2018 – May 2019

RESEARCH AND TECHNICAL SUPPORT POSITIONS

Wyoming Infrared Observatory March 2023 – Present
Engineer

Oversee facility maintenance and upgrades, including electronics and software development for instrumentation and telescope control. Coordinate tours and science outreach programs at the observatory.

University of Oregon Department of Earth Sciences August 2022 – March 2023
NSF Graduate Research Fellow

Collaborated with Dr. Josef Dufek to combine fine-scale multiphase models of volcanic eruptions with large-scale global climate models to better understand volcanic climate forcing. Added microphysics to 1D models of volcanic plumes to trace the transport of sulfur compounds; combined these models with geochemical measurements of volcanic ash to observationally constrain the rate of entrainment in volcanic plumes.

Center for Astrophysics and Space Astronomy June 2020 – May 2022
Undergraduate Researcher

Collaborated with Dr. Meredith MacGregor to model images of circumstellar debris disks, using these models to place constraints on the presence of nearby substellar companions and to better understand planet formation.

California Planet Search October 2019 – December 2021
Undergraduate Researcher

Worked with Dr. Benjamin Fulton to maintain and add functionality to **RadVel**, a Python package used to model radial-velocity time series. Applied this work to search for low-mass planets around nearby stars.

University of Hawaii Institute for Astronomy May 2021 – August 2021
Undergraduate Researcher

Worked with Dr. Michael Liu and Dr. Zhoujian Zhang to test model atmospheres of M and L spectral type ultracool dwarfs, searching for systematic behavior in these models. Funded by the NSF REU program.

Harvard-Smithsonian Center for Astrophysics January 2019 – August 2019
Undergraduate Researcher

Helped identify transiting exoplanet candidates with the TESS Follow-up Observing Program. Led a radial-velocity search for planets around the bright, nearby star Vega with Dr. David Latham and Dr. Sam Quinn.

TEACHING AND EDUCATIONAL POSITIONS

CU Boulder Department of Physics

August 2021 – December 2021

Learning Assistant

Supported student learning in PHYS 2130 (Modern Physics, an introduction to quantum mechanics and special relativity) by facilitating discussions, holding office hours, and providing feedback on assignments. As a part of this position, enrolled in EDUC 4610, a class focused on developing effective teaching pedagogy.

CU Boulder Department of Astrophysical and Planetary Sciences

August 2021 – December 2021

Grader

Graded and provided feedback on assignments for ASTR 3710 (Planet Formation and Dynamics).

OUTREACH AND VOLUNTEER ACTIVITIES

UW Biodiversity Institute/Wyoming Naturalist Program

April 2023 – Present

Volunteer (Citizen Science and Conservation)

Laramie, WY 82071

- 68 hours conducting amphibian surveys and releases in alpine, floodplain, and urban wetlands.
- 29 hours conducting shorebird (IMWSS) and breeding bird (BBS) surveys
- 6 hours conducting mammal surveys for Wyoming Moose Days.
- 4 hours conducting tick surveys in southeast Wyoming.
- 3 hours assisting salamanders migrating across busy roads at nighttime.

Sommers-Bausch Observatory

August 2020 – May 2022

Volunteer (Science Outreach)

Conducted virtual and in-person open house nights, helping guests use telescopes and sharing information about astronomy with the general public.

Grand Mesa Observatory

August 2019 – August 2021

Volunteer (Science Outreach)

Organized stargazing nights and public talks. Developed outreach programs for local schools, including observing and data analysis curricula for high school students. Helped maintain and operate telescopes.

TRAINING AND CERTIFICATIONS

- [Certified Wyoming Naturalist](#) (2024 Cohort)
- Wilderness First Responder (Valid Through January 2026)
- CPR (Valid Through January 2026)

AWARDS AND FELLOWSHIPS

- Theodore Snow Scholarship (2022, *CU Boulder APS Department*)
- Lokey Graduate Science Award (2022, *University of Oregon*)
- National Science Foundation Graduate Research Fellowship (2022)
- Johnston Graduate Scholarship (2022, *University of Oregon Department of Earth Sciences*)
- Churchill Scholarship (2022, *Declined*)
- Astronaut Scholarship (2021)
- Barry Goldwater Scholarship (2021)
- Program for Research in Science and Engineering Fellowship (2019, *Harvard College*)
- Origins of Life Fellowship (2019, *Harvard Origins of Life Initiative, Declined*)
- Colorado Association for Gifted and Talented Youth Impact Award (2019)

PUBLICATIONS

8. *Uniform Forward-modeling Analysis of Ultracool Dwarfs. III. Benchmark and Candidate Late-M and L Dwarfs in Young Moving Groups and the Pleiades*
S. A. Hurt, M. C. Liu, Z. Zhang, M. Phillips, K. N. Allers, N. R. Deacon, K. Aller, W. M. J. Best
The Astrophysical Journal, 961, 1 (doi:10.3847/1538-4357/ad0b12)
7. *The Hawaii Infrared Parallax Program. VI. The Fundamental Properties of 1000+ Ultracool Dwarfs Using Optical to Mid-infrared Spectral Energy Distributions*
A. Sanghi, M. C. Liu, W. B. Best, T. J. Dupuy, R. J. Siverd, Z. Zhang, **S. A. Hurt**, E. A. Magnier, K. M. Aller, N. R. Deacon
The Astrophysical Journal, 959, 1 (doi:10.3847/1538-4357/acff66)
6. *Evidence for Misalignment Between Debris Disks and Their Host Stars*
S. A. Hurt, M. A. MacGregor
The Astrophysical Journal, 954, 1 (doi:10.3847/1538-4357/accf9d)
5. *The Apparent Absence of Forward Scattering in the the HD 53143 Debris Disk*
C. C. Stark, B. Ren, M. A. MacGregor, W. S. Howard, **S. A. Hurt**, A. J. Weinberger, G. Schneider, E. Choquet
The Astrophysical Journal, 945, 2 (doi:10.3847/1538-4357/acbb64)
4. *Planet Search with the Keck/NIRC2 Vortex Coronagraph in M_S -band for Vega*
B. B. Ren, N. L. Wallack, **S. A. Hurt**, D. Mawet, J. Llop-Sayson, T. Meshkat, J. Aguilar, E. Cady, E. Choquet, R. Oppenheimer, G. Ruane, G. Vasisht, M. Ygouf
Astronomy & Astrophysics, 670, A162 (doi:10.1051/0004-6361/202244485)
3. *ALMA Images the Eccentric HD 53143 Debris Disk*
M. A. MacGregor, **S. A. Hurt**, C. C. Stark, W. S. Howard, A. J. Weinberger, B. Ren, G. Schneider, E. Choquet, D. Mawet
The Astrophysical Journal Letters, 933, 1 (doi:10.3847/2041-8213/ac7729)
2. *Confirmation of the Long-Period Planet Orbiting Gliese 411 and the Detection of a New Planet Candidate*
S. A. Hurt, B. Fulton, H. Isaacson, L. J. Rosenthal, A. W. Howard, L. M. Weiss, E. A. Petigura
The Astronomical Journal, 163, 5 (doi:10.3847/1538-3881/ac5c47)
1. *A Decade of Radial-Velocity Monitoring of Vega and New Limits on the Presence of Planets*
S. A. Hurt, S. N. Quinn, D. W. Latham, A. Vanderburg, G. A. Esquerdo, M. L. Calkins, P. Berlind, R. Angus, C. A. Latham, G. Zhou
The Astronomical Journal, 161, 4 (doi:10.3847/1538-3881/abdec8)

TALKS AND PRESENTATIONS

- Astronaut Scholar Technical Conference (August 2021)
- UHfA NSF REU Presentations (July 2021)
- UH Summer Undergraduate Research Experience Symposium (July 2021)
- Harvard-Smithsonian Center for Astrophysics Exoplanet Presentation Lounge (February 2021)
- Transiting Exoplanet Survey Satellite (TESS) Science Team Meeting (January 2021)
- California Planet Search Group Meeting (July 2020)

AVOCATIONS

- Birding
- Wildlife Photography and Astrophotography
- Hiking and Backpacking