

Guadalupe Tovar Mendoza

Contact

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Research Interests

- Stellar magnetic activity on low mass stars.
- The effects of stellar activity on exoplanet environments.
- The detection and characterization of exoplanets and exoplanet atmospheres.

Education

2017–2024	Dual-Title PhD Astronomy and Astrobiology – “Cuentos de las Estrellas: Understanding the Properties and Impacts of Flares Across Time and Wavelength” (advised by James Davenport)	University of Washington, Seattle WA
2017–2019	MSc Astronomy and Astrobiology	University of Washington, Seattle WA
2013–2017	BS Astronomy, Minor in Physics	University of Washington, Seattle WA

Appointments

Present	NSF MPS-Ascend Postdoctoral Research Fellow Collaborator: Meredith MacGregor	Johns Hopkins University
2017–2024	Graduate Research Assistant Advisor: James Davenport	University of Washington
Autumn 2022	Graduate Research Assistant Advisors: Elisa Quintana, Allison Youngblood, Lynnae Quick	NASA Goddard Space Flight Center
Summer 2017	Banneker Institute Research Intern Advisors: John Johnson, Benjamin Montet	Harvard Center for Astrophysics
2016-2017	Undergraduate Research Assistant Advisors: Victoria Meadows, Jacob Lustig-Yeager	University of Washington
2015	Undergraduate Research Assistant Advisors: Woodruff Sullivan	University of Washington
2013-2015	Undergraduate Research Assistant Advisors: Giada Arney, Victoria Meadows	University of Washington

Awards & Grants

2023	SACNAS Graduate Student Oral Presentation Award NDiSTEM Conference	Portland, OR
2022	"Detecting Activity Cycles Using Stellar Flares" (\$544,087) P-I: J. Davenport; Co-I: G. Tovar Mendoza	NASA ADAP
2017	NSF Graduate Research Fellow \$37k/year, 3 years	University of Washington
2022	SACNAS Travel Award Recipient NDiSTEM Conference	Puerto Rico
2021	Service Award Astronomy Department	University of Washington
2017	Husky 100 Recipient Recognition of top 100 students at the university	University of Washington
2016-2017	Ronald E. McNair Scholar	University of Washington
2013-2017	WA NASA Space Grant Consortium Scholar	University of Washington

Publications

9. **G. Tovar Mendoza**, Wilson, R., Youngblood, A., et al. "Stellar Flare Yields in the Roman Galactic Bulge Survey" (in prep)
8. **G. Tovar Mendoza**, Davenport, J. R. A., Tzanidakis, A., et al. "Probing Flare Temperatures with Gaia and TESS" (in prep)
7. **G. Tovar Mendoza**, Wilson, R., Youngblood, A., et al. (2023) "Enabling Stellar Flare Science in the Roman Galactic Bulge Survey: Cadence, Filters, and the Read-Out Strategy Matter" arXiv:2307.05806

6. Quick, L. C., Robergre, A., **G. Tovar Mendoza**, et al. (2023) "Prospects for Cryovolcanic Activity on Cold Ocean Planets" ApJ, 956, 29
5. **G. Tovar Mendoza**, Davenport, J. R. A., Agol, E et al. (2022) "Llamaradas Estelares: Modeling the Morphology of White-light Flares" AJ, 164,17
4. Davenport, J. R. A., **Tovar Mendoza, G.**, Hawley, S. L. (2020) "10 Years of Stellar Activity for GJ1243" AJ, 160,36
3. Lustig-Yeager, J., V. S. Meadows, **Tovar, G.** et al.(2018) "Detecting Ocean Glint on Exoplanets Using Multiphase Mapping" AJ, 156,301
2. Montet, B. T., **Tovar, G.**, Foreman-Mackey, D. (2017) "Long Term Photometric Variability in Kepler Full Frame Images: Magnetic Cycles of Sun-Like Stars" ApJ, 851,116
1. Arney, G., V. S. Meadows, S. D. Domagal-Goldman, T. Robinson, D. Deming, T. Robinson, **Tovar, G.**, E. T. Wolf, E. Schwieterman. (2017) "Pale Orange Dots: The Impact of Organic Haze on the Habitability and Detectability of Earthlike Exoplanets" ApJ, 836,49

Teaching Appointments

2 Quarters	Graduate Teaching Assistant: Astro 101 - Intro to Astronomy SPR 2023, WTR 2019	University of Washington
4 Quarters	Graduate Teaching Assistant: Astro 150 - The Planets Summer 2019, SPR 2019, SPR 2018, WTR 2018	University of Washington

Advising & Mentorship

Fall 2023	Undergraduate Research Mentor Mentored two students from the Pre-Majors in Astronomy Program Project title: "The Stellar Flares of TRAPPIST-1"	University of Washington
Fall 2021	Undergraduate Research Mentor Mentored two students from the Pre-Majors in Astronomy Program Project title: "Searching for Flares on M Dwarf Stars"	University of Washington
2020-2021	Pre Majors in Astronomy Program Academic Advisor Responsible for mentoring and supporting 16 undergrad students in the Pre-MAP program. Held weekly office hours, reviewed summer internship applications and wrote letters of recommendation	University of Washington

Talks & Posters

Talks (* denotes invited)

July 2024	* UW STEMsub (Math Science Upward Bound) Seminar Series	Seattle, WA
Dec 2023	* Carnegie Observatories Lunch Seminar	Pasadena, CA
Nov 2023	* UW Physics Colloquium	Bothell, WA
Nov 2023	* Ohio State Exoplanet Group Seminar	Virtual
Oct 2023	SACNAS NDiSTEM Conference Understanding the Properties of Stellar Flares and their Impact on Exoplanet Environments	Portland, WA
Oct 2023	* Harvard CfA Exoplanet Pizza Lunch "Understanding the Properties of Stellar Flares and their Impact on Exoplanet Environments"	Cambridge, MA
April 2023	UW Astrobiology Colloquium "Cold Ocean Worlds"	Seattle, WA
April 2023	* Gabriel E. Gallardo McNair Symposium Keynote "A Journey Through Academia and the Cosmos"	Seattle, WA
Jan 2023	241st American Astronomical Society Meeting "Chromatic Flares: Multi-Wavelength Observations to Probe Flare Temperatures"	Seattle, WA
Dec 2022	* Habitable Worlds Observatory Seminar "Cold Icy Worlds"	NASA GSFC, Greenbelt, MD
April 2018	* Earth & Space Sciences Seminar "Planet Habitability"	Seattle, WA
Aug 2016	Banneker Institute Symposium "Understanding the Activity Cycles of Solar Type Stars with Kepler "	Cambridge, MA
April 2016	Theodor Jacobsen Observatory "Jupiter the King of the Planets"	Seattle, WA
Dec 2013	Pre Majors in Astronomy Seminar "Titan's Atmosphere"	Seattle, WA

Posters

July 2022	Cool Stars 21 "Llamaradas Estelares: Modeling the Morphology of White-Light Flares"	Toulouse,FR
Aug 2021	TESS Science Conference II "Modeling the Morphology of White-Light Flares"	Seattle, WA
Aug 2017	Habitable Worlds Conference "Detecting Oceans on Exoplanets Using Phase- Dependent Mapping"	Laramie, WY
Oct 2016	Northwest Astronomy Meeting "Understanding the Activity Cycles of Solar Type Stars with Kepler"	Bellingham, WA
Aug 2016	Undergraduate Research Symposium "The Meridian Line of the Basilica di Santa Maria degli Angeli"	Seattle, WA
Jan 2015	225th American Astronomical Society Meeting "The Effects of Clouds and Hazes on the Spectra of Terrestrial Planets"	Seattle, WA

Selected Outreach

2021-Now	Academic Tutor Weekly tutor at Echo Glen Youth Detention Center. Topics include math, biology, spanish, and GED prep. Helped lead and develop labs for summer school.	Snoqualmie,WA
2019-Now	Letters to a Pre-Scientist pen pal 3 pen pals total ranging from 5th-8th grade across the U.S.	Various
2017-Now	Planetarium Presenter Quarterly shows to various groups visiting the university	University of Washington

Leadership & Service

2021-2023	Graduate Student Senator One of two graduate student senators from the Astronomy department at UW in the Graduate Student Professional Senate (GPSS)	University of Washington
2019-Now	Outreaching Grad Graduate Student Equity & Excellence Program (GSEE). Support GSEE, and academic departments to enhance outreach and recruitment efforts for prospective and incoming graduate students.	University of Washington
2018-2019	Equity & Inclusion Committee Member Astronomy Department	University of Washington
2018-Now	First Generation Graduate Student Advisory Board Member Advise graduate school on programming for first generation graduate students on campus	University of Washington
2017-Now	Undergraduate Research Support Network Advisory Board Member Advise undergraduate research program on programming and opportunities to increase undergraduate research on campus.	University of Washington

Invited Panels

April 2022	Equity in Graduate Education Summit Graduate student panelist for event hosted by the Office of Equity & Justice in Graduate Programs	University of Washington
July 2021	Research Community Connections Graduate student panelist for event hosted by the Undergrad Research Program.	University of Washington
May 2018	Women's Economic Empowerment – Breaking Gender Barriers and Advancing Equity Department of Scandinavian Studies. Graduate student panelist.	UW

Media Features

Aug 2018	LatinX @ UW Book Personal story was featured in a chapter of a published book by Ricardo Gomez. Article about book also published.	University of Washington
June 2017	Early Career NASA Astrobiology Feature	NASA
June 2017	UW College of Arts and Sciences Feature Interview for the college of arts and sciences at the UW	University of Washington
April 2017	La Raza del Noroeste Newspaper Interview Interview for local newspaper	Seattle,WA

Fundraising Experience


Jan 2018 **Foundation Board Meeting** **University of Washington**
Invited student speaker for the 50th anniversary fundraiser of the Office of Minority Affairs and Diversity.

Workshops

2017 **NASA Astrobiology Summer School** **Santander, Spain**

2019 **Catalyzing Advocacy in Science and Engineering (CASE) Workshop** **Washington D.C.**

References available upon request.

 Last Updated: October 10, 2024