Guadalupe Tovar Mendoza

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EDUCATION

Dual-title PhD, Astronomy & Astrobiology **2017 - present**
University of Washington *Seattle, WA*

Masters of Science, Astronomy **August 2019**
University of Washington *Seattle, WA*

Bachelor of Science, Astronomy & Physics **June 2017**
University of Washington *Seattle, WA*

RESEARCH EXPERIENCE

Graduate Research Assistant **Sept 2017 - Present**
Astronomy & Astrobiology, University of Washington *Seattle,WA*

Advisor: James R.A Davenport

- Modeled how stellar variability on small stars affects our ability to detect and characterize exoplanets using data from *Kepler*

Undegraduate Research Assistant **Sept 2016 - June 2017**
Astronomy & Astrobiology, University of Washington *Seattle,WA*

Advisors: Victoria Meadows, Jacob Lustig-Yaeger

- Used simulations of Earth as an exoplanet to explore the possibility of ocean detection by spatially mapping the ocean glint signal using time series, multi-phase, directly imaged synthetic observations

Summer Research Intern **June 2016-Aug 2016**
Center for Astrophysics, Harvard University *Cambridge,MA*

Advisors: Benjamin Montet & John Johnson

- Calibrated the *Kepler* space telescope full frame images to do better photometry which allowed us to study the magnetic cycles of Sun-like stars

Undegraduate Research Assistant **April 2015 - Dec 2015**
Astronomy, University of Washington *Seattle,WA*

Advisor: Woodruff Sullivan

- Created a program in IDL to generate the precession of Polaris over a time frame of 1,800 years
- Studied archeoastronomy using a baroque Catholic basilica as an astronomical chronometer while studying abroad in Italy

Undegraduate Research Assistant **Sept 2013 - March 2015**
Astronomy & Astrobiology, University of Washington *Seattle,WA*

Advisors: Victoria Meadows, Giada Arney

- Performed and analyzed spectral simulations of different hazy terrestrial planetary atmospheres

TEACHING EXPERIENCE

University of Washington **2020-2021**
Pre-Majors in Astronomy Program, Academic Advisor *Seattle,WA*

- 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 **Winter 2019**
Astronomy 101, Teaching Assistant *Seattle,WA*

- Responsible for teaching and grading four lab sections of 20 students each

University of Washington **2018-2019**
Astronomy 150: The Planets, Teaching Assistant *Seattle,WA*

- Responsible for teaching and grading four lab sections of 20 students for four academic quarters
- Implemented quizzes and exams and led group discussions

Kennewick School District **Summer 2014**
Academic Tutor *Kennewick,WA*

- Led summer school tutoring sessions for students who needed extra help with math and english course materials

Seattle School District **Autumn 2013**
Seattle World School Academic Tutor *Seattle,WA*

- Responsible for leading after school math tutoring sessions for middle school students at the Seattle World School

WORK EXPERIENCE

Admissions Reader **Dec 2019 - Feb 2020**
University of Washington *Seattle,WA*

- Read and evaluated 1000 undergraduate admissions' applications

Student Ambassador **Sept 2015 - June 2017**
University of Washington Office of Minority Affairs & Diversity *Seattle,WA*

- Planned outreach conferences to host 80-200 high school students on campus to assist them in applying to college.
- Gave tours of campus to various groups of people and presented in student panels, cultural workshops, and at resource fairs.

College Assistance Migrant Program Peer Mentor **Sept 2016 – June 2017**
University of Washington Office of Minority Affairs & Diversity *Seattle,WA*

- Mentored eight first generation, freshmen students as they transitioned into their first year of college

HONORS AND AWARDS

- NSF Graduate Research Fellow (2017)

- Husky 100 recipient (2017)
- Ronald E. McNair Scholar (2016-2017)
- Washington NASA Space Grant Consortium Scholar (2013-2017)
- College Assistance Migrant Program Scholar (2013)
- Hispanic Academic Achievement Program Scholar (2013)

REFEREED PUBLICATIONS

4. Davenport, J. R. A., **G. Tovar**, S. L. Hawley (2020) "10 Years of Stellar Activity for GJ1243" AJ, 160,36

3. Lustig-Yeager, J., V. S. Meadows,**G. Tovar** et al.(2018) "Detecting Ocean Glint on Exoplanets Using Multiphase Mapping" AJ, 156,301

2. Montet, B. T., **G. Tovar**, 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, **G. Tovar**, 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

PROFESSIONAL PRESENTATIONS

Modeling the Morphology of White-Light Flares — **Seattle,WA**
TESS Science Conference II (Poster) — *August 2021*

Planet Habitability — **Seattle,WA**
Earth & Space Sciences Seminar (Talk) — *April 2018*

Detecting Oceans on Exoplanets Using Phase- Dependent Mapping — **Laramie,WY**
Habitable Worlds Conference (Poster) — *Nov 2017*

Understanding the Activity Cycles of Solar Type Stars with Kepler — **Bellingham,WA**
Northwest Astronomy Meeting (Poster) — *Oct 2016*

Understanding the Activity Cycles of Solar Type Stars with Kepler — **Cambridge,MA**
Banneker Institute Symposium (Talk) — *Aug 2016*

The Meridian Line of the Basilica di Santa Maria degli Angeli — **Seattle,WA**
Undergraduate Research Symposium (Poster) — *Aug 2016*

Jupiter the King of the Planets — **Seattle,WA**
Theodor Jacobsen Observatory (Talk) — *April 2016*

The Effects of Clouds and Hazes on the Spectra of Terrestrial Planets — **Seattle,WA**
225th AAS Meeting (Poster) — *Jan 2015*

Titan's Atmosphere — **Seattle,WA**
Pre Majors in Astronomy Presentation (Talk) — *Dec 2013*

OUTREACH & VOLUNTEER EXPERIENCE

- Panelist: Research Community Connections - Undergrad Research Program (July 2021)
- First Generation Graduate Student Advisory Board (2018- present)
- Undergraduate Research Support Network Advisory Board (2017- present)
- Astronomy on Tap presenter
- Panelist: Women's Economic Empowerment – Breaking Gender Barriers and Advancing Equity (2018)

- UW Planetarium Presenter (2017-present)
- Outreaching Grad with Graduate Opportunities Minority Achievement Program (GO-MAP) (2019-present)
- Letters to a Pre-Scientist pen pal (2019-present)

Workshops

- NASA Astrobiology Summer School
- Catalyzing Advocacy in Science and Engineering (CASE) Workshop