
Professional Experience

Massachusetts Institute of Technology (2022–present)

- ◆ **Research Project Assistant for Prof. Sara Seager (2022–present)**
 - Designing and developing software for processing scientific datasets.
 - Creating publishable figures and data visualizations using Python/Matplotlib.

American Association of Variable Star Observers (2020–present)

- ◆ **AVSpec validator (2022–present)**
 - Reviewing and providing feedback on spectra submitted to the AVSpec spectroscopy database.
 - Mentoring observers to help them improve the quality of their spectra.
 - Writing extensive instructional materials on the topic of spectroscopy.
 - Hosted a series of 23 educational AVSpec Open House events.
- ◆ **Webinar Coordinator (2020–present)**
 - Identifying, securing, and communicating with speakers.
 - Scheduling tech checks and providing technical support.
 - Hosting 1-3 webinars per month (over 50 webinars hosted so far).
- ◆ **Co-Leader, Spectroscopy Section (2022–2023)**
 - Increased engagement by hosting monthly Section meetings.
 - Advised beginner spectroscopists on efficient and correct procedures.
- ◆ **AAVSO Ambassador (2020–2022)**
 - Helped run the 111th AAVSO Annual Meeting in Tucson, AZ.
 - Completely overhauled the public-facing webpages for the AAVSONet program.
 - Authored the AAVSO Introduction to Python.
 - Created advertising materials for the AAVSO.
- ◆ **Co-host, 2021 AAVSO Spectroscopy Workshop (Nov. 3–4th, 2021, Somerville, MA)**
 - Emceed part of the conference.
 - Assisted with pre-conference setup.
- ◆ **Additional responsibilities**
 - Improving the design of webpages using HTML/CSS within constrained frameworks.
 - Coordinated speakers for, & ran A/V throughout the hybrid 112th AAVSO Annual Meeting in Somerville, MA.
 - Assisting with other tasks essential to the success of the nonprofit as they arise.

Pisgah Astronomical Research Institute

(2023)

◆ Summer Camp Counselor (2023)

- Helped educate and excite students aged 13–18 about astronomy.
- Designed planetarium shows and operated PARI's planetarium for large groups.
- Operated PARI's 25" telescope during public outreach events.
- Assisted with research in the Astronomical Photographic Data Archive.
- Answered phones, aided during tours, and fulfilled other tasks to support the observatory.

Houston Astronomical Society

(2018–2020)

◆ Mentor (2020)

- Tutored an assigned mentee in introductory observational astronomy and the use of a telescope.

◆ Youth Director (2018–2019)

- Participated in board meetings to help determine the course of the organization.
- Advocated for members.

Publications and Awards

Seager, S., Petkowski, J.J., Seager, M.D., Grimes Jr., J.H., Zinsli, Z., Vollmer-Snarr, H.R., Abd El-Rahman, M.K., Wishart, D.S., Lee, B.L., Gautam, V., **Herrington, L.**, Bains, W., & Darrow, C. (2023).

Stability of Nucleic Acid Bases in Concentrated Sulfuric Acid: Implications for the Habitability of Venus' Clouds. *PNAS*. <https://doi.org/10.1073/pnas.2220007120>

Seager, S., Glidden, A., **Herrington, L. E.**, Kostogryz, N., Rackham, B., Ribas, I., Shapiro, A. I., Unruh, Y., Valenti, J. A., Witzke, V., & de Wit, J. (2023). **Towards Solving the Stellar Inhomogeneity Contamination of Exoplanet Transmission Spectra Problem with Star Spot and**

Faculae Spectra. *JWST Proposal. Cycle 2*, p. 3593

<https://ui.adsabs.harvard.edu/abs/2023jwst.prop.3593S>

William Tyler Olcott Distinguished Service Award

(2022)

- Presented to a member of the AAVSO organization for outstanding contributions in mentoring/promoting variable star astronomy.
- Citation: aavso.org/william-tyler-olcott-distinguished-service-award

Talks

Invited talks

- 2023 - Astronomy Club of Tulsa - *The Pisgah Astronomical Research Institute*
- 2023 - Pisgah Astronomical Research Institute - *Variable Stars*
- 2021 - The Bush School Astronomy Cascade - *From Point A to the B Band: One Young Astronomer's Journey into Spectroscopy*
- 2021 - Houston Astronomical Society - [DIY Spectrography on a Budget](#)
- 2020 - AAVSO Spectroscopy Observing Section webinar - [The Drift Scanning Method: Spectrography with a dob](#)

Contributed talks

- 2023 - Bartlesville Astronomical Society - *A Look Inside the Pisgah Astronomical Research Institute*
- 2022 - AAVSO How-To: Python! - [Introduction to Python for Astronomy: The Basics](#)
- 2021 - 110th AAVSO Annual Meeting - *RSGs are just plain cool: An observing program and online tool*
- 2021 - AAVSO How-To Hour - [Spectrography on a Budget](#)
- 2020 - ASW2020 - [Let the Earth do the work! High Quality Spectra at Low Cost with the Drift Scanning Method](#)

Skills

Observational Astronomy

- ◆ Stellar spectroscopist with field experience using both slitless systems and slit spectrographs.
- ◆ Pioneered the 'drift scanning spectroscopy' technique in order to perform slitless spectroscopy of stars without access to a motorized mount.
- ◆ Constructed an R=40,000 Sol'Ex-design spectrograph using 3D printed parts.
- ◆ Visual observer with 7 years of field experience using a wide variety of telescopes.
- ◆ Additionally knowledgeable about photometry and various astrophotography techniques.

Programming

- ▶ Competent in the use of PHOEBE for forward modeling of binary star systems.
- ▶ Created redsupergiants.com. (Sep.–Oct. 2021)

Proficient in:

Python (*incl. Astropy and Astroquery*)
HTML/CSS

Additionally familiar with:

Flask/Jinja2
Javascript
SCSS
SQLite

Graphic Design

Portfolio: tiedyeastronomer.com/portfolio

Proficient in:

Matplotlib
Adobe Photoshop
Adobe Illustrator

Additionally familiar with:

Adobe Premiere Pro
Adobe InDesign

Teaching

- ▶ Over 100 hours of experience volunteering at public astronomy outreach events.
- ▶ Provided personalized mentorship to dozens of people online via email, Zoom, and forums.

Natural Sciences

- ▶ Macro photographer specializing in spiders and chironomids (lake flies).
Portfolio: [flickr.com/photos/lauren-herrington/albums](https://www.flickr.com/photos/lauren-herrington/albums)
- ▶ Active contributor to the citizen science project iNaturalist, with over 650 observations uploaded, and over 700 organisms identified for other users.
Profile: [inaturalist.org/people/peeppeepnuthatch](https://www.inaturalist.org/people/peeppeepnuthatch)

Other uncommon skills

Laser cutting (*vector design, software, and maintenance of a laser cutter*)
Writing & editing (*especially scicomm*)

Press

- O'Meara, S. J. (2023, February). Test your visual acuity with the Theta Orionis challenge. ***Astronomy***.
<https://www.astronomy.com/observing/test-your-visual-acuity-with-the-theta-orionis-challenge/>
→ *Naked-eye observations of Theta Orionis are quoted.*
- Buxner, S. R., Fitzgerald, M. T., & Freed, R. M. (2021). Amateur Astronomy: Engaging the Public in Astronomy Through Exploration, Outreach, and Research. In A. P. Kaminski (Ed.), ***Space Science and Public Engagement*** (pp. 143–168). Elsevier.
→ *Profile constructed from interview is given as an example of a young astronomer.*
- O'Meara, S. J. (2020). ***Mars***. London: Reaktion Books.
→ *Daytime naked-eye observation of Mars is mentioned on p. 179.*
- O'Meara, S. J. (2019, January). Mars in daylight, no telescope needed. ***Astronomy***.
<https://www.astronomy.com/observing/mars-in-daylight-no-telescope-needed/>
→ *Daytime naked-eye observation of Mars is described in detail.*

Education

Tulsa Community College

(2022–present)

-
- In progress: Mathematics, A.S.; planned transfer to university astrophysics program.
 - Current GPA: 3.76.