Lauren Herrington

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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 the 112th AAVSO Annual Meeting in Somerville, MA.
  - Ran A/V during 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 excite kids 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*.

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

Mentions in Media

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.*

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.

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
- 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

Programming

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

Proficient in:	**Additionally familiar with:**	
Python *(incl. Astropy and Astroquery)*	Flask/Jinja2	SCSS
HTML/CSS	Javascript	SQLite

Graphic Design

Portfolio: tiedyeastronomer.com/portfolio

Proficient in:	**Additionally familiar with:**
Matplotlib	Adobe Premiere Pro
Adobe Photoshop	Adobe InDesign
Adobe Illustrator	

Other uncommon skills

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

Education

Tulsa Community College (2022–present)

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