

# Amy S. Steele, Ph.D.

Astronomer · Science Communicator · Educator

## PROFESSIONAL SUMMARY

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Ph.D. astronomer with more than fifteen years of experience spanning independent research, science communication, and formal and informal education. Sustained track record of translating astrophysical science for public, K–12, and undergraduate audiences through live programming, curriculum design, and institutional outreach initiatives. Research background in circumstellar environments, spectroscopic modeling, and millimeter and submillimeter interferometry.

## EDUCATION

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<b>Ph.D., Astronomy</b> , University of Maryland	2020
<b>M.Sc., Astronomy</b> , University of Maryland	2016
<b>M.A., Astronomy</b> , Wesleyan University	2014
<b>B.A., Astronomy &amp; Mathematics (Honors)</b> , Williams College	2008

## SKILLS

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**Science Communication:** Live public programming, planetarium operation, curriculum design, K–12 and informal engagement, event planning, website and content management

**Scientific Computing:** Python, SQL, Bash/Zsh, LaTeX, Jupyter, Git, Linux/Unix

**Languages:** English (native), French (previously C1, currently B1), German (actively studying)

## EXPERIENCE

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**Professor, Earth Science and Astronomy**, Georgia Military College (Remote) *2026 – Present*

- Teaches a full-year physical sciences course progressing from Earth materials and geologic processes through planetary science to observational astronomy, engaging non-specialist undergraduates in quantitative reasoning and science process skills.

**Document Manager and Liaison**, Deep Synoptic Array (DSA)/Caltech (Contract) *Jun 2025 – Present*

- Serves as local liaison for a major radio observatory project; supports community engagement, public-facing representation, and institutional communications. Developed astronomy activity sets for use at a local Boys and Girls Club; community programming contributed to Caltech receiving the Boys and Girls Club Volunteer of the Year award.

**Research Associate**, Oak Ridge Associated Universities (ORAU) *Nov 2024 – Present*

- Supports federal scientific peer review: facilitates expert panels, coordinates with subject matter experts, and synthesizes technical discussions into structured analytic outputs. Built Python tools automating approximately 75% of expert classification across ~300 proposals per review cycle.

**Senior Research Associate**, Planetary Science Institute (PSI) *Mar 2024 – Jan 2026*

- Independent research on circumstellar disk chemistry and planetary material composition; built Python/SQL pipelines for large simulation datasets and deployed a publicly accessible live research web resource.

**Astronomer/Educator**, Nevada Northern Railway Museum, Ely, NV *Jun 2025 – Sep 2025*

- Designed and delivered live astronomy programming aboard evening excursion trains for public audiences of up to 80; adapted content in real time for varied age groups, sky conditions, and audience questions.
- Authored an article for Sky & Telescope Magazine promoting astronomy and dark-sky resources in the region; created a public Q & A submission system encouraging peer learning among passengers.

**Director of Astronomy and Research**, Yerkes Observatory

*Jun 2023 – Jan 2024*

- Led all science programming, public outreach, and strategic planning at a historic research observatory during an institutional transition. Submitted a federal grant proposal and established the observatory's eligibility for federal funding.
- Developed academic partnerships, coordinated undergraduate research programs with partner institutions, and represented the observatory at national conferences.

**GRAD-MAP Team Lead / Team Advisor**, University of Maryland

*2017 – 2021*

- Led a graduate student-run diversity and outreach initiative serving students from regional colleges and universities; managed the program website, produced promotional video and written content, and planned an annual Open House and year-round event calendar.
- Secured fair compensation for graduate student contributors for the first time; mentored program participants throughout their academic and professional careers.

**Postdoctoral Research Fellow**, Trottier Space Institute, McGill University

*Jun 2021 – May 2023*

- Independent research on circumstellar disk chemistry and exo-planetary composition around white dwarf stars; MCMC spectral modeling; served on the TSI Undergraduate Research Awards Committee (2022).

**Postdoctoral Researcher**, Space Telescope Science Institute (STScI)

*2020 – 2021*

- Spectroscopic analysis of circumstellar environments using Hubble Space Telescope and ground-based datasets.

**Astronomy Lab Coordinator**, University of Texas at Arlington

*2009 – 2012*

- Designed and taught undergraduate astronomy labs across three years; created original planetarium programming for campus and community audiences; trained and supervised ten undergraduate teaching assistants in science communication and classroom facilitation.

**Planetarium Technician and Host**, Andrus Planetarium, Hudson River Museum, Yonkers, NY

*2008 – 2009*

- Operated a full-dome planetarium and delivered live public programs for family, school group, and adult audiences.

**SELECTED PUBLICATIONS**

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Steele, A. S., Debes, J., Xu, S., Yeh, S., & Dufour, P. (2021). "A Characterization of the Circumstellar Gas of WD 1124-293 using Cloudy." *ApJ*, 911, 25.

Steele, A. S., Hughes, A. M., Carpenter, J., et al. (2016). "Resolved Millimeter-Wavelength Observations of Debris Disks around Solar-Type Stars." *ApJ*, 816, 27.

Xu, S., Yeh, S., Rogers, L. K., Steele, A. S., et al. (2024). *AJ*, 167, 248.

Steckloff, J. K., Debes, J., Steele, A. S., et al. (2021). *ApJL*, 913, L31.

*Full list: [ui.adsabs.harvard.edu/public-libraries/IGDuCrMxSxm\\_9DhhflhiZA](https://ui.adsabs.harvard.edu/public-libraries/IGDuCrMxSxm_9DhhflhiZA)*

**PROFESSIONAL MEMBERSHIPS & RECOGNITION**

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- International Astronomical Union, member since 2024
- American Astronomical Society, member since 2014
- Mellon Mays Undergraduate Fellow, 2006 – present
- Public Trust security clearance, U.S. Department of Energy
- 16 invited and contributed conference talks; 8 posters (U.S., UK, Iceland, Germany)