Malena Rice

CONTACT INFORMATION

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RESEARCH INTERESTS

Planetary system evolution; orbital architectures; outer solar system dynamics; exoplanet demographics; exoplanet detection and characterization

APPOINTMENTS

Assistant Professor July 2023-
Department of Astronomy, Yale University

Research Faculty 2022-2023
Department of Astronomy, Yale University

51 Pegasi b Postdoctoral Fellow 2022-2023
Department of Physics, Massachusetts Institute of Technology

NSF Graduate Research Fellow 2017-2022
Department of Astronomy, Yale University

EDUCATION

Yale University, New Haven, CT 2017-2022

Ph.D. in Astronomy with Distinction (February 2022)

Dissertation: *A Dynamical Synthesis of Planetary Systems*

Advisor: Greg Laughlin

M.S., M.Phil. in Astronomy (May 2020)

University of California, Berkeley, Berkeley, CA 2013-2017

B.A. in Physics; **B.A.** in Astrophysics with High Honors (May 2017)

Distinction in General Scholarship

Honors Thesis: *Debris Disk Analysis with the Gemini Planet Imager*

Advisor: Gaspard Duchêne

FELLOWSHIPS & AWARDS

- 2023 Rising Talent: Women's Forum for the Economy & Society 2023
- 2023 Scialog Fellow: Signatures of Life in the Universe 2023
- Forbes 30 Under 30 (Science) 2023
- 51 Pegasi b Postdoctoral Fellowship ($385k) 2022-2023
- AAS International Travel Grant ($2.5k) 2022
- NASA Hubble Fellowship Program - Sagan Fellowship (declined) 2022
- NSF Graduate Research Fellowship ($102k) 2017-2022
- P.E.O. Scholar Award ($20k) 2021-2022
- Yale 3-Minute Thesis Competition "Best in STEM" Award 2021
- DDA/AAS Raynor L. Duncombe Student Research Prize 2020
- DPS Education and Outreach Grant (awarded for astro[sound]bites) 2021, 2020
- Pierazzo International Student Travel Award ($2k) 2020
- NASA CT Space Grant Graduate Research Fellowship ($8k) 2019
- Binary Asteroids 5 Workshop Travel Award 2019
- UC Berkeley Regents' and Chancellor's Scholarship ($10k) 2013-2017
- UC Berkeley Leadership Award ($2k) 2016-2017, 2013-2014
- UC Berkeley Regents' and Chancellor's Research Fellowship 2016, 2x

- Society of Physics Students (SPS) Travel Award 2016, 2x
- UCL International Students Dean's Summer Student Scholarship (£5k) 2016
- NASA CA Space Grant Undergraduate Research Fellowship 2016
- UC Berkeley Academic Opportunity Fund Award 2016, 2015
- Berkeley Physics Undergraduate Research Scholarship 2016, 2015

PUBLICATIONS

First–author:

8. **Rice, M.**, Wang, S., Gerbig, K., Wang, X.-Y. et al. 2023 *AJ* 165, 65. *The Orbital Architecture of Qatar-6: A Fully Aligned 3-Body System?*
7. **Rice, M.**, Wang, S., Wang, X.-Y., Isaacson, H., Howard, A. et al. 2022 *AJ* 164, 104. *A Tendency Toward Alignment in Single-Star Warm-Jupiter Systems*
6. **Rice, M.**, Wang, S., & Laughlin, G. 2022 *ApJL* 926, L17. *Origins of Hot Jupiters from the Stellar Obliquity Distribution*
5. **Rice, M.**, Wang, S., Howard, A., Isaacson, H., Dai, F. et al. 2021 *AJ* 162, 182. *SOLES I: The Spin-Orbit Alignment of K2-140 b*
4. **Rice, M.** & Laughlin, G. 2020 *PSJ* 1, 81. *Exploring Trans-Neptunian Space with TESS: A Targeted Search for Planet Nine and Distant TNOs in the Galactic Plane*
3. **Rice, M.** & Brewer, J. 2020 *ApJ* 898, 119. *Stellar Characterization of Keck HIRES Spectra with The Cannon*
2. **Rice, M.** & Laughlin, G. 2019 *ApJL* 844, L22. *Hidden Planets: Implications from 'Oumuamua and DSHARP*
1. **Rice, M.** & Laughlin, G. 2019 *AJ* 158, 19. *The Case for a Large-Scale Occultation Network*

Second– or third–author:

5. Hixenbaugh, K., Wang, X.-Y., **Rice, M.**, & Wang, S. 2023 (*in review*). *The Spin-Orbit Misalignment of [redacted]: The First Measurement of the Rossiter-McLaughlin Effect for a Warm Sub-Saturn around a Massive Star*
4. Wu, D.-H., **Rice, M.**, & Wang, S. 2023 *(in press, AJ). Evidence for Hidden Nearby Companions to Hot Jupiters*
3. Wang, X.-Y., **Rice, M.**, et al. 2022 *ApJL* 926, L8. *The Aligned Orbit of WASP-148b, the Only Known Hot Jupiter with a Nearby Warm Jupiter Companion, from NEID and HIRES*
2. Duchêne, G., **Rice, M.**, et al. 2020 *AJ* 159, 251. *The Gemini Planet Imager View of the HD 32297 Debris Disk*
1. Edwards, B., **Rice, M.**, Zingales, T., Tessenyi, M., Waldmann, I., Tinetti, G. et al. 2018 *Experimental Astronomy* 47, 29. *Exoplanet Spectroscopy and Photometry with the Twinkle Space Telescope*

Other co-author:

28. Grunblatt, S.K., Saunders, N., Huber, D., et al. (incl **Rice, M.**) 2023 (*in review*). *An Unlikely Survivor: A Low-Density Hot Neptune Orbiting a Red Giant Star*
27. Zink, J.K., Hardegree-Ullman, K.H., Christiansen, J.L., et al. (incl **Rice, M.**) 2023 (*in review*). *Scaling K2. VI. Reduced Small Planet Occurrence in High Galactic Amplitude Stars*
26. Hon, M., Huber, D., Rui, N.Z., et al. (incl **Rice, M.**) 2023 (*in review*). *A Close–in Jovian Planet Orbiting a Helium-Burning Red Giant Star*

25. Zhang, S.Y., Duchêne, G., Ansdell, M., et al. (incl. **Rice, M.**) 2023 (*in press, AJ*). *Testing the Interaction Between a Substellar Companion and a Debris Disk in the HR 2562 System*

24. Brinkman, C.L., Weiss, L.M., Dai, F., et al. (incl **Rice, M.**) 2023 *AJ* 165, 88. *TOI-561 b: A Low Density Ultra-Short Period "Rocky" Planet around a Metal-Poor Star*

23. Grunblatt, S.K., Saunders, N., Hattori, S., et al. (incl **Rice, M.**) 2023 *AJ* 165, 44. *TESS Giants Transiting Giants III: An Eccentric Warm Jupiter Supports a Period-Eccentricity Relation for Giant Planets Transiting Evolved Stars*

22. Yang, Y., Yan, H., Wang, L, et al. (incl. **Rice, M.**) 2022 *ApJ* 939, 18. *Spectropolarimetry of the Thermonuclear Supernova SN 2021rhu - High Calcium Polarization 79 Days After Peak Luminosity*

21. MacDougall, M., Petigura, E., Fetherolf, T., et al. (incl **Rice, M.**) 2022 *AJ* 164, 97. *The TESS-Keck Survey. XIII. An Eccentric Hot Neptune with a Similar-Mass Outer Companion around TOI-1272*

20. Polanski, A.S., Crossfield, I.J.M., Howard, A.W., Isaacson, H., & **Rice, M.** 2022 *RNAAS* 6, 155. *Chemical Abundances for 25 JWST Exoplanet Host Stars with KeckSpec*

19. LIFE Collaboration et al. (incl. **Rice, M.**) 2022 *A&A* 664, A21. *Large Interferometer for Exoplanets (LIFE): I. Improved Exoplanet Detection Yield Estimates for a Large Mid-Infrared Space-Interferometer Mission*

18. Turtelboom, E.V., Weiss, L.M., Dressing, C.D., et al. (incl. **Rice, M.**) 2022 *AJ* 163, 293. *The TESS-Keck Survey. XI. Mass Measurements for Four Transiting sub-Neptunes orbiting K dwarf TOI 1246*

17. Johnson, M.C., David, T.J., Petigura, E.K., et al. (incl. **Rice, M.**) 2022 *AJ* 163, 247. *An Aligned Orbit for the Young Planet V1298 Tau b*

16. Worku, K., Wang, S., Burt, J., **Rice, M.**, et al. 2022 *AJ* 163, 158. *Revisiting the Full Sets of Orbital Parameters for the XO-3 System: No Evidence for Temporal Variation of the Spin-Orbit Angle*

15. Grunblatt, S.K., Saunders, N., Sun, M., et al. (incl. **Rice, M.**) 2022 *AJ* 163, 120. *TESS Giants Transiting Giants (GTG) II: The Hottest Jupiters Orbiting Evolved Stars*

14. Lubin, J., Van Zandt, J., Holcomb, R., et al. (incl. **Rice, M.**) 2022 *AJ* 163, 101. *TESS-Keck Survey IX: Masses of Three Sub-Neptunes Orbiting HD 191939 and the Discovery of a Warm Jovian Plus a Distant Sub-Stellar Companion*

13. Dalba, P.A., Kane, S.R., Dragomir, D., et al. (incl. **Rice, M.**) 2022 *AJ* 163, 61. *The TESS-Keck Survey. VIII. Confirmation of a Transiting Giant Planet on an Eccentric 261-day Orbit with the Automated Planet Finder Telescope*

12. MacDougall, M.G., Petigura, E.A., Angelo, I., et al. (incl. **Rice, M.**) 2021 *AJ* 162, 265. *The TESS-Keck Survey. VI. Two Eccentric sub-Neptunes Orbiting HIP-97166*

11. Llop-Sayson, J., Wang, J., Ruffio, J.-B., et al. (incl. **Rice, M.**) 2021 *AJ* 162, 181. *Constraining the Orbit of ϵ Eridani b with Radial Velocities, Hipparcos IAD-Gaia DR2 Astrometry, and Multi-epoch Vortex Coronagraphy Upper Limits*

10. Dai, F., Howard, A.W., Batalha, N.M., et al. (incl. **Rice, M.**) 2021 *AJ* 162, 62. *TKS X: Confirmation of TOI-1444b and a Comparative Analysis of the Ultra-short-period Planets with Hot Neptunes*

9. Wang, S., Winn, J.N., Addison, B.C., Dai, F., **Rice, M.**, et al. 2021 *AJ* 162, 50. *The Aligned Orbit of the Eccentric Warm Jupiter K2-232 b*

8. Wang, X.-Y., Wang, Y.-H., Wang, S., Wu, Z.-Y., **Rice, M.**, et al. 2021 *ApJS* 255, 15. *Transiting Exoplanet Monitoring Project (TEMP). VI. The Homogeneous Refinement of System Parameters for 39 Transiting Hot Jupiters with 127 New Light Curves*
7. Crotts, K., Matthews, B., Esposito, T., et al. (incl. **Rice, M.**) 2021 *ApJ* 915, 58. *A Deep Polarimetric Study of the Asymmetrical Debris Disk HD 106906*
6. Kosiarek, M., Crossfield, I., Berardo, D., et al. (incl. **Rice, M.**) 2021 *AJ* 161, 47. *Physical Parameters of the Multi-Planet Systems HD 106315 and GJ 9827*
5. Esposito, T., Kalas, P., Fitzgerald, M.P., et al. (incl. **Rice, M.**) 2020 *AJ* 160, 24. *Debris Disk Results from the Gemini Planet Imager Exoplanet Survey's Polarimetric Imaging Campaign*
4. Blunt, S., Wang, J., Angelo, I., Ngo, H., et al. (incl. **Rice, M.**) 2020 *AJ* 159, 89. *orbitize!: A Comprehensive Orbit-Fitting Software Package for the High-Contrast Imaging Community*
3. Nixon, C.A., Ansty, T.M., Lombardo, N.A., Bjoraker, G.L., Achterberg, R.K., Annex, A., **Rice, M.**, et al. 2019 *ApJS* 244, 14. *Cassini Composite Infrared Spectrometer (CIRS) Observations of Titan 2004-2017*
2. Ren, B., Choquet, É., Perrin, M.D., Duchêne, G., Debes, J.H., Pueyo, L., **Rice, M.** et. al. 2019 *ApJ* 882, 64. *An Exo-Kuiper Belt with an Extended Halo around HD 191089 in Scattered Light*
1. Esposito, T.M., Duchêne, G., Kalas, P., **Rice, M.**, Choquet, É., Ren, B., Perrin, M.D. et al. 2018 *AJ* 156, 2. *Direct Imaging of the HD 35841 Debris Disk: A Polarized Dust Ring from Gemini Planet Imager and an Outer Halo from HST/STIS*

TELESCOPE PROPOSALS

WIYN Observatory (NEID) - 2 nights awarded (PI) NNExplore 2023A
The Orbital Architectures of Warm Jupiter Systems Around Hot Stars

Magellan Observatory (PFS) - 2.5 nights awarded (PI) MIT 2023A
An Extended Sample of Orbital Geometries for Tidally Detached Substellar Companions

Keck Observatory (KPF) - 1 night awarded (CoI) UH 2023A
Re-characterisation of Spectroscopic Rotational Velocities with EPRV Spectroscopy

Keck Observatory (KPF) - 2 nights awarded (CoI) UH 2023A
Rossiter-McLaughlin Measurements for [redacted]

Magellan Observatory (PFS) - 1 night awarded (PI) MIT 2022B
Measuring the Spin-Orbit Angle of the [redacted] System

Keck Observatory (HIRES) - 2 nights awarded (PI) Yale 2022A
On the Origins of Exoplanet Spin-Orbit Misalignments

Lick Observatory (Nickel) - 1 night awarded (CoI) UCSC/Lick 2021A
Simultaneous Observation of a Transit of WASP-148b with Keck Spectroscopy and Nickel Photometry

Keck Observatory (HIRES) - 2 nights awarded (PI) Yale 2021B
On the Origins of Exoplanet Spin-Orbit Misalignments

Keck Observatory (HIRES) - 3 nights awarded (PI) Yale 2021A
On the Origins of Exoplanet Spin-Orbit Misalignments

Keck Observatory (HIRES) - 2 nights awarded (PI) Yale 2020B
Non-Transiting Hot Jupiters: Hidden Companions to Known Exoplanets
Top-ranked proposal by all members of the TAC

Keck Observatory (HIRES) - 2 nights awarded (CoI) Yale 2020A
Non-Transiting Hot Jupiters: Hidden Companions to Known Exoplanets

Keck Observatory (HIRES) - 2 nights awarded (CoI) Yale 2020A
Are Hot Jupiters Dynamically Hot?

Keck Observatory (HIRES) - 4 nights awarded (CoI) Yale 2019B
Non-Transiting Hot Jupiters: Hidden Companions to Known Exoplanets
Top-ranked proposal by all members of the TAC

OBSERVING EXPERIENCE

- Magellan II (6.5 m), PFS - Las Campanas Observatory, Chile: 6 nights
- Keck I (10 m), HIRES - W.M. Keck Observatory, Hawaii: 53 nights
- Nickel Telescope (1 m) - Lick Observatory, California: 1 night
- Leuschner Telescope (30 inch) - Leuschner Observatory, California: 1 night

RESEARCH ADVISING

Qingru Hu, Tsinghua University (undergraduate) March 2023-
Project: *Modeling the Spin-Orbit Orientation of the [redacted] System*

Ben Cassese, Columbia University (graduate) Sep 2022-
Project: *Follow-Up Optimization for Solar System Minor Planets Detected with TESS*

Konstantin Gerbig, Yale University (graduate) Aug 2022-
Project: *Alignment of Planet-Hosting Binary Star Systems Through Tidal Dissipation.* **Manuscript in preparation.**

Hanna Adamski, Yale University (undergraduate) Jan 2021-
Project: *Implications of Planet Nine for Earth's Orbital Evolution.*

Jude Gussman, Indiana University (undergraduate) Sep 2020-
Project: *Spectroscopic Characterization with Machine Learning: Applications to Exoplanet Radial Velocity Surveys.* **Manuscript in preparation.**

Mahderekal Regassa, Wellesley College (undergraduate) Oct 2022 - Dec 2022
Project: *Solar System Formation Through the Lens of Minor Planets: The Kuiper Belt*

Ella Cassidy, Wellesley College (undergraduate) Oct 2022 - Dec 2022
Project: *Solar System Formation Through the Lens of Minor Planets: The Main Belt*

Divya Kumari, Hillsborough High School March 2022 - July 2022
Project: *An Examination of Habitability in Exoplanet Systems.*
Manuscript published, IJHSR 2023 Vol. 5 Issue 1 p. 28-33 (doi:10.36838/v5i1.6)

Rachel Feng, Central Bucks High School Jun 2021 - Sep 2021
Project: *Unsupervised Learning as a Probe of Underlying Exoplanet Properties*

Kaitlyn Sarkissian, Royal High School Jun 2021 - Aug 2021
Project: *Trends in the Abundances of Exoplanet Host Stars*

Alexandra Cruz, Saint Pedro Poveda College (high school) Jun 2020 - Aug 2020
Project: *Insights from Free-Floating Planets on the Occurrence Rates of Long-Period Giant Exoplanets*

⇒ Mentored through the ATHENA by WiSTEM program to support underprivileged female high school students interested in STEM.

SELECT NON-RESEARCH MENTORSHIP

Simran Dhillon, Royal High School — 2022-
Mentorship on preparation for an astrophysics career

Denyz Melchor, UCLA — 2022-2023
Mentored through DDA Mentoring Program

Grace Burton, Yale University — 2021-2022
Mentored through Yale's Astro Sibs Program

Kidus Dawit, High School (now undergraduate, Yale University) — 2021
Mentored through Yale Young Global Scholars

Pierce Jackson, Auburn University — 2021
Mentored through DDA Mentoring Program

Nihaal Zaveri, UC Santa Cruz — 2021
Mentored through DDA Mentoring Program

Abigail Graham, Brigham Young University — 2020
Mentored through DDA Mentoring Program

Abby Mintz, Yale University (now PhD student, Princeton University) — 2018-2019
Mentored through Yale's Astro Sibs Program

SEMINARS & COLLOQUIA

Indiana University Astronomy Colloquium *(Bloomington, IN)*	March 2023
Five College Astronomy Department Colloquium *(Amherst, MA)*	Dec 2022
University of Washington Bothell Colloquium *(webinar)*	Nov 2022
University of Cambridge Exoplanet Seminar *(webinar)*	Nov 2022
MIT EAPS Department Lecture Series *(Boston, MA)*	Nov 2022
McGill Space Institute Astronomy Seminar *(Montreal – Canada)*	Nov 2022
Harvard CfA Exoplanet Pizza Lunch *(Cambridge, MA)*	Nov 2022
University College London Special Seminar *(London – England)*	Oct 2022
Harvard CfA Exoplanet Pizza Lunch *(Cambridge, MA)*	March 2022
Yale Astronomy Colloquium *(webinar)*	Jan 2022
Ohio State Exoplanet Talk Series *(webinar)*	Dec 2021
Caltech Planetary Science Seminar *(Pasadena, CA)*	Nov 2021
UCLA Tuesday Lunch Talk *(webinar)*	Oct 2021
University of Michigan Star and Planet Formation Seminar *(webinar)*	Oct 2021
Penn State CEHW Seminar *(webinar)*	Oct 2021
MIT Brown Bag Seminar *(Cambridge, MA)*	Sep 2021
Princeton Exoplanet Discussion Group Seminar *(Princeton, NJ)*	Sep 2021
Univ. of Pennsylvania Astronomy Seminar *(Philadelphia, PA)*	Sep 2021
UIUC Center for Astrophysical Surveys (CAPS) Seminar *(webinar)*	April 2021
NASA JPL Exoplanet Seminar *(webinar)*	April 2021
Harvard ITC Colloquium *(webinar)*	March 2021
STScI Exoplanet, Star, and Planet Formation Seminar *(webinar)*	March 2021
Indiana University Astronomy Lunch Talk *(webinar)*	Feb 2021
MIT TESS Science Group Seminar *(webinar)*	Dec 2020
CCA Stars & Exoplanets Meeting *(webinar)*	July 2020
Columbia University Seminar *(webinar)*	April 2020
San Francisco State University Colloquium *(San Francisco, CA)*	Feb 2020
UC Berkeley CIPS Seminar *(Berkeley, CA)*	Feb 2020
Keck Observatory Seminar *(Waimea, HI)*	Nov 2019
NASA Astrobiology Institute Extended Science Talk *(webinar)*	Oct 2019

	University of Hong Kong Seminar *(Pok Fu Lam – Hong Kong)*	Aug 2019
	University of Chicago Exoplanet Seminar *(Chicago, IL)*	April 2019
	Yale Exoplanet Seminar *(New Haven, CT – USA)*	March 2019
	UC Berkeley Astronomy Lunch Talk *(Berkeley, CA – USA)*	April 2017

INVITED JOURNAL CLUB PRESENTATIONS	Virtual Solar System Minor Bodies Journal Club Paper: *Exploring Trans-Neptunian Space with TESS: A Targeted Search for Planet Nine and Distant TNOs in the Galactic Plane* (Rice & Laughlin 2020)	Nov 2020
	Princeton Institute for Advanced Study Astro-Coffee Paper: *Exploring Trans-Neptunian Space with TESS: A Targeted Search for Planet Nine and Distant TNOs in the Galactic Plane* (Rice & Laughlin 2020)	Nov 2020

CONFERENCE RESEARCH TALKS (*INVITED)	*AOGS Observational and Theoretical Aspects of Exoplanets (*Singapore*)	Aug 2023
	AAS General Meeting #241 (*Seattle, WA)*)	Jan 2023
	*AAS #241 – Science from the TESS Extended Mission (*Seattle, WA*)	Jan 2023
	*Lowell Discovery Telescope Partners Meeting (*Boston, MA*)	Nov 2022
	*TESS Science Team Meeting #29 (*Cambridge, MA*)	Oct 2022
	*51 Pegasi b Summit 2022 (*San Francisco, CA*)	Aug 2022
	*CT Exoplanet Picnic 2022 (*Middletown, CT*)	Aug 2022
	AAS General Meeting #240 (*Pasadena, CA*)	June 2022
	Exoplanets IV *(Las Vegas, NV)*	May 2022
	AAS DDA Meeting #53 *(New York, NY)*	April 2022
	*Science from the TESS Extended Mission (*virtual*)	Feb 2022
	*Twinkle and the Next Generation of Exoplanet Scientists *(virtual)*	Sep 2021
	Bay Area Exoplanets #28 *(virtual)*	Sep 2021
	2021 Keck Science Meeting *(San Diego, CA)*	Sep 2021
	TESS Science Conference II *(virtual)*	Aug 2021
	AAS DDA Meeting #52 *(virtual)*	May 2021
	AAS General Meeting #237 *(virtual)*	Jan 2021
	DPS 52 Conference *(virtual)*	Oct 2020
	Europlanet Science Congress (EPSC) 2020 *(virtual)*	Sep 2020
	AAS DDA Meeting #51 *(virtual)*	Aug 2020
	Binary Asteroids V *(Fort Collins, CO)*	Sep 2019
	Extreme Solar Systems IV *(Reykjavík, Iceland)*	Aug 2019
	Great Barriers in Planet Formation Disc-ussion *(Melbourne, Australia)*	July 2019
	Emerging Researchers in Exoplanet Science V *(Ithaca, NY)*	June 2019
	Large Surveys with Small Telescopes *(Bamberg, Germany)*	March 2019
	Boston Area Exoplanets #5 *(Boston, MA)*	Jan 2019
	AAS General Meeting #233 *(Seattle, WA)*	Jan 2019

RESEARCH POSTERS	Exoplanets III *(virtual)*	July 2020
	Asia Oceania Geosciences Society Meeting 2019 *(Singapore)*	July 2019
	Great Barriers in Planet Formation *(Palm Cove, Australia)*	July 2019
	2018 International HPC Summer School *(Ostrava, Czech Republic)*	July 2018
	Exoplanets II *(Cambridge, UK)*	July 2018
	Emerging Researchers in Exoplanet Science IV *(State College, PA)*	July 2018
	AAS General Meeting #231 *(National Harbor, MD)*	Jan 2018
	2017 BPURS Poster Presentation *(Berkeley, CA)*	March 2017
	AAS General Meeting #229 *(Grapevine, TX)*	Jan 2017
	Conference for Undergraduate Women in Physics *(Los Angeles, CA)*	Jan 2017
	DPS 48 / EPSC 11 Conference *(Pasadena, CA)*	Oct 2016
	Exoplanets I *(Davos, Switzerland)*	July 2016

UC Berkeley Undergrad. Astr. Research Showcase *(Berkeley, CA)* April 2016
2016 BPURS Poster Presentation *(Berkeley, CA)* March 2016
NASA GSFC Poster Session *(Greenbelt, Maryland)* July 2015

TEACHING APPOINTMENTS

Yale Young Global Scholars (YYGS) Instructor Summer 2022, Summer 2021
⇒ Program for high school students to explore university-level topics. Served as the instructor of record for custom-designed astrophysics seminars as part of the Innovations in Science & Technology track. Led discussions, simulations, and mentoring groups.

Teaching Fellow - Astronomy 105, Yale University Spring 2018, Fall 2018
⇒ Introductory order-of-magnitude class, led by Prof. Greg Laughlin.

Teaching Fellow - Astronomy 130, Yale University Fall 2017
⇒ Introductory exoplanets/astrobiology class, led by Prof. Debra Fischer.

Undergraduate Student Instructor - Astronomy 120, UC Berkeley Fall 2016
⇒ Upper-division optical and infrared astronomy laboratory, led by Dr. Gaspard Duchêne.

ScoreBeyond Tutor 2016-2018
⇒ SAT/ACT tutoring with *ScoreBeyond*; developed lesson plans and guided students through problems and test-taking skills. 600+ tutoring hours completed.

Academic Tutor - Independent 2011-2018
⇒ Volunteer and paid positions tutoring students in a variety of topics.

INVITED GUEST LECTURES

Yale University *(New Haven, CT)* July 2023
Workshop: Yale Summer Program in Astrophysics (high school level)
Lecture: TBD

Lake Como School of Advanced Studies *(Como, Italy)* June 2023
Workshop: Brave New Worlds II - Understanding the Planets of Other Stars
Lecture Series: Orbital Architectures of Planetary Systems

Williams College Winter Study *(Williamstown, MA)* Jan 2023
Course: Exoplanets and the Search for Life
Lecture: Exoplanet Orbits: Implications for Habitability

Ohio State University *(virtual)* Sep 2022
Course: Topics in Astrophysics (ASTRON 2895)
Lecture: An Overview of the Planet Nine Hypothesis

SELECTED OUTREACH

Astro[sound]bites Podcast - Co-Founder/Co-Host 2019-2022
The official audio spinoff of the Astrobites blog. Graduate students discuss recently published astronomy research results and life in academia. Co-host on 56 episodes (Episodes 0 through 55).

Yale Girls' Science Investigations - Regular Volunteer 2017-2021
Program designed to empower local middle schools girls to develop skills for success in STEM through hands-on science experiments. Events ∼4x/year.

Open Labs at Yale - Regular Volunteer 2017-2021
Outreach group that organizes "Science Cafés", virtual *Exploring Science* evenings, and other educational events geared towards local middle school students.

Astronomy on Tap New Haven - Head Coordinator 2018-2021
Primary organizer of the New Haven branch of Astronomy on Tap, an outreach program designed to engage the local community by conveying current astronomy research through informal talks.

Leitner Family Observatory and Planetarium - Presenter 2017-2020
Regular presenter for weekly public planetarium shows at Yale's campus planetarium, the LFOP.

INVITED OUTREACH & SERVICE TALKS	International School of Boston Guest Lecture (1 hr)	April 2023
	The Garden: "The Bright Night Sky" series (50 min)	Oct 2022
	Westchester Amateur Astronomers Lecture Series (1 hr)	Oct 2022
	Yale/NASA Symposium: Astrobiology & Human Exploration (20 min)	April 2022
	Yale Scientific Magazine Careers Talk (30 min)	April 2022
	Bridgeport Public Schools Guest Lecture (1 hr)	March 2022
	Ask-An-Astronomer: Planet Nine Edition (1 hr)	Dec 2021
	Leitner Family Observatory & Planetarium Guest Lecture (1 hr)	May 2021
	Indiana University Astronomy Club (1 hr)	Feb 2021
	Astronomy on Tap State College (30 min)	Jan 2021
	Royal High School Visiting Speaker (30 min)	Dec 2020
	Lakeside School Women in STEM Lecture Series (20 min)	Nov 2020
	Las Cruces Public Schools Scientist Highlight (1 hr)	Oct 2020
	Yale Exploring Science (30 min)	June 2020
	MathCounts Girls' Science Day (30 min; keynote speaker)	Dec 2018
	Yale Open Labs (30 min)	Nov 2018
	Astronomy on Tap New Haven (30 min)	Sep 2018

EDUCATION & OUTREACH CONFERENCE CONTRIBUTIONS

Workshop for Astronomy Beyond the Common Senses (*online*) — Aug 2022
Conference Proceedings: Astronomy for Accessibility and Inclusion. *Astro[sound]bites: An audio resource for informal education* (Saunders, W.R., **Rice, M.**, & Gagliano, A.)

AAS General Meeting #237 (*online*) — Jan 2021
iPoster Plus (poster + oral presentation). *Astro[sound]bites: A new audio resource for conveying recent astronomy research*

DPS 52 Conference (*online*) — Oct 2020
Oral presentation. *Astro[sound]bites: A new audio resource for conveying recent astronomy research*

EDUCATION & OUTREACH CERTIFICATIONS

- Kavli Foundation SciComm Essentials Certificate — 2022
- Yale Poorvu Center Public Communication Certificate — 2021
- Yale Certificate of College Teaching Preparation (CCTP) — 2018

DEPARTMENT & UNIVERSITY LEADERSHIP

MIT/Magellan Time Allocation Committee — 2022-2023
Ranked proposals for observing time allocated by MIT for the Magellan telescopes at Las Campanas Observatory.

McDougal/Poorvu Graduate Teaching Fellow — 2018-2022
Developed and led 36 pedagogy workshops for Yale graduate students and postdocs. Read and discussed recent literature in pedagogical studies; provided constructive feedback for instructors.

Yale ACDC – Co-Founder/Board Member — 2018-2022
Founded the Yale Astronomy Climate and Diversity Committee (ACDC) to support inclusivity and address structural climate-related concerns in the department. Co-lead of the Sub-Committee for Undergraduate-Based Affairs (SCUBA).

Fall Teaching at Yale Day Coordinator — Fall 2021
Primary organizer of the Fall 2021 Teaching at Yale Day for incoming Yale graduate instructors.

Granville Academy Leadership Team — Summer 2021
Co-organizer and co-lead of the week-long Granville Academy program of diversity and inclusion workshops designed for summer undergraduate research students in physics and astronomy.

Yale Spring Teaching Forum Coordinator — Spring 2021
Member of the core leadership team organizing the 2021 Yale Spring Teaching Forum, "Looking Back and Pushing Forward: Reflecting on Remote Learning at Yale".

Yale Exoplanets & Stars Seminar Coordinator 2020-2021

McDougal/Poorvu Graduate Writing Fellow 2020-2021

For 1.5 years, served as a scientific writing consultant for graduate students and postdocs at the Yale Graduate Writing Lab. Ran oral and written communication workshops, led NSF GRFP peer review groups, and conducted one-on-one consulting sessions for abstracts, grant/fellowship proposals, and other academic writing.

Yale Astro Sibs Program – Co-Founder/Coordinator 2018-2021

Developed and led a mentorship program between graduate students/postdocs and undergraduates in the Yale Astronomy Department.

Yale Poorvu Center Student Advisory Committee Member 2019-2020

UC Berkeley Undergrad. Astronomy Society – Founder/Head Coordinator 2015-2017

Founded and developed the undergraduate society for astrophysics majors at UC Berkeley. Provided professional development events and networking opportunities for all undergraduate astronomy majors. Programs included an annual UC Berkeley undergraduate astronomy research showcase, bi-weekly undergraduate socials, monthly departmental socials, graduate school/internship application workshops, and visiting scientist events.

UC Berkeley Study Abroad Student Ambassador 2015-2017

Advocated study abroad programs with a focus on STEM majors and international collaboration.

UC Berkeley Astronomy Mentoring Program – Undergraduate Coordinator 2016-2017

Developed and led a mentorship program between graduate students/postdocs and undergraduates in the UC Berkeley Astronomy Department.

UC Berkeley AstroCDS – Undergraduate Coordinator 2016-2017

Revived and led the UC Berkeley Astronomy Career Development Seminar (AstroCDS) program, which organizes informal talks and dinners with Berkeley Astronomy PhDs in industry.

PROFESSIONAL SERVICE: REVIEWS

Reviewer, NASA FINESST Program
Reviewer, NSF A&A Postdoctoral Fellowship (AAPF) Program
Reviewer, NASA Astrophysics: Pioneers Program
Reviewer, Yale Undergraduate Research Journal (YURJ)
Reviewer, Nat. Fund for Sci. and Tech. Dev., Chile (FONDECYT)
Judge, AAS Chambliss Poster Competition
Executive Secretary, NASA Exoplanets Research Program (XRP) Review Panel

PROFESSIONAL SERVICE: JOURNALS

Guest Editor, *Nature Scientific Reports* Collection on Exoplanets 2022-
Nature Scientific Reports Editorial Board Member 2022-
Referee for PSJ, ApJS, A&A, MNRAS, P&SS 2021-

INVITED PANELS

Women's Forum USA: Women's Ladder to Success in STEM March 2023
NSF A&A Postdoctoral Fellows Symposium: Mentoring Students Panel Jan 2023
P.E.O. Panel Discussion: Today's Women, Today's Challenges April 2022
Yale 3-Minute Thesis Competition: How to Present Engagingly Jan 2022
Yale Young Global Scholars: Womxn in STEM July 2021
Yale Astronomy Summer Undergraduate Program: Graduate School Panel July 2020
Wellesley College: Graduate School Panel May 2020
Yale Graduate Writing Lab: Writing a Prospectus in the Sciences Feb 2020
Yale SACNAS/STARS II: Applying to Graduate School Oct 2019

PROFESSIONAL SOCIETIES

American Astronomical Society (AAS; divisions DPS and DDA) 2016-
Yale Women in Physics (WiP) 2019-2022
American Physical Society (APS) 2016-2017

	UC Berkeley Society of Women in the Physical Sciences (SWPS)	2014-2017
	UC Berkeley Society of Physics Students (SPS)	2014-2017
	UC Berkeley Regents' and Chancellor's Scholars Association (RCSA)	2013-2017

SELECTED MEDIA COVERAGE

TESS Shift-Stacking Survey (Rice & Laughlin 2020) featured in Scientific American, National Geographic, Space.com, EarthSky, Inverse, Scientias.nl, Yale News, DPS 2020 press conference.

Interstellar Object Origins (Rice & Laughlin 2019b) featured in New York Times, Washington Post, Discover Magazine, PBS Nova, Nature, CNN, Scientific American, Yale News.