

Kathryn V. Lester

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Education

Ph.D. in Astronomy, Georgia State University	2020
M.S. in Physics, Georgia State University	2017
B.S. in Astrophysics, Lehigh University	2014

Appointments

Visiting Assistant Professor Mount Holyoke College	2023 – present
Teaching introductory astronomy courses for non-science majors and upper level courses for astronomy majors	
NASA Postdoctoral Fellow Ames Research Center, with Dr. Steve Howell	2020 – 2023
- Searched for companions around TESS exoplanet hosts using high resolution imaging - Determined visual orbits and astrophysical parameters of close binaries hosting planets	
Graduate Research Assistant Georgia State University, with Dr. Douglas Gies	2014 – 2020
- Determined visual and spectroscopic orbits of A- and F-type binary stars using the CHARA Array. - Completed photometric, spectroscopic, and apsidal motion analyses of the K2 eclipsing binary, BW Aquarii.	

Teaching Experience

Mount Holyoke College, Instructor	2023 – present
- ASTR 100: Stars & Galaxies – introductory astronomy course for non-science majors. - ASTR 226: Cosmology – intermediate level course for science majors. - ASTR 335: Astrophysics II – upper level stellar structure course for astronomy majors. - ASTR 352: Astrophysics III – upper level extragalactic course for astronomy majors.	
Georgia State University, Teaching Assistant	2014 – 2017
- ASTR 1010 – weekly labs for introductory stellar astronomy course. - ASTR 1020 – weekly labs for introductory extragalactic astronomy course.	

First Author Publications

My full publication record is listed on ADS [here](#) and on the last page. (9 first-author, 34 total, h-index = 14)

9. “Visual Orbits and Alignments of Planet Hosting Binary Systems”
K. V. Lester, S. B. Howell, R. A. Matson, et al. 2023, AJ, 166, 166
8. “Visual Orbits of Spectroscopic Binaries with the CHARA Array. IV. HD 61859, 89822, 109510, and 191692”
K. V. Lester, G. Schaefer, F. Fekel, et al. 2022, AJ, 164, 228
7. “Determining Which Binary Component Hosts the TESS Transiting Planet”.
K. V. Lester, S. B. Howell, D. R. Ciardi, & R. A. Matson. 2022, AJ, 164, 56
6. “Speckle Observations of TESS Exoplanet Host Stars. II. Stellar Companions at 1-1000 au and Implications for Small Planet Detection”.
K. V. Lester, R. A. Matson, S. B. Howell, et al. 2021, AJ, 162, 75

5. “Visual Orbits of Spectroscopic Binaries with the CHARA Array. III. HD 8374 and HD 24546”.
K. V. Lester, F. Fekel, M. Muterspaugh, et al. 2020, AJ, 160, 58
4. “Visual Orbits of Spectroscopic Binaries with the CHARA Array. II. the eclipsing binary HD 185912”.
K. V. Lester, D. R. Gies, G. Schaefer, C. Farrington, et al. 2019, AJ, 158, 6
3. “Visual Orbits of Spectroscopic Binaries with the CHARA Array. I. HD 224355”.
K. V. Lester, D. R. Gies, G. Schaefer, C. Farrington, et al. 2019, AJ, 157, 140L
2. “A Photometric, Spectroscopic, and Apsidal Motion Analysis of Eclipsing Binary BW Aquarii”.
K. V. Lester & D. R. Gies. 2018, AJ, 156, 8.
1. “A Young Eclipsing Binary and its Luminous Neighbors in Sh 2-252E”.
K. V. Lester, D. R. Gies, & Z. Guo. 2016, AJ, 152, 194.

Fellowships & Awards

Massachusetts Space Grant Consortium student fellowship (\$6,500)	Summer 2024
NASA Award for time on the Keck Observatory (\$12,000)	2023 – 2025
NASA Award for time on the WIYN Observatory (\$5,000)	2023 – 2024
NASA Postdoctoral Fellowship (\$285,000)	2020 – 2023
Outstanding Advanced Graduate Student Award, Georgia State University	2020
Outstanding Second Year Graduate Student, Georgia State University	2016
Departmental Honors, Lehigh University	2014

Invited Talks

Mount Holyoke College Astronomy Club	2024
Talk: “Journey to Becoming an Astronomy Professor and Researcher”.	
Planetary Science Institute	2023
Seminar: “Characterizing Planet Host Binary Systems”.	
CHARA & VLTI Science Meeting	2022
Review Talk: “Binary Star Science Using Interferometry”.	
AAS Splinter Session: Stars and the ISM with Gemini’s Fast Turnaround Observations	2022
Talk: “Speckle & Long Baseline Interferometry of Binary Stars”. [cancelled due to COVID]	
NSF virtual site visit at the CHARA Array	2020
Talk: “Visual Orbits of Spectroscopic Binaries”.	
CHARA Summer School	2020
Talk: “Observing and Data Reduction with CLIMB”.	
Agnes Scott College	2019
Colloquium: “Visual & Spectroscopic Orbits of Binary Stars”.	

Competitive Observing Time Awarded

Gemini Observatory	
Speckle imaging of binary stars and planet host stars using ‘Alopeke & Zorro (76 hours total)	2021B – 2024B

WIYN Observatory

Spectroscopic orbits of exoplanet host binary stars using NEID (52 hours total)

2022A – 2024B

The CHARA Array

Visual orbits of binary stars using MIRC-X/MYSTIC (30 hours)

2024B

Las Cumbres Observatory

Spectroscopic orbits of binary stars using NRES (37 hours total)

2023A, 2024B

Keck Observatory

Spectroscopic orbits of exoplanet host binary stars using HIRES (5 hours)

2023A

Cerro Tololo Inter-American Observatory

Spectroscopic orbits of exoplanet host binary stars using CHIRON (10 hours)

2023A

Professional Service

Grant Proposal Reviewer

Provided science review and grading for NASA FINNESST and XRP proposals.

2021 – 2024

Telescope Allocation Committee Member

Provided external science review for a Canadian Gemini TAC.

2024

Provided science review, grading, and discussion of NOIRLab telescope proposals.

2022 – 2023

Journal Referee

Reviewed submitted manuscripts for JAAVSO and ApJS.

2019, 2021

Department Service

Career Panel Member

Participated in several panel discussions about graduate school and career paths for undergraduate students.

2019 – present

Research Bootcamp Volunteer

Contributed to a week-long introduction to research for Five Colleges summer interns.

2024

Thesis Prize Committee

Helped chose Mary Irvine Prize for a distinguished senior thesis by a Five Colleges astronomy student.

2024

Astronomy Peer Advising Leaders

President & Mentor

2016 – 2020

- Proposed for university funding and maintained the club's budget.
- Lead monthly mentor meetings and delegated tasks for upcoming events.
- Organized and lead new student orientation, professional development workshops, and mock qualifying exams for graduate students.
- Provided advice and support during monthly one-on-one meetings with junior graduate student mentees.

Outreach

STEMPOC Mixer Volunteer

Represented the astronomy faculty at a mixer for STEM students of color, talked about influential astronomers of color and the astronomy program at Mount Holyoke.

2023 – present

Williston Observatory Open House Volunteer

Operated historic reflector & lawn telescopes and discussed astronomy with the general public.

2023 – present

Podcast Guest	2021
Spoke about my search for companions to TESS exoplanet hosts on the “365 Days of Astronomy” podcast.	
Hard Labor Creek Observatory Volunteer	2014 – 2020
Operated telescopes and answered questions from the public during monthly open houses.	
Solar Eclipse Event	2017
Operated solar telescopes and engaged with the public during a solar eclipse viewing party.	
Girl Scout Workshop Volunteer	2014 – 2017
Assisted with workshop activities, including building pinhole cameras and filter wheels.	

Observing Experience

Gemini Observatory	2020 – 2023
8.1m telescope – 110 nights – speckle interferometry	
WIYN Observatory	2022
3.5m telescope – 5 nights – multi-object spectroscopy	
The CHARA Array	2017 – 2020
Six 1.0m telescopes – 73 nights – long baseline interferometry	
Apache Point Observatory	2016 – 2020
3.5m telescope – 49 nights – echelle spectroscopy	
Hard Labor Creek Observatory	2015
0.6m telescope – 7 nights – relative photometry	
Wyoming Infrared Observatory	2013
2.3m telescope – 15 nights – longslit spectroscopy	

Skills & Tools

Observations	Longslit & echelle spectroscopy, long-baseline & speckle interferometry, relative photometry
Data Analysis	Radial velocities, interferometric visibilities, binary orbit fitting, light curve modeling
Programming	Python, IDL, IRAF, HTML/CSS (basic)
Software	L ^A T _E X, Microsoft Office, MESA, DS9, ELC, Period04, PyKE, Photoshop (basic)
Operating Systems	Mac, Linux, Windows
Foreign Languages	French (intermediate)

Memberships

Planetary Science Institute, associate research scientist	2023 – present
American Astronomical Society, full member	2014 – present

Contributed Talks & Posters

243rd AAS Meeting , “Visual Orbits & Alignments of Planet Hosting Binary Systems”	2024
EPRV5 Meeting , “Orbits & Inclinations of Planet Host Binaries” (poster)	2023
241st AAS Meeting , “Detection Sensitivity of Transiting Planets in Single vs Binary Stars”	2023

NASA Postdoc Program Symposium , “How Does Host Star Multiplicity Affect Planet Formation?”	2022
Bay Area Exoplanet Meeting , “Which Binary Component Hosts the TESS Transiting Planet?”	2022
240th AAS Meeting , “Which Binary Component Hosts the TESS Transiting Planet?” (poster)	2022
Bay Area Exoplanet Meeting , “Close Companions of TESS Exoplanet Host Stars”	2021
237th AAS Meeting , “Close Companions of TESS Exoplanet Host Stars” (poster)	2021
235th AAS Meeting , “Visual Orbits of Spectroscopic Binaries with the CHARA Array” (dissertation talk)	2020
CHARA Science Meeting , “Visual Orbits of Spectroscopic Binaries”	2019
233rd AAS Meeting , “Visual Orbit and Physical Parameters of the Spectroscopic Binary HD 224355”	2019
Georgia Regional Astronomers Conference , “Visual Orbit of the Spectroscopic Binary HD 224355”	2018
GSU Women In STEM Conference , “Visual & Spectroscopic Orbits of Binary Stars”	2018
231st AAS Meeting , “A Photometric, Spectroscopic & Apsidal Motion Analysis of BW Aqrs” (poster)	2018
227th AAS Meeting , “Photometric & Spectroscopic Analysis of EPIC 202062176” (poster)	2016
Lehigh Senior Thesis Fair , “Stellar Parameters of Three Massive Stars in Cygnus OB2”	2014
223rd AAS Meeting , “The Cygnus OB2 Radial Velocity Survey: MT216, MT234, MT485” (poster)	2014

Contributed Publications

My full publication record is listed on ADS [here](#).

36. Hori, Y., Fukui, A., Hirano, T., et al. 2024, AJ, 167, 289.
35. Littlefield, C., Howell, S. B., Ciardi, D. R., et al. 2024, AJ, 167, 74.
34. **Lester, K. V.**, Howell, S. B., Matson, R. A., et al. 2023, AJ, 166, 166.
33. Mistry, P., Pathak, K., Prasad, A., et al. 2023, AJ, 166, 9.
32. Vowell, N., Rodriguez, J. E., Quinn, S. N., et al. 2023, AJ, 165, 268.
31. Tey, E., Huang, C. X., Kunimoto, M., et al. 2023, AJ, 165, 93.
30. Knudstrup, E., Gandolfi, D., Nowak, G., et al. 2023, MNRAS, 519, 5637.
29. **Lester, K. V.**, Schaefer, G. H., Fekel, F. C., et al. 2022, AJ, 164, 228.
28. **Lester, K. V.**, Howell, S. B., Ciardi, D. R., et al. 2022, AJ, 164, 56.
27. E. V., Weiss, L. M., Dressing, C. D., et al. 2022, AJ, 163, 293.
26. Mann, A. W., Wood, M. L., Schmidt, S. P., et al. 2022, AJ, 163, 156.
25. Wysocki, P., Gies, D., Shepard, K., et al. 2022, AJ, 163, 177.
24. Bouma, L. G., Curtis, J. L., Masuda, K., et al. 2022, AJ, 163, 121.
23. Wilson, T. G., Goffo, E., Alibert, Y., et al. 2022, MNRAS, 511, 1043.
22. Wittenmyer, R. A., Clark, J. T., Trifonov, T., et al. 2022, AJ, 163, 82.
21. Schanche, N., Pozuelos, F. J., Gunther, M. N., et al. 2022, A&A, 657, A45.
20. Wong, I., Shporer, A., Zhou, G., et al. 2021, AJ, 162, 256.
19. Wells, R. D., Rackham, B. V., Schanche, N., et al. 2021, A&A, 653, A97.
18. Hedges, C., Hughes, A., Zhou, G., et al. 2021, AJ, 162, 54.
17. **Lester, K. V.**, Matson, R. A., Howell, S. B., et al. 2021, AJ, 162, 75.
16. Wang, L., Gies, D. R., Peters, G. J., et al. 2021, AJ, 161, 248.

15. Howell, S. B., Scott, N. J., Matson, R. A., et al. 2021, *Frontiers in Astronomy*, 8, 10.
14. Whelan, D. G., Chojnowski, S. D., Labadie-Bartz, J., et al. 2021, *AJ*, 161, 67.
13. Gies, D. R., **Lester, K. V.**, Wang, L., et al. 2020, *ApJ*, 902, 25.
12. **Lester, K. V.**, Fekel, F. C., Muterspaugh, M., et al. 2020, *AJ*, 160, 58.
11. Wang, L., Gies, D. R., **Lester, K. V.**, et al. 2020, *AJ*, 159, 4.
10. Shepard, K., Gies, D. R., **Lester, K. V.**, et al. 2020, *ApJ*, 888, 82.
9. **Lester, K. V.**, Gies, D. R., Schaefer, G. H., et al. 2019, *AJ*, 158, 218.
8. **Lester, K. V.**, Gies, D. R., Schaefer, G. H., et al. 2019, *AJ*, 157, 140.
7. Morris, B., Dorn-Wallenstein, T., Levesque, E., et al. 2019, *JOSS*, 4, 1130.
6. Chojnowski, S. D., Labadie-Bartz, J., Rivinius, T., et al. 2018, *ApJ*, 865, 76.
5. **Lester, K. V.** & Gies, D. R. 2018, *AJ*, 156, 8.
4. **Lester, K. V.**, Gies, D. R., & Guo, Z. 2016, *AJ*, 152, 194.
3. Bentz, M. C., Batiste, M., Seals, J., et al. 2016, *ApJ*, 831, 2.
2. Gies, D. R., Matson, R. A., Guo, Z., et al. 2015, *AJ*, 150, 178.
1. Kobulnicky, H. A., Kiminki, D. C., Lundquist, M. J., et al. 2014, *ApJs*, 213, 34.