

CHEYANNE SHARIAT

cshariat@caltech.edu \diamond [cheyanneshariat.github.io](https://github.com/cheyanneshariat)

EDUCATION

Ph.D., Astrophysics , California Institute of Technology DOE Computational Science Graduate Fellow Advisor: Kareem El-Badry	2024 -
B.S., Physics , University of California, Los Angeles <i>summa cum laude</i> Steve Tisch Academic Excellence Scholar Advisor: Smadar Naoz	2021 - 2024

RESEARCH POSITIONS

Graduate Student Researcher California Institute of Technology	2024 - <i>Pasadena, CA</i>
Undergraduate Student Researcher University of California, Los Angeles	2021 - 2024 <i>Los Angeles, CA</i>
Summer Undergraduate Research Fellow NASA Jet Propulsion Laboratory (JPL)	2023 <i>Pasadena, CA</i>
Summer Undergraduate Research Fellow Caltech High Energy Astrophysics Group	2022 <i>Pasadena, CA</i>
High School Researcher UCLA Neurology and Neurogenetics, Fogel Lab	2019 - 2022 <i>Los Angeles, CA</i>

HONORS & AWARDS

DOE Computational Science Graduate Fellowship	2025 – 2029
NSF Graduate Research Fellowship (offer declined)	2025
Raynor L. Duncombe Student Research Prize, AAS DDA	2025
Joshua and Beth Friedman Fellowship, Caltech	2025
Dean’s Prize for Excellence in Research, UCLA	2024
Lindau Nobel Laureate Meetings Fellow, Lindau, Germany	2024
Helen Quinn Award for Undergraduate Research Theory (1st), APS	2023
Summer Undergraduate Research Fellowship, NASA Jet Propulsion Laboratory	2023
Undergraduate Research Fellowship, UCLA	2022 – 2023
Summer Undergraduate Research Fellowship, Caltech	2022
Steve Tisch Academic Excellence Scholarship, UCLA	2021 – 2024

PUBLICATIONS (15 TOTAL; 10 FIRST-AUTHOR)

15. **Shariat, C.** and El-Badry, K., “A global view of post-interaction white dwarf-main sequence binaries”, Publications of the Astronomical Society of the Pacific, submitted, 2026.
14. **Shariat, C.**, Ye, C. S., Naoz, S., and Rose, S., “Fast Radio Bursts from White Dwarf Binary Mergers: Isolated and Triple-Induced Channels”, The Astrophysical Journal Letters, submitted, 2026.

13. **Shariat, C.**, El-Badry, K., Bhattacharjee, S., “How precisely can we measure the ages of subgiant and giant stars?”, Publications of the Astronomical Society of the Pacific, submitted, 2026.
12. Holzkecht, L., Naoz, S., **Shariat, C.**, “Dynamical Pathways to the Misalignment of the VHS 1256-1257 System”, The Astrophysical Journal, accepted, 2025.
11. **Shariat, C.**, El-Badry, K., Gennaro, M., Ding, K., Simon, J.D., Avila, R.J., Calamida, A., Cassisi, S., Correnti, M., Weisz, D.R., Geha, M., Kirby, E.N., Brown, T.M., Ricotti, M., McQuinn, K.B.W., Kallivayalil, N., Gilbert, K., Pacifici, C., Guhathakurta, P., Crnojević, D., Boyer, M.L., Beaton, R.L., Chandra, V., Cohen, R.E., Renzini, A., Savino, A., Tollerud, E.J., “Wide binaries in an ultra-faint dwarf galaxy: discovery, population modeling, and a nail in the coffin of primordial black hole dark matter”, Publications of the Astronomical Society of the Pacific, vol. 137, no. 10, Art. no. 104103, 2025.
10. Xuan, Z., **Shariat, C.**, Naoz, S., “From Wide Triples to UCXBs: Multimessenger Detection of Dynamically-formed Black Hole-White Dwarf Systems with LISA”, The Astrophysical Journal, vol. 995, no. 1, Art. no. 27, 2025.
9. **Shariat, C.**, El-Badry, K., Naoz, S., “10,000 Resolved Triples from Gaia: Empirical Constraints on Triple Star Populations”, Publications of the Astronomical Society of the Pacific, vol. 137, no. 9, Art. no. 094201, 2025.
8. **Shariat, C.**, El-Badry, K., Naoz, S., Rodriguez, A.C., van Roestel, J., “Cataclysmic Variables in Triples: Formation Models and New Discoveries”, Publications of the Astronomical Society of the Pacific, vol. 137, no. 7, Art. no. 074201, 2025.
7. Matsuno, T., Kemp, A., Tanikawa, A., **Shariat, C.**, El-Badry, K., Dodd, E., Helmi, A., Koch-Hansen, A.J., Yamaguchi, N., Yan, H., “Unevolved Li-rich stars at low metallicity: a possible formation pathway through novae”, Astronomy and Astrophysics, vol. 699, Art. no. A171, EDP, 2025.
6. **Shariat, C.**, Naoz, S., El-Badry, K., Akira Rocha, K., Kalogera, V., Stephan, A.P., Burdge, K., Angelo, I., “Triple Evolution Pathways to Black Hole Low-Mass X-ray Binaries: Insights from V404 Cygni”, The Astrophysical Journal, vol. 983, no. 2, 2025.
5. **Shariat C.**, Naoz, S., El-Badry, K., Rodriguez, A.C., Hansen, B. M. S., Angelo, I., Stephan, A. P., “Once a Triple, Not Always a Triple: The Evolution of Hierarchical Triples that Yield Merged Inner Binaries,” The Astrophysical Journal, vol. 978, no. 1, 2025.
4. Stephan, A. P., Martin, D. V., Naoz, S., Hughes, N. R., and **Shariat, C.**, “Two Novel Hot Jupiter Formation Pathways: How White Dwarf Kicks Shape the Hot Jupiter Population”, The Astrophysical Journal Letters, 2024
3. **Shariat C.**, Hasegawa, Y., Yu, T. Y. M., Hansen, B. M. S., Hu, R., “Predicting the Dominant Formation Mechanism of Multi-Planetary Systems,” The Astrophysical Journal Letters, vol. 964, no. 1, 2024.
2. **Shariat, C.**, Naoz, S., Hansen, B. M. S., Angelo, I., Michaely, E., Stephan, A. P., “Dynamical Evolution of White Dwarfs in Triples in the Era of Gaia,” The Astrophysical Journal Letters, vol. 955, no. 1, 2023.
1. Lazzarini, M., Hinton, K., **Shariat, C.**, Williams, B.F., Garofali, K., Dalcanton, J.J., Durbin, M., Antoniou, V., Binder, B., Eracleous, M., Vulic, N., Yang, J., Wik, D., Gasca, A., Kuauhtzin, Q., “Multiwavelength Characterization of the High-mass X-Ray Binary Population of M33”, The Astrophysical Journal, vol. 952, no. 2, 2023.

TALKS

Stellar-Mass Black Holes Workshop, Talk, KITP	2025
The Lifecycle of Stellar Black Holes Conference, Talk, KITP	2025
Keck Science Meeting, Poster, UCLA	2025
Binary Stars in the Space Era, Keele, United Kingdom	2025
Vasto Accretion Meeting, Vasto, Italy	2025

AAS Division on Dynamical Astronomy Meeting 56, Atlanta, GA	2025
Undergraduate Research Week, UCLA	2024
Exoplanet Monthly Meeting, Northwestern, Evanston, IL	2024
APS Conference for Undergraduate Women in Physics, San Diego, CA	2024
APS Far West Section, UCSD (Helen Quinn Award, 1st)	2023
Division 3262 Seminar, NASA/JPL-Caltech	2023
Undergraduate Research Week, UCLA	2023
SURF Final Presentation, Caltech	2022
HEAG Presentation Week, Caltech	2022

JOURNAL REFEREE

ApJ, ApJL, MNRAS, A&A (<i>9 papers</i>)	2023 -
---	--------

AWARDED TELESCOPE TIME

Palomar Hale 200 inch	7 nights (PI)
Keck HIRES	1 night (Co-I)

OBSERVING EXPERIENCE

Palomar Hale Telescope, PHARO – 6 nights	2024-
Keck, HIRES – 1 night	2025-

TEACHING & OUTREACH

Graduate Teaching Assistant	2025
Ay 101, Physics of Stellar Interiors and Atmospheres, Caltech	<i>Pasadena, CA</i>
Graduate Peer Mentor	2024-
Caltech	<i>Pasadena, CA</i>
Stargazing Lectures Telescope Operator	2023 -
Caltech	<i>Pasadena, CA</i>
Recurring Student Visitor	2023 -
Shenendoah Early Education Center	<i>Los Angeles, CA</i>
Diversity, Equity, and Inclusion (DEI) Committee	2023 - 2024
Undergraduate Representative, UCLA Physics and Astronomy Dept.	<i>Los Angeles, CA</i>
Undergraduate Learning Assistant	2022
Physics 1C, Electrodynamics, Optics, and Special Relativity, UCLA	<i>Los Angeles, CA</i>