

CHEYANNE SHARIAT

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EDUCATION

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

RESEARCH POSITIONS

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

HONORS & AWARDS

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| 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”, arXiv:2601.00439, 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”, arXiv:2511.18678, 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?", arXiv:2510.08675, Publications of the Astronomical Society of the Pacific, submitted, 2026.
12. Holzknecht, 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., Michael, 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

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| 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 |

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| 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

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

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

OBSERVING EXPERIENCE

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

TEACHING & OUTREACH

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| Graduate Teaching Assistant | 2025 |
| Ay 101, Physics of Stellar Interiors and Atmospheres, Caltech | <i>Pasadena, CA</i> |
| Graduate Peer Mentor | 2025- |
| 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> |