Brendan M. O'Connor

McWilliams Fellow · Carnegie Mellon University

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Professional Experience

Sep. 2023 - present	**McWilliams Postdoctoral Fellow**, Carnegie Mellon University, Department of Physics & The McWilliams Center for Cosmology and Astrophysics
2019 - 2023	**Faculty Assistant** , Department of Astronomy, University of Maryland, College Park
2019 - 2023	**Research Assistant** , Astrophysics Science Division, NASA Goddard Space Flight Center (GSFC)

Education

The George Washington University — *Washington, DC*

PhD Physics – GPA: 4.0 — *August 2017 - August 2023*

- Advisor: Dr. Chryssa Kouveliotou; Co-Advisors: Eleonora Troja and Brad Cenko
- Thesis: The Transient Universe: Compact Objects Near and Far

The George Washington University — *Washington, DC*

MPhil Physics – GPA: 4.0 — *August 2017 - May 2020*

The George Washington University — *Washington, DC*

MS Physics – GPA: 4.0 — *August 2017 - January 2020*

Union College — *Schenectady, NY*

BS Physics – GPA: 3.8 (*summa cum laude*) — *August 2013 - June 2017*

- Minor in Astrophysics
- Thesis: Colliding Wind Binaries with Orbital Motion; Advisor: Francis Wilkin

Research Interests

- Gamma-ray bursts and their host galaxies and environments
- Gravitational waves and multi-messenger astrophysics
- Neutron star mergers and kilonovae
- Fast Radio Bursts and their host galaxies and environments
- Galactic X-ray transients: magnetars, cataclysmic variables, high-mass X-ray binaries
- Surveys and serendipitous optical, infrared, or high-energy transients

My research has mainly focused on using the following telescopes and observatories:

- **X-rays:** *Swift*/XRT, *NICER*, *NuSTAR*, *Chandra*, *XMM-Newton*
- **Ultraviolet/optical/infrared:** *Swift*/UVOT, Gemini, Keck, Dark Energy Camera (DECam), Southern African Large Telescope (SALT), Lowell Discovery Telescope (LDT), *Hubble Space Telescope* (*HST*, *James Webb Space Telescope* (*JWST*)

Publications

As of June 13, 2024: I have published 9 first-author, 4 second-author, and 4 third-author publications. I have authored or co-authored 343 publications which have a total of 524 citations. My h-index is 15. In addition to these refereed publications I have led 20+ GCN Circulars and Astronomer's Telegrams.

First Author (Sorted by year)

1. **O'Connor, B.**, Beniamini, P., and Gill, R., 2024. *X-ray Afterglow limits on the viewing angles of short gamma-ray bursts*. Accepted to MNRAS. https://doi.org/10.1093/mnras/stae1941

2. **O'Connor, B.**, Kouveliotou, C., Evans, P. A., Gorgone, N., van Kooten, A. J., et al., 2023. *The Swift Deep Galactic Plane Survey (DGPS) Phase-I Catalog*. ApJS, 269, 49. VizieR/J/ApJS/269/49

3. **O'Connor, B.**, Brink, J., Buckley, D. A. H., Mukai, K., Kouveliotou, C., et al., 2023. *Discovery of 1RXS J165424.6-433758 as a polar cataclysmic variable*. ApJ, 957, 89.

4. **O'Connor, B.**, Göğüş, E., Hare, J., Mukai, K., Huppenkothen, D., et al., 2023. *Classification of Swift J170800-402551.8 as an intermediate polar*. MNRAS, 525, 5015

5. **O'Connor, B.**, Troja, E., Ryan, G., Beniamini, P., et al., 2023. *A structured jet explains GRB 221009A*. **Science Advances**, 9, eadi1405. 10.1126/sciadv.adi1405

6. **O'Connor, B.**, Troja, E., Dichiara, S., Beniamini, P., et al. 2022. *A deep survey of short GRB host galaxies over $z \sim 0 - 2$: implications for offsets, redshifts, and environments*. MNRAS, 485, 4890

7. **O'Connor, B.**, Göğüş, E., Huppenkothen, D., Kouveliotou, C., et al. 2021. *Identification of an X-Ray Pulsar in the BeXRB System IGR J18219−1347*. ApJ, 927, 139

8. **O'Connor, B.**, Troja, E., Dichiara, S., Chase, E. A., et al. 2021. *A tale of two mergers: constraints on kilonova detection in two short GRBs at $z \sim 0.5$*. MNRAS, 502, 1279

9. **O'Connor, B.**, Beniamini, P., & Kouveliotou, C. 2020. *Constraints on the circumburst environments of short gamma-ray bursts*. MNRAS, 495, 4782

Co-author (Sorted by position)

10. Srinivasaragavan, G., **O'Connor, B.**, Cenko, S. B., et al., 2023. *A Sensitive Search for Supernova Emission Associated with the Extremely Energetic and Nearby GRB 221009A*. ApJL, 949, L39.

11. Chase, E. A., **O'Connor, B.**, Fryer, C. L., Troja, E., et al., 2022. *Kilonova Detectability with Wide-field Instruments*. ApJ, 927, 163.

12. Troja, E., **O'Connor, B.**, Ryan, G., Piro, L., et al., 2022. *Accurate flux calibration of GW170817: is the X-ray counterpart on the rise?*. MNRAS, 510, 1902.

13. Bruni, G., **O'Connor, B.**, Matsumoto, T., Troja, E., et al., 2021. *Late-time radio observations of the short GRB 200522A: constraints on the magnetar model*. MNRAS, 505, L41.

14. Srinivasaragavan, G., Swain, V., **O'Connor, B.**, Anand, S., et al., 2023. *Characterization of SN 2023pel Associated with GRB 230812B: An Energetic GRB with an Ordinary Broad-lined Type Ic Supernova*. ApJL, 960, L18.

154. Yang, Y.-H., Troja, E., **O'Connor, B.**, Fryer, C. L., et al., 2023. *A lanthanide-rich kilonova in the aftermath of a long gamma-ray burst*. **Nature**, 626, 742.

16. Troja, E., Fryer, C. L., **O'Connor, B. (*corresponding author*)** Ryan, G., et al., 2022. *A long gamma-ray burst from a stellar merger in the nearby Universe*. **Nature**, 612, 228.

17. Dichiara, S., Troja, E., **O'Connor, B.**, Marshall, F. E., et al., 2020. *Short gamma-ray bursts within 200 Mpc*. MNRAS, 492, 5011.

18. Piro, L., Bruni, G., Troja, E., **O'Connor, B.**, et al., 2021. *The fast radio burst FRB 20201124A in a star-forming region: Constraints to the progenitor and multiwavelength counterparts*. A&A, 656, L15.

19. Dichiara, S., Troja, E., Beniamini, P., **O'Connor, B.**, et al., 2021. *Evidence of Extended Emission in GRB 181123B and Other High-redshift Short GRBs*. ApJL, 911, L28.

20. Becerra, R. L., Troja, E., Watson, A., **O'Connor, B.**, et al., 2023. *Deciphering the unusual stellar progenitor of GRB 210704A*. MNRAS, 522, 5204.

21. Ryan, G., van Eerten, H., Troja, E., Piro, L., **O'Connor, B.**, Ricci, R., 2023. *Modelling of Long-Term Afterglow Counterparts to Gravitational Wave Events: The Full View of GRB 170817A*. Submitted to ApJ. doi:10.48550/arXiv.2310.02328

22. Gillanders, J. H., Troja, E., Fryer, C. L., Ristic, M., **O'Connor, B.**, et al., 2023, *Heavy element nucleosynthesis associated with a gamma-ray burst*. doi:10.48550/arXiv.2308.00633

23. Hammerstein, E., Cenko, S. B., Gezari, S., Veilleux, S., **O'Connor, B.**, et al., 2023. *Integral Field Spectroscopy of 13 Tidal Disruption Event Hosts from the ZTF Survey*. ApJ, 957, 86.

24. Ricci, R., Troja, E., Bruni, G., Matsumoto, T., Piro, L., **O'Connor, B.**, et al., 2021. *Searching for the radio remnants of short-duration gamma-ray bursts*. MNRAS, 500, 1708.

25. Enoto, T., Ng, M., Hu, C.-P., Güver, T., Jaisawal G. K., **O'Connor, B.**, et al., 2021. *A Month of Monitoring the New Magnetar Swift J1555.2—5402 during an X-Ray Outburst*. ApJL, 920, L4.

26. Troja, E., van Eerten, H., Zhang, B., Ryan, G., Piro, L., Ricci, R., **O'Connor, B.**, et al., 2020. *A thousand days after the merger: Continued X-ray emission from GW170817*. MNRAS, 498, 5643.

27. Y. Yao, M. Guolo, F. Tombesi, R. Li, S. Gezari, et al., 2024. *Sub-relativistic Outflow and Hours-Timescale Large-amplitude X-ray Dips during Super-Eddington Accretion onto a Low-mass Massive Black Hole in the Tidal Disruption Event AT2022lri*. Submitted to ApJ. doi:10.48550/arXiv.2405.11343

28. Das K., Fremling C., Kasliwal M., Schulze S., Sollerman J., Karambelkar V., et al., 2024. *SN 2023zaw: an ultra-stripped, nickel-poor supernova from a low-mass progenitor*. ApJ, 969, L11.

29. Bruni, G., Piro, L., Yang, Y.-P., Quai, S., Zhang B., et al., 2024. *A nebular origin for the persistent radio emission of fast radio bursts*. Nature. https://doi.org/10.1038/s41586-024-07782-6

30. Ghosh, R., Laha, S., Meyer, E., et al., 2023. *A re-emerging bright soft-X-ray state of the changing-look Active Galactic Nucleus 1ES 1927+654: a multi-wavelength view*. ApJ, 955, 3.

31. Dichiara S., Troja E., Lipunov V., Ricci R., et al., 2022. *The early afterglow of GRB 190829A*. MNRAS, 512, 2337.

32. Dichiara, S., Becerra, R. L., Chase, E. A., Troja, E., et al., 2021. *Constraints on the Electromagnetic Counterpart of the Neutron-star-Black-hole Merger GW200115*. ApJL, 923, L32.

33. Gorgone, N. M., Woudt, P. A., Buckley, D., Mukai, K., et al., 2021. *Swift/XRT Deep Galactic Plane Survey Discovery of a New Intermediate Polar Cataclysmic Variable, Swift J183920.1—045350*. ApJ, 923, 243.

34. Champion, D., Cognard, I., Cruces, M., Desvignes, G., et al., 2020. *High-cadence observations and variable spin behaviour of magnetar Swift J1818.0-1607 after its outburst*. MNRAS, 498, 6044.

Awards, Fellowships, & Grants

Awards

2021 **Berman Award for Excellence in Experimental Physics**, The George Washington University

Fellowships

2023 **McWilliams Postdoctoral Fellowship**, Carnegie Mellon University
2016 **Davenport Research Fellowship**, Union College
2013-2017 **Presidential Scholarship**, Union College

Academic Honor Societies

2017 **Phi Beta Kappa**, Union College
2017 **Sigma Xi**, Union College
2016 **Sigma Pi Sigma**, Union College
2016 **The Order of Omega**, Union College

Grants (PI awards >$320,000)

2023	**McWilliams/PSC Seed Grant (PI: B. O'Connor)**, *Renewing the connection between CMU and SALT*	*$30,000*
2023	***Hubble Space Telescope* Cycle 31 Award; GO-17583 (PI: B. O'Connor)**, Space Telescope Science Institute (STScI)	*$55,367*
2023	***Hubble Space Telescope* Cycle 31 Award; GO-17492 (PI: B. O'Connor)**, Space Telescope Science Institute (STScI)	*$55,208*
2023	***Chandra* Cycle 25 Award (PI: B. O'Connor)**, Smithsonian Astrophysical Observatory (SAO)	*$56,755*

2022 ***Chandra* Cycle 24 Award (PI: B. O'Connor)**, Smithsonian Astrophysical Observatory (SAO) *$65,209*
2021 ***Chandra* Cycle 23 Award (PI: B. O'Connor)**, Smithsonian Astrophysical Observatory (SAO) *$66,792*

Approved Telescope Proposals

As of June 13, 2024: I am PI of 25 approved telescope proposals with a total financial award of $320,000 since December 2021. I was involved in an additional 82 approved proposals as Co-I, for a total of 107 approved programs overall.

These proposals have been awarded time on the following telescopes and observatories:
JWST, *HST*, *Chandra*, *NuSTAR*, *XMM-Newton*, *NICER*, *Swift*, *Fermi*, Gemini, Keck, LDT, LBT, GTC, SALT, SOAR, Subaru, DECam, NEWFIRM, ATCA, VLA, uGMRT, e-MERLIN, EVN.

As PI I have been awarded 59 orbits (89 hr) of *HST*, 240 ks of *Chandra*, 18 hr of VLA, and 102 hr of Gemini observing time.

As Principal Investigator (sorted by observatory)

1. ***HST* Cycle 31 Award**, Understanding the Hubble tension and jet physics through joint electromagnetic and gravitational wave observations of a neutron star merger – Awarded 28 orbits (2 ToO triggers of 5 epochs each) *GO-17583*
2. ***HST* Cycle 31 Award**, Zooming in on the locations of short gamma-ray bursts – Awarded 31 orbits for 22 targets *GO-17492*
3. ***Chandra* Cycle 25 Award**, The collimation and energetics of short GRBs: searching for jet-breaks with *Chandra* – Awarded 80 ks (2 ToOs) *25400257*
4. ***Chandra* Cycle 24 Award**, The collimation and energetics of short GRBs: searching for jet-breaks with *Chandra* – Awarded 80 ks (2 ToOs) *24400201*
5. ***Chandra* Cycle 23 Award**, The collimation and energetics of short GRBs: searching for jet-breaks with *Chandra* – Awarded 80 ks (2 ToOs) *23400418*
6. ***XMM-Newton* Director's Discretionary Time**, Awarded 100 ks to study GRB 230307A.
7. ***NuSTAR* Director's Discretionary Time**, Awarded 40 ks to study EP240408A.
8. **VLA 2024A & 2024B**, An off-axis view of compact binary mergers – Awarded 18 hr ToO *VLA/24A-320*
9. **SALT 2024-1**, SALT Spectroscopy of Rare Transients - Awarded 11 hr of ToO *2024-1-SCI-042*
10. **Gemini-North 2024B**, Rapid Gemini and Hubble Space Telescope Observations of a kilonova – Awarded 12 hr of Rapid ToO *GN-2024B-Q-136*
11. **Gemini-South 2024B**, Rapid Gemini and Hubble Space Telescope Observations of a kilonova – Awarded 20.5 hr of Rapid ToO *GS-2024B-Q-132*
12. **Gemini-North 2024B**, Searching for gold: identification of the true counterpart via host galaxy spectroscopy – Awarded 8.5 hr of Standard ToO *GN-2024B-Q-137*
13. **Gemini-South Director's Discretionary Time 2024A**, Unravelling the mystery of the fast X-ray transient EP240408A – Awarded 4.1 hr of Rapid ToO *GS-2024A-DD-104*
14. **Gemini-South Director's Discretionary Time 2023A**, The distance and energetics of the second brightest GRB of all time – Awarded 3 hr of Rapid ToO *GS-2023A-DD-104*
15. **Gemini-North 2023A**, Identifying the fingerprints of r-process heavy metals in a short GRB – Awarded 9.5 hr of Rapid ToO *GN-2023A-Q-131*
16. **Gemini-South 2023A**, Identifying the fingerprints of r-process heavy metals in a short GRB – Awarded 9.5 hr of Rapid ToO *GS-2023A-Q-130*
17. **Gemini-South Director's Discretionary Time 2022B**, Unveiling heavy elements from the ultra-long GRB 221009A – Awarded 3.5 hr of Rapid ToO *GS-2022B-DD-104*
18. **Gemini-North 2022B**, Identifying the fingerprints of r-process heavy metals in a short GRB – Awarded 9.5 hr of Rapid ToO *GN-2022B-Q-130*
19. **Gemini-South 2022B**, Identifying the fingerprints of r-process heavy metals in a short GRB – Awarded 9.5 hr of Rapid ToO *GS-2022B-Q-134*
20. **Gemini-South 2022B**, Off-axis afterglows from compact binary mergers – Awarded 8.5 hr of Standard ToO *GS-2022B-Q-232*

21. **Gemini-South 2022A**, Identifying the fingerprints of r-process heavy metals in a short GRB – Awarded 9.5 hr of Rapid ToO — *GS-2022A-Q-141*
22. **Gemini-South Director's Discretionary Time 2021B**, Probing the unusual long GRB 211227A with Gemini – Awarded 2.1 hr of Rapid ToO — *DT-2021B-019*
23. **Lowell Discovery Telescope 2023A (Co-PI)**, Classically Scheduled Imaging and Spectroscopy of Transients and Their Host Galaxies – Awarded 5 full nights
24. **Lowell Discovery Telescope 2022B (Co-PI)**, Classically Scheduled Imaging and Spectroscopy of Transients and Their Host Galaxies – Awarded 5 full nights
25. **Lowell Discovery Telescope 2022A**, Gamma-ray bursts and their host environments – Awarded 4 half-nights

Co-I Proposals (sorted by observatory)

1. ***JWST* Cycle 3 (PI: L. Hu)**, An Archival Study of Cosmic Transients in Existing JWST Observations — *GO-5965*
2. ***JWST* Cycle 2 (PI: E. Troja)**, Identifying the fingerprints of heavy r-process elements with the James Webb Telescope — *GO-3704*
3. ***HST* Cycle 32 (PI: E. Troja)**, Ultra-rapid observations of a gravitational wave source — *HST-GO-17805*
4. ***HST* Cycle 31 (PI: E. Troja)**, A holistic view of compact binary mergers: from kilonova to afterglow — *GO-17450*
5. ***HST* Cycle 30 (PI: E. Troja)**, The afterglow, supernova and distance scale of a record-breaking gamma-ray burst — *GO/DD-17298*
6. ***HST* Cycle 30 (PI: E. Troja)**, Mapping the diversity of kilonovae through rapid Hubble observations of a short gamma-ray burst — *GO-17175*
7. ***HST* Cycle 29 (PI: E. Troja)**, Identifying the fingerprints of r-process heavy metals in a short GRB — *GO-16846*
8. ***HST* Cycle 25 (PI: E. Troja)**, Identify the signature of neutron star mergers through rapid Hubble observations of a short GRB — *GO-15089*
9. **Gemini-South 2024B (PI: I. Andreoni)**, Gemini spectroscopy to identify the redshift of a peculiar fast X-ray transient discovered by Einstein Probe — *GS-2024A-FT-113*
10. **Gemini-South 2023A (PI: S. Dichiara)**, Searching for the SN associated with the extremely bright GRB 230307A — *GS-2023A-DD-106*
11. **Gemini-South 2023A (PI: N. Klingler)**, Resolving the First Bow Shock Pulsar Wind Nebula in Near-IR — *GS-2023A-Q-224*
12. **Gemini-North 2023A (PI: M. Im)**, Optical/NIR Follow-up Observation of Gravitational-Wave Sources — *GN-2023A-Q-116*
13. **Gemini-South 2023A (PI: M. Im)**, Optical/NIR Follow-up Observation of Gravitational-Wave Sources — *GS-2023A-Q-121*
14. **Gemini-North 2022B (PI: M. Im)**, Long-term Monitoring in Optical/NIR of Gravitational-wave Sources — *GN-2022B-Q-117*
15. **Gemini-South 2022B (PI: M. Im)**, Long-term Monitoring in Optical/NIR of Gravitational-wave Sources — *GS-2022B-Q-120*
16. **Gemini-North 2022B (PI: M. Im)**, Optical/NIR Follow-up Observation of Gravitational-Wave Sources — *GN-2022B-Q-118*
175. **Gemini-South 2022B (PI: M. Im)**, Optical/NIR Follow-up Observation of Gravitational-Wave Sources — *GS-2022B-Q-119*
18. **Gemini-South 2021A (PI: E. Troja)**, Mapping the diversity of neutron star mergers with rapid Gemini observations of short gamma-ray bursts — *GS-2021A-Q-102*
19. **Gemini-North 2021A (PI: E. Troja)**, Mapping the diversity of neutron star mergers with rapid Gemini observations of short gamma-ray bursts — *GN-2021A-Q-103*

20.	**Gemini-North 2020B (PI: E. Troja)**, Mapping the diversity of neutron star mergers with rapid Gemini observations of short gamma-ray bursts	*GN-2020B-Q-102*
21.	**Gemini-South 2020B (PI: E. Troja)**, Mapping the diversity of neutron star mergers with rapid Gemini observations of short gamma-ray bursts	*GS-2020B-Q-101*
22.	**Keck 2024B (PI: I. Andreoni)**, Illuminating the r-process yield of neutron star mergers with Keck spectroscopy	
23.	**Keck 2023B (PI: S. B. Cenko)**, ToO Spectroscopy of GW Counterparts	
24.	**Keck 2023A (PI: S. B. Cenko)**, ToO Spectroscopy of GW Counterparts	
25.	**Keck 2022B (PI: S. B. Cenko)**, ToO Spectroscopy of GW Counterparts	
26.	**SALT 2024-1 (PI: E. Dadiani)**, Spectral and Dynamical Analysis of a Dual AGN Candidate Using SALT RSS Spectroscopy	*2024-1-SCI-041*
27.	**Subaru 2024A (PI: T. Sakamoto)**, Short GRBs as a Key to Understand Population of Merging Neutron Stars	
28.	**Subaru 2023B (PI: T. Sakamoto)**, Short GRBs as a Key to Understand Population of Merging Neutron Stars	
29.	**Subaru 2023A (PI: T. Sakamoto)**, Short GRBs as a Key to Understand Population of Merging Neutron Stars	
30.	**GTC 2023A (PI: A. Watson)**, Characterizing Gravitational-Wave Mergers of Neutron Stars	
31.	**GTC 2022B (PI: A. Watson)**, Characterizing Gravitational-Wave Mergers of Neutron Stars	
32.	**Large Binocular Telescope 2023A (PI: Troja)**, Identifying the fingerprints of r-process heavy metals in a short GRB	
33.	**SOAR 2024B (PI: A. Palmese)**, Understanding compact binary formation and cosmology through gravitational wave host galaxies	*2024B-730348*
34.	**DECam 2023B (PIs: I. Andreoni, A. Palmese)**, GW-MMADS: Gravitational Wave Multi-Messenger Astronomy DECam Survey	*2023B-851374*
35.	**NEWFIRM 2024B (PI: D. Coulter**, Finding and Characterizing Red and Distant Kilonovae with NEWFIRM	*2024B-945577*
36.	**NEWFIRM 2024A (PI: D. Coulter**, Finding and Characterizing Red and Distant Kilonovae with NEWFIRM	*2024A-706757*
37.	**Lowell Discovery Telescope 2023A (PI: S. B. Cenko)**, Target of Opportunity Transient Follow-Up with LDT	
38.	**Lowell Discovery Telescope 2023A (PI: I. Andreoni)**, ToO Observations of Gravitational Wave Counterparts in the Fourth LIGO-Virgo-KAGRA Observing Run	
39.	**Lowell Discovery Telescope 2022B (PI: S. B. Cenko)**, Target of Opportunity Transient Follow-Up with LDT	
40.	**Lowell Discovery Telescope 2022B (PI: I. Andreoni)**, ToO Observations of Gravitational Wave Counterparts in the Fourth LIGO-Virgo-KAGRA Observing Run	
41.	**Lowell Discovery Telescope 2022A (PI: A. Gottlieb)**, LDT observations of Fast Radio Bursts: counterparts and environment	
42.	**Lowell Discovery Telescope 2022A (PI: Cenko)**, Target of Opportunity Gamma-Ray Burst Follow-Up with LDT	
43.	**Lowell Discovery Telescope 2021B (PI: Cenko)**, Target of Opportunity Gamma-Ray Burst Follow-Up with LDT	
44.	**Lowell Discovery Telescope 2021B (PI: S. Dichiara)**, Gamma-ray bursts and their host environments	
45.	**Lowell Discovery Telescope 2021B (PI: E. Troja)**, LDT observations of Fast Radio Bursts: counterparts and environment	
46.	**Lowell Discovery Telescope 2021A (PI: S. Dichiara)**, Gamma-ray bursts and their host environments	

47. **Lowell Discovery Telescope 2021A (PI: E. Troja)**, LDT observations of Fast Radio Bursts: counterparts and environment
48. ***Fermi* Cycle 14 (PI: C. Kouveliotou)**, Magnetar Observations with the Fermi/Gamma Ray Burst Monitor
49. ***Chandra* Cycle 25 (PI: E. Troja)**, Beyond the GRB jet: searching for the remnant of a neutron star merger
50. ***Chandra* Cycle 25 (PI: E. Troja)**, GOTCHA! Gravitational wave counterparts Observed wiTh CHAndra
51. ***Chandra* Cycle 24 (PI: E. Troja)**, GOTCHA! Gravitational wave counterparts Observed wiTh CHAndra
52. ***Chandra* Cycle 24 (PI: E. Troja)**, Identifying the fingerprints of r-process heavy metals in a short GRB
53. ***Chandra* Cycle 24 (PI: S. Dichiara)**, Chandra Sub-arcsecond Localization of Swift Short GRBs
54. ***Chandra* Cycle 23 (PI: C. Kouveliotou)**, *Chandra* ToO observations of Phase II *Swift* Deep Galactic Plane Survey (DGPS) sources
55. ***Chandra* Cycle 23 (PI: E. Troja)**, Beyond the GRB jet: searching for the remnant of a neutron star merger
56. ***Chandra* Cycle 23 (PI: E. Troja)**, Identifying the fingerprints of r-process heavy metals in a short GRB
57. ***Chandra* Cycle 23 (PI: S. Dichiara)**, Chandra Sub-arcsecond Localization of Swift Short GRBs
58. ***Chandra* Cycle 22 (PI: E. Troja)**, The Collimation and Energetics of Short GRBs: Searching for Jet-breaks with Chandra
59. ***Chandra* Director's Discretionary Time (PI: E. Troja)**, A luminous kilonova or a faint supernova? The curious case of GRB210704A
60. ***Chandra* Director's Discretionary Time (PI: L. Piro)**, Unraveling the nature of the persistent radio source associated to FRB201124A with *Chandra*
61. ***Swift* Cycle 20 (PI: S. Dichiara)**, Searching High and Low for Elusive Short GRBs
62. ***Swift* Cycle 18 (PI: S. Dichiara)**, Searching High and Low for Elusive Short GRBs
63. ***XMM-Newton* AO21 (PI: E. Troja)**, The collimation and energetics of short GRBs: searching for jet-breaks with XMM
64. ***XMM-Newton* AO20 (PI: E. Troja)**, Identifying the fingerprints of r-process heavy metals in a short GRB
65. ***NuSTAR* Director's Discretionary Time (PI: C. Kouveliotou)**, *Swift* Galactic Plane Survey Key Project – Utilized 9 *NuSTAR* DDTs of Galactic X-ray sources identified through the *Swift* Deep Galactic Plane Survey. The Survey was a *NuSTAR* Legacy Survey Program through 2019.
66. ***NICER* Cycle 4 (PI: N. Klingler)**, The transitional millisecond pulsar candidate 4FGL J1943.9+2841
67. ***NICER* Cycle 4 (PI: C. Kouveliotou)**, *NICER* ToO observations of *Swift*/XRT Deep Galactic Plane Survey (DGPS) sources
68. ***NICER* Cycle 3 (PI: C. Kouveliotou)**, *NICER* ToO observations of *Swift*/XRT Deep Galactic Plane Survey (DGPS) sources
69. **EVN E23 (PI: G. Bruni)**, Characterising the progenitors of fast radio bursts with the EVN *EB099*
70. **EVN E21 (PI: G. Bruni)**, Characterising the progenitors of fast radio bursts with the EVN *EB094*
71. **EVN DDT (PI: F. Panessa)**, Disclosing the nature of the persistent radio source associated to FRB20201124A
72. **e-MERLIN Cycle 13 (PI: G. Bruni)**, Characterising the progenitors of fast radio bursts with e-MERLIN
73. **e-MERLIN DDT (PI: G. Bruni)**, Disclosing the nature of the persistent radio source associated to FRB 20201124A with e-MERLIN
74. **ATCA 2022 (PI: R. Ricci)**, Characterizing the spectral behaviour of the Persistent Radio Emission of a Fast Radio Burst

75. **GMRT Cycle 42 (PI: G. Bruni)**, Spectral characterization of the persistent radio emission in fast radio bursts
76. **GMRT DDT (PI: G. Bruni)**, Characterising starburst activity in the host of the repeating FRB 20201124A
77. **VLA 2024A (PI: E. Troja)**, The collimation and energetics of short gamma-ray bursts
78. **VLA 2022B (PI: E. Troja)**, The collimation and energetics of short gamma-ray bursts
79. **VLA 2022B (PI: S. Chastain)**, Electromagnetic counterparts of gravitational wave events
80. **VLA 2021B (PI: E. Troja)**, The collimation and energetics of short gamma-ray bursts
81. **VLA 2021B (PI: E. Troja)**, Beyond the GRB jet: searching for the remnant of a neutron star merger
82. **VLA 2021A (PI E. Troja)**, Beyond the GRB jet: searching for the remnant of a neutron star merger

Presentations

Invited Discussion Panels

1. **Dawn of Gravitational Wave Astronomy and Astrophysics (Dawn VII) Meeting**. Invited speaker and panelist. *Multi-messenger Astrophysics in the A# Era.* Vancouver, Canada. June 2024.

1. **Gravitational Wave Physics and Astronomy Workshop(GWPAW)**. Discussion panelist. *What Astronomers need to do MMA.* Birmingham, UK. May 2024.

Invited Talks

1. **COSPAR 2024**. Invited presentation (20m). *A search for hostless short GRBs with large aperture telescopes.* Busan, Korea. July 2024.
2. **GROWTH MMA Meeting**. Invited presentation (15m). *A structured jet explains the extreme GRB 221009A.* Presented virtually. March 2023.
3. **Union College**. Invited colloquia presentation (45m). *The Transient Universe: Compact Objects Near and Far.* Schenectady, NY. February 2023.
4. **Harvard-Smithsonian Center for Astrophysics (CfA)**. Invited talk (45m) at High Energy Seminar. *The Transient Universe: Compact Objects Near and Far.* Cambridge, MA. November 2022.
5. **Lowell Observatory**. Invited talk (15m) at A Decade of Exploration with the Lowell Discovery Telescope. *The host galaxies and environments of short gamma-ray bursts.*. Presented virtually. October 2022.
6. **California Institute of Technology (Caltech)**. Invited talk (45m) at Astronomy Tea Talk series. *The Transient Universe: Compact Objects Near and Far*. Presented virtually. October 2022.
7. **University of California, Berkeley**. Invited talk (45m) at Explosive Astro talk series. *The Transient Universe: Compact Objects Near and Far*. Berkeley, CA. September 2022.
8. **University of California, Santa Cruz**. Invited talk (45m) at FLASH Seminar. *The Transient Universe: Compact Objects Near and Far*. Santa Cruz, CA. September 2022.
9. **Universidad Nacional Autónoma de México**. Invited talk (45m) at High Energy Astrophysics (HEAP) seminar. *Shedding light on hostless short GRBs with large aperture telescopes*. Presented virtually. March 2022.

Contributed Presentations

1. **Dawn VII Satellite Workshop: Multi-Messenger Astrophysics with GWs.** *Constraints On the Population of Off-axis Short Gamma-ray Bursts.* Vancouver, CA. June 2024.
2. **Gravitational Wave Physics and Astronomy Workshop(GWPAW)**. Contributed talk (15m). *Constraints On the Population of Off-axis Short Gamma-ray Bursts.* Birmingham, UK. May 2024.
3. **GRB50 Meeting**. Contributed talk (10m). *A structured jet explains the extreme GRB 221009A.* Warrenton, VA. August 2023.
4. **High Energy Astrophysics Division (HEAD 20) Meeting**. Dissertation talk (15m). *The Transient Universe: Compact Objects Near and Far.* Kona, HI. March 2023.
5. **High Energy Astrophysics Division (HEAD 20) Meeting**. Poster presentation. *A structured jet explains the extreme GRB 221009A.* Kona, HI. March 2023.
6. **241st meeting of the American Astronomical Society (AAS)**. Dissertation talk (15m). *The Transient Universe: Compact Objects Near and Far.* Seattle, WA. January 2023.

7. **Kilonova: Multimessenger and Multiphysics**. Contributed Early Career talk (20m) at WE-Heraeus Seminar. *The host galaxies and environments of short gamma-ray bursts.* Bad Honnef, Germany. November 2022.
8. **Lowell Discovery Telescope Partners' Meeting at Boston University**. Contributed talk (15m). *The host galaxies and environments of short gamma-ray bursts.* Presented virtually. November 2022.
9. **High Energy Astrophysics Division (HEAD 19) Meeting**. Poster presentation. *A search for hostless short GRBs with large aperture telescopes*. Pittsburgh, PA. March 2022.
10. **IAU Symposium 363**. Contributed talk (20m). *Shedding light on hostless short GRBs with large aperture telescopes*. Presented virtually. December 2021.
11. **Marcel Grossman 16th Meeting**. Contributed talk (15m). *Constraints on kilonova emission in two short GRBs at $z \sim 0.5$*. Presented virtually. June 2021.
12. **European Astronomical Society (EAS) Annual Meeting**. Contributed talk (15m). *Constraints on kilonova emission in two short GRBs at $z \sim 0.5$*. Presented virtually. June 2021.
13. **Square Kilometer Array (SKA) Science Conference**. Contributed talk (10m). *Constraints on kilonova emission in two short GRBs at $z \sim 0.5$*. Presented virtually. March 2021.
14. **237th meeting of the American Astronomical Society (AAS)**. Contributed talk (5m). *Constraints on kilonova emission in two short GRBs at $z \sim 0.5$*. Presented virtually. January 2021.
15. **Chandra Frontiers in Time Domain Astrophysics**. Contributed talk (15m). *The merger environments of short gamma-ray bursts*. Presented virtually. October 2020.

Press

The "Brightest of All Time" Gamma-Ray Burst.

- The Science Advances `article` on GRB 221009A led to 119 news reports, below are some highlights.
- GWU: `https://gwtoday.gwu.edu/what-makes-gamma-ray-burst-brightest-all-time`
- NuSTAR: `https://www.nustar.caltech.edu/news/nustar230608`
- NOIRLab: `https://noirlab.edu/public/blog/the-brightest-of-all-time/`
- Nature Italy: `https://www.nature.com/articles/d43978-023-00084-x`
- Independent: `Independent`
- Forbes: `Forbes`

Kilonova Discovery Challenges our Understanding of Gamma-Ray Bursts.

- Nature "Behind-the-paper": `https://astronomycommunity.nature.com/`
- NOIRLab: `https://noirlab.edu/public/news/noirlab2228/`
- Inverse: `Inverse`
- NASA: `NASA`
- GWU: `GWU`

Record-Breaking Gamma-Ray Burst Possibly Most Powerful Explosion Ever Recorded.

- NOIRLab: `https://noirlab.edu/public/news/noirlab2224/`
- NSF Science Now: `https://youtu.be/Do2oFQjAS8o`
- Times of Israel: `TimesofIsrael`
- Space.com: `Space.com`
- Phys.org: `Phys.org`
- France24: `France24`

- Forbes: Forbes
- CNN: CNN

Gemini Telescopes Help Uncover Origins of Castaway Gamma-Ray Bursts.

- NOIRLab: https://noirlab.edu/public/news/noirlab2218/
- Keck: https://www.keckobservatory.org/castaway-grbs/
- UMD: https://cmns.umd.edu/news-events/features/4958

Teaching Experience

2019 **Secondary Instructor**, Solar System Astronomy, The George Washington University
2017-2019 **Graduate Teaching Assistant**, Physics and Astronomy, The George Washington University

Mentoring Experience

Supervised an undergraduate student, Samanvita Singhania, Carnegie Mellon University — *Jun 2024 - now*

Supervised an undergraduate student, Jackson Chen, Carnegie Mellon University — *Jun 2024 - now*

Supervised an undergraduate student, Dylan Rossi, Carnegie Mellon University — *Jan 2024 - Aug 2024*

Co-supervised an undergraduate student, Rav Kaur, University of California, Berkeley — *Oct 2023 - Sep 2024*

Co-supervised an undergraduate student, Aidan Catalano, Carnegie Mellon University — *Summer 2023/2024*

Supervised a first-year graduate student, Seth Gagnon, The George Washington University — *Summer 2022*

Supervised a first-year graduate student, Alex van Kooten, The George Washington University — *Summer 2021*

Outreach & Professional Development

Conference Organization

2024 **SOC Member**, *Swift* Senior Review Workshop

Peer Review

2024 **Proposal reviewer**, NASA Astrophysics Data Analysis Program (ADAP)
2024 **TAC Member**, *Chandra* Peer Review
2024 - now **TAC Member**, NOIRLab Time Allocation Committee (TAC)
2024 - now **Journal referee**, The Monthly Notices of the Royal Astronomical Society (MNRAS)
2024 - now **Proposal reviewer**, *James Webb Space Telescope* (*JWST*) Director's Discretionary Time
2024 **Proposal reviewer**, Israel Science Foundation
2024 - now **Co-chair**, Southern African Large Telescope TAC for Carnegie Mellon University
2023 - now **Member**, McWilliams Fellowship Hiring Committee, Carnegie Mellon University
2023 - now **Journal referee**, Nature Astronomy
2023 - now **Journal referee**, Astronomy & Astrophysics (A&A)
2022 - now **Journal referee**, The Astrophysical Journal (ApJ)
2023 **Proposal reviewer**, Subaru Telescope Time Allocation Committee
2023 **Proposal reviewer**, Italian Time Allocation Committee for TNG/REM
2022 **Proposal reviewer**, Gemini Observatory Canadian Time Allocation Committee (CanTAC)

Professional Memberships

2023 - now	**Gravitational Wave Multi-Messenger Astronomy DECam Survey (GW-MMADS)**, Member/Observer
2023 - now	**DECam Alliance for Transients (DECAT)**, Member/Observer
2023 - now	**DECam Survey of Intermediate Redshift Transients (DESIRT)**, Member
2023 - now	**The Dark Energy Spectroscopic Instrument (DESI)**, Junior Member
2023 - now	**The Gravity Collective**, Member
2023 - now	**HEASARC Users Group (HUG)**, Member
2023 - now	***Athena* Science Working Group (SWG3.6: Athena multimessenger)**, Member
2022 - now	***STROBE-X* Science Working Group**, Member
2020 - now	***Gamow Explorer* Science Team**, Member
2020 - 2023	***Swift* Deep Galactic Plane Survey (DGPS)**, Observation Lead
2020 - 2023	**MeerKAT Galactic Plane Survey**, Member

Weekly Colloquia

2023 - now	**CMU Multi-Messenger Astronomy Meetings**, Organizer/Presenter
2023 - now	**CMU Astronomy Journal Club**, Member/Presenter
2022 - 2023	**GWU Astronomy Data Analysis Seminars**, Organizer/Presenter
2022 - 2023	**UMD Transient Astronomy Meetings**, Member/Presenter
2019 - 2023	**NASA GSFC GRB Lunch**, Member/Presenter
2018 - 2023	**GWU Astronomy Group Meetings**, Member/Presenter

Service and Outreach

2024	**Astronomy on Tap**, Speaker	*Pittsburgh, PA*
2022	**2022 Physics Congress (PhysCon)**, Volunteer	*Washington, DC*
2018 & 2019	**Astronomy Festival on the National Mall**, Volunteer	*Washington, DC*
2016-2017	**Union College Student Affairs Council**, Student Representative	*Schectady, NY*
2016-2017	**Union College Student Conduct Committee**, Committee Member	*Schectady, NY*
2016 & 2017	**Dudley Observatory at Museum of Innovation and Science**, Volunteer at Astronomy Days	*Schectady, NY*
2015-2016	**Union College Men's Club Soccer**, Treasurer	*Schectady, NY*
2015 & 2016	**Special Olympics New York Annual 5k rUndead Event Service**, Volunteer	*Schectady, NY*
2014, 2015, & 2016	**John Calvin Toll Day of Community Service**, Volunteer	*Schectady, NY*