

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

PHD PHYSICS – GPA: 4.0

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

Washington, DC

August 2017 - August 2023

The George Washington University

MPHIL PHYSICS – GPA: 4.0

Washington, DC

August 2017 - May 2020

The George Washington University

MS PHYSICS – GPA: 4.0

Washington, DC

August 2017 - January 2020

Union College

BS PHYSICS – GPA: 3.8 (*summa cum laude*)

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

Schenectady, NY

August 2013 - June 2017

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 September 13, 2024: I have published 9 first-author, 4 second-author, and 4 third-author publications. I have authored or co-authored 35 publications which have > 500 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*. MNRAS, 533, 1629.
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](https://ui.adsabs.org/2023ApJS...269...49O)
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](https://doi.org/10.1126/sciadv.adi1405)
6. **O'Connor, B.**, Troja, E., Dichiaro, 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., Dichiaro, 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.
15. 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. Dichiaro, 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. Dichiaro, 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.
28. 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
29. 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.
30. 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>
31. Ghosh, R., Laha, S., Meyer, E., et al., 2023. *Are-emerging bright soft-X-ray state of the changing-look Active Galactic Nucleus 1ES 1927+654: a multi-wavelength view*. ApJ, 955, 3.
32. Dichiara S., Troja E., Lipunov V., Ricci R., et al., 2022. *The early afterglow of GRB 190829A*. MNRAS, 512, 2337.
33. 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.
34. 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.
35. 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) , <i>Renewing the connection between CMU and SALT</i>	\$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 September 13, 2024: I am PI of 26 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 108 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, VLA, uGMRT, e-MERLIN, EVN.

As PI I have been awarded 59 orbits (320 ks) of *HST*, 490 ks of *Chandra*, 130 ks of VLA, and 367 ks of Gemini observing time.

AS PRINCIPAL INVESTIGATOR (SORTED BY OBSERVATORY)

- 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*
- HST Cycle 31 Award**, Zooming in on the locations of short gamma-ray bursts – Awarded 31 orbits for 22 targets *GO-17492*
- Chandra Cycle 26 Award**, An off-axis view of compact binary mergers – Awarded 250 ks of *Chandra* and 18 hr of VLA as a joint program *26400095*
- Chandra Cycle 25 Award**, The collimation and energetics of short GRBs: searching for jet-breaks with *Chandra* – Awarded 80 ks (2 ToOs) *25400257*
- Chandra Cycle 24 Award**, The collimation and energetics of short GRBs: searching for jet-breaks with *Chandra* – Awarded 80 ks (2 ToOs) *24400201*
- Chandra Cycle 23 Award**, The collimation and energetics of short GRBs: searching for jet-breaks with *Chandra* – Awarded 80 ks (2 ToOs) *23400418*
- XMM-Newton Director's Discretionary Time**, Awarded 100 ks to study GRB 230307A.
- NuSTAR Director's Discretionary Time**, Awarded 40 ks to study EP240408A.
- VLA 2024A & 2024B**, An off-axis view of compact binary mergers – Awarded 18 hr ToO *VLA/24A-320*
- SALT 2024-1**, SALT Spectroscopy of Rare Transients - Awarded 11 hr of ToO *2024-1-SCI-042*
- Gemini-North 2024B**, Rapid Gemini and Hubble Space Telescope Observations of a kilonova – Awarded 12 hr of Rapid ToO *GN-2024B-Q-136*
- Gemini-South 2024B**, Rapid Gemini and Hubble Space Telescope Observations of a kilonova – Awarded 20.5 hr of Rapid ToO *GS-2024B-Q-132*
- 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*
- 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*
- 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*
- 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*
- 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*
- 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*
- 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*
- 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*

21.	Gemini-South 2022B , Off-axis afterglows from compact binary mergers – Awarded 8.5 hr of Standard ToO	GS-2022B-Q-232
22.	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
23.	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
24.	Lowell Discovery Telescope 2023A (Co-PI) , Classically Scheduled Imaging and Spectroscopy of Transients and Their Host Galaxies – Awarded 5 full nights	
25.	Lowell Discovery Telescope 2022B (Co-PI) , Classically Scheduled Imaging and Spectroscopy of Transients and Their Host Galaxies – Awarded 5 full nights	
26.	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
15.	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	<i>GN-2021A-Q-103</i>
20.	Gemini-North 2020B (PI: E. Troja) , Mapping the diversity of neutron star mergers with rapid Gemini observations of short gamma-ray bursts	<i>GN-2020B-Q-102</i>
21.	Gemini-South 2020B (PI: E. Troja) , Mapping the diversity of neutron star mergers with rapid Gemini observations of short gamma-ray bursts	<i>GS-2020B-Q-101</i>
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	<i>2024-1-SCI-041</i>
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	<i>2024B-730348</i>
34.	DECam 2023B (PIs: I. Andreoni, A. Palmese) , GW-MMADS: Gravitational Wave Multi-Messenger Astronomy DECam Survey	<i>2023B-851374</i>
35.	NEWFIRM 2024B (PI: D. Coulter) , Finding and Characterizing Red and Distant Kilonovae with NEWFIRM	<i>2024B-945577</i>
36.	NEWFIRM 2024A (PI: D. Coulter) , Finding and Characterizing Red and Distant Kilonovae with NEWFIRM	<i>2024A-706757</i>
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
70. **EVN E21 (PI: G. Bruni)**, Characterising the progenitors of fast radio bursts with the EVN
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

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74. **GMRT Cycle 47 (PI: E. Troja)**, Gravitational Wave events: radio follow-up with uGMRT
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 a graduate student , Xander Hall, Carnegie Mellon University	Sep 2024 - now
Supervised a graduate student , Hannah Skobe, Carnegie Mellon University	Jun 2024 - now
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
Supervised an undergraduate student , Rav Kaur, University of California, Berkeley	Oct 2023 - Sep 2024
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 | <i>Pittsburgh, PA</i> |
| 2022 | 2022 Physics Congress (PhysCon) , Volunteer | <i>Washington, DC</i> |
| 2018 & 2019 | Astronomy Festival on the National Mall , Volunteer | <i>Washington, DC</i> |
| 2016-2017 | Union College Student Affairs Council , Student Representative | <i>Schectady, NY</i> |
| 2016-2017 | Union College Student Conduct Committee , Committee Member | <i>Schectady, NY</i> |
| 2016 & 2017 | Dudley Observatory at Museum of Innovation and Science , Volunteer at Astronomy Days | <i>Schectady, NY</i> |
| 2015-2016 | Union College Men's Club Soccer , Treasurer | <i>Schectady, NY</i> |
| 2015 & 2016 | Special Olympics New York Annual 5k rUndead Event Service , Volunteer | <i>Schectady, NY</i> |
| 2014, 2015,
& 2016 | John Calvin Toll Day of Community Service , Volunteer | <i>Schectady, NY</i> |