Muryel Guolo

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RESEARCH INTERESTS

- Observational High Energy Astrophysics; Time-Domain Astronomy; Multi-Wavelength Sky Surveys
- Accretion Physics; Tidal Disruption Events; X-ray Quasi-Periodic Eruptions; X-ray Binaries, IMBHs

EDUCATION AND APPOINTMENTS

Ph.D., Astrophysics, Johns Hopkins University, USA — 2021 - Expected June 2026
- Thesis: Black Hole Accretion in the Time-Domain Era
- Advisor: Dr. Suvi Gezari

Science Intern, European Southern Observatory, Chile — 2021

M. Sc., Astrophysics, Federal University of Santa Catarina, Brazil — 2019-2020

B. Sc., Physics, Federal University of Santa Catarina, Brazil — 2015-2018

SUCCESSFUL OBSERVING PROPOSALS AS P.I.

Total funding obtained as PI: $\sim$ **$510k**

- *XMM-Newton* AO 24: two GO, totaling 336ks (**$80k**)
- *XMM-Newton* AO 23: three GO, totaling 566ks (**$217k**)
- *XMM-Newton* AO 22: two DDT, totaling 120ks
- *NICER* Cycle 7: two GO, totaling 426ks (**$77k**)
- *NICER* Cycle 6: two GO, totaling 160ks (**$77k**)
- *NICER* Cycle 5: numerous DDT/ToO, totaling $>$ 500ks
- *Swift* Cycle 20: one GO, totaling 45ks (**$38k**)
- *Swift* ToO: numerous, totaling $>$ 100ks
- *Chandra* Cycle 24: one DDT, 25ks (**$21k**)
- Gemini: five (2021A to 2022B), totaling 8h
- APO 3.5m: numerous, totaling $>$ 4 full-nights

PUBLICATIONS

- **As first author: 7** (ADS Library)
- Total: 34 (ADS Library)
- Citations: 939. H-index: 17.

First Author Publications

(7) **Guolo, M.**, Mummery, A., Ingram, A., Nicholl, M, et al., 2025, *A Time-Dependent Solution for GSN 069 Disk Evolution: The Nature of 'Long-Lived' TDEs and Implications for QPE Models*, Submitted (arXiv:2504.20148).

(6) **Guolo, M.**, Mummery, A., Wevers, T., Nicholl, M, et al., 2025, *The properties of GSN 069 accretion disk from a joint X-ray and UV spectral analysis: stress-testing quasi-periodic eruption models*, ApJ, 985, 146.

(5) **Guolo, M.** & Mummery, A., 2025, *The Size of Accretion Disks from Self-consistent X-Ray Spectra and UV/Optical/NIR Photometry Fitting: Applications to ASASSN–14li and HLX–1*, ApJ, 978 167.

(4) **Guolo, M.**, Gezari, S., Yao, Y., van Velzen, S., et al., 2024, *A systematic analysis of the X-ray emission in optically selected tidal disruption events: observational evidence for the unification of the optically and X-ray selected populations*, ApJ, 966, 160.

(3) **Guolo, M.**, Pasham, D., Zajaček., Coughlin, E., Gezari, S., et al., 2024, *X-ray eruptions every 22 days from the nucleus of a nearby galaxy*, Nature Astronomy, 8, 347.

(2) **Guolo, M.**, Ruschel-Dutra, D., Grupe, D., Peterson, B., et al., 2021, *The Eddington ratio-dependent 'changing look' events in NGC 2992*, MNRAS, 508, 1.

(1) **Guolo, M.**, Ruschel-Dutra, D., Storchi-Bergmann, T., et al., 2021, *Exploring the AGN-Merger Connection in Arp 245 I: Nuclear Star Formation and Gas Outflow in NGC 2992*, MNRAS, 502, 3618.

Major Contributed Publications

(5) Mummery, A., **Guolo, M.**, Matthews, J., et al., 2025, *Galaxy scale consequences of tidal disruption events: extended emission line regions, extreme coronal lines and infrared-to-optical light echoes*, arXiv:2503.14163.

(4) Wevers, T., **Guolo, M.**, Lockwood, S., Mummery, A., et al., 2025, *Time-resolved Hubble Space Telescope UV observations of an X-ray quasi-periodic eruption source*, ApJL, 980, L1.

(3) Yao, Y.; **Guolo, M.**; Tombesi, F., et al., 2024, *Subrelativistic 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*, ApJ, 976 , 34.

(2) Nicholl, M.; Pasham, D. R.; Mummery, A., **Guolo, M.**, et al., 2024, *Quasi-periodic X-ray eruptions years after a nearby tidal disruption event*, Nature, 634, 804.

(1) Yao, Y., Lu, W., **Guolo, M.**, Pasham, D., et al., 2022, *The Tidal Disruption Event AT2021ehb: Evidence of Relativistic Disk Reflection, and Rapid Evolution of the Disk-Corona System*, ApJ, 937, 1.

Contributed Publications

(22) Masterson, M., De, K. , et al. **(incl. Guolo, M.)**, 2025, *JWST's First View of Tidal Disruption Events: Compact, Accretion-Driven Emission Lines & Strong Silicate Emission in an Infrared-selected Sample*, arXiv:2503.08647.

(21) D. A. Coulter, J. D. R. Pierel, C. DeCoursey, et al. **(incl. Guolo, M.)**, 2025, *Discovery of a likely Type II SN at z=3.6 with JWST*, arXiv:2501.05513.

(20) M. R. Siebert, C. DeCoursey, D. A. Coulter, et al. **(incl. Guolo, M.)**, 2024, *Discovery of a Relativistic Stripped-envelope Type Ic-BL Supernova at z = 2.83 with JWST*, ApJL, 972, L13.

(19) Pierel, J. D. R.; Engesser, M.; Coulter, D. A., et al. **(incl. Guolo, M.)**, 2024, *Discovery of an Apparent Red, High-velocity Type Ia Supernova at z = 2.9 with JWST*, ApJ, 971, L32.

(18) Pasham, D.; Coughlin, E. R.; **Guolo, M.**, et al., 2024, *A Potential Second Shutoff from AT2018fyk: An Updated Orbital Ephemeris of the Surviving Star under the Repeating Partial Tidal Disruption Event Paradigm*, ApJL, 971, L31.

(17) Wevers, T.; French, K. D.; Zabludoff, A. I., et al. **(incl. Guolo, M.)**, 2024, *X-Ray Quasi-periodic Eruptions and Tidal Disruption Events Prefer Similar Host Galaxies*, ApJL, 970, L23.

(16) Wevers, T., **Guolo, M.**, Pasham, D., Coughlin, E., et al., 2024, *Delayed X-ray brightening accompanied by variable ionized absorption following a tidal disruption event*, ApJ, 963, 75.

(15) Pasham, D., Tombesi, F., Suková, P., Zajacej., et al. **(incl. Guolo, M.)**, 2024, *A case for a binary black hole system revealed via quasi-periodic outflows*, Science Advances, 10, 13.

(14) Pasham, D., Zajacek, M., Nixon, C., Coughlin, E., et al. **(incl. Guolo, M.)**, 2024, *Lense-Thirring Precession after a Supermassive Black Hole Disrupts a Star*, Nature, 630, 325.

(13) Somalwar, J., Ravi, V., Yao, Y., **Guolo, M.**, et al., 2023, *The first systematically identified repeating partial tidal disruption event*, submitted to ApJ, arXiv:2310.03782.

(12) Yao, Y., Lu, W., Harrison, F., Kulkarni, S., et al. **(incl. Guolo, M.)**, 2023, *The On-axis Jetted Tidal Disruption Event AT2022cmc: X-ray Observations and Broadband Spectral Modeling*, ApJ, 965, 39.

(11) Roxburgh, H., Ridden-Harper, R., Lane, Z., Rest, A., et al. **(incl. Guolo, M.)**, 2023, *A Comprehensive Investigation of Gamma-Ray Burst Afterglows Detected by TESS*, ApJ, 963, 89.

(10) Zeltyn, G., Trakhtenbrot, B., Eracleous, M., Yang, Q., et al. **(incl. Guolo, M.)**, 2024, *Exploring Changing-look Active Galactic Nuclei with the Sloan Digital Sky Survey V: First Year Results*, ApJ, 966, 85.

(9) Wang, Y., Pasham, D., Altamirano, D., Gurpide, A., et al. **(incl. Guolo, M.)**, 2024, *Rapid dimming followed by a state transition: a study of the highly variable nuclear transient AT 2019avd over 1000+ days*, ApJ, 962, 78.

(8) Jacobson-Galán, W., Dessart, L., Margutti, R., Chornock, R., et al. **(incl. Guolo, M.)**, 2023, *SN 2023ixf in Messier 101: Photo-ionization of Dense, Close-in Circumstellar Material in a Nearby Type II Supernova*, ApJL, 954, 2.

(7) Jencson, J., Pearson, J., Beasor, E., Lau, R., et al. **(incl. Guolo, M.)**, 2023, *A Luminous Red Supergiant and Dusty Long-period Variable Progenitor for SN 2023ixf*, ApJL, 952, 2.

(6) Pasham, D., Lucchini, M., Laskar, T., Gompertz, B., et al. **(incl. Guolo, M.)**, 2023, *The Birth of a Relativistic Jet Following the Disruption of a Star by a Cosmological Black Hole*, Nature Astronomy, 7, 88.

(5) Wevers, T., Coughlin, E., Pasham, D., **Guolo, M.**, et al., 2023, *Live to Die Another Day: The Rebrightening of AT 2018fyk as a Repeating Partial Tidal Disruption Event*, ApJL, 942, 2.

(4) Zeltyn, G., Trakhtenbrot, B., Eracleous, M., Runnoe, J., et al. **(incl. Guolo, M.)**, 2023, *A Transient "Changing-look" Active Galactic Nucleus Resolved on Month Timescales from First-year Sloan Digital Sky Survey V Data*, ApJL, 939, 1.

(3) Wang, Y., Baldi, R., del Palacio, S., **Guolo, M.**, et al., 2023, *The radio detection and accretion properties of the peculiar nuclear transient AT 2019avd*, MNRAS, 520, 2.

(2) Masterson, M., Kara, E., Pasham, D., D'Orazio, D., et al. **(incl. Guolo, M.)**, 2023, *Unusual Hard X-Ray Flares Caught in NICER Monitoring of the Binary Supermassive Black Hole Candidate AT2019cuk/Tick Tock/SDSS J1430+2303*, ApJL, 945, 2.

(1) Wevers, T., Nicholl, M., **Guolo, M.**, Charalampopoulos, P., et al., 2022, *An elliptical accretion disk following the tidal disruption event AT 2020zso*, A&A, 666, A6.

INVITED/SOLICITED CONFERENCE TALKS

06/2025	X-ray Quasi-Periodic Eruptions & Repeating Nuclear Transients, Madrid, Spain
04/2024	Anticipating the Rising Tide of Tidal Disruption Events, Santa Barbara, CA, USA

CONTRIBUTED CONFERENCE TALKS

09/2024	Galactic and Extragalactic X-ray Transients, Theory and Observations, Warsaw, Poland
09/2024	Tidal Disruption Events and Nuclear Transients: Entering the Data-Rich Era, Crete, Greece
04/2024	21st Meeting of the High energy Astrophysics Division, Horseshoe Bay, TX, USA
06/2023	The Transient and Variable Universe Conference, Urbana, IL, USA

SEMINARS

06/2025	High-energy Group Seminars, University of Oxford, UK.
09/2024	Lunch Talk, Leiden Observatory, Leiden, Netherlands
04/2023	NuSTAR Science Group Meeting, Caltech, Pasadena, CA, USA
04/2023	Time-Domain Astronomy Group Meeting, Caltech, Pasadena, CA, USA

SERVICES

Journal Referee	Nature Astronomy, A&A, A&A Letters, ApJ, ApJ Letters

PROFESSIONAL REFERENCES

Prof. Suvi Gezari
Astronomy Professor
University of Maryland, US

Dr. Andrew Mummery
Long-Term Fellow
Institute for Advanced Studies, US

Prof. Matt Nicholl
Reader in Astrophysics
Queen's University Belfast, UK

Prof. Sjoert van Velzen
Astronomy Professor
University of Leiden, Netherlands

Prof. Adam Ingram
Senior Lecturer in Astrophysics
Newcastle University, UK

Prof. Timothy Heckman
Hermann Pfund Professor
Johns Hopkins University, US