# 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 (remote) — 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: $\sim$ **$415k**

- *XMM-Newton* AO 24: two GO, totaling 336ks (**$TBD**)
- *XMM-Newton* AO 23: three GO, totaling 566ks (**$202k**)
- *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: 830. 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*, Accepted (arXiv:2501.03333).

(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*, arXiv:2501.03335.

(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

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| 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

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| 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

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| 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

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

## PROFESSIONAL REFERENCES

**Dr. Suvi Gezari**
Tenured Associated Astronomer
Space Telescope Science Institute, 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. Roberto Cid Fernandes**
Professor of Physics
Federal University of Santa Catarina, Brazil

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