

# Muryel Guolo

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## RESEARCH INTERESTS

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

## EDUCATION AND APPOINTMENTS

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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.

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Total funding obtained as PI:  $\sim$  **\$338k**

- *XMM-Newton* AO 24: two GO, totaling 336ks
- *XMM-Newton* AO 23: three GO, totaling 566ks (**\$202k**)
- *XMM-Newton* AO 22: two DDT, totaling 120ks
- *NICER* Cycle 6: two GO, totaling 426ks
- *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

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- **As first author: 6** ([ADS Library](#))
- Total: 32 ([ADS Library](#))
- Citations: 634. h-index: 15.

### First Author Publications

- (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*, [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., 2023, *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

- (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) 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](#).
- (21) 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.
- (20) 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.
- (19) 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.
- (18) 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.
- (17) 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.
- (16) Pasham, D., Tombesi, F., Suková, P., Zajač, ., et al. (**incl. Guolo, M.**), 2024, *A case for a binary black hole system revealed via quasi-periodic outflows*, [Science Advances](#), **10**, 13.
- (15) 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.
- (14) Ajay, Y., Pasham, D., Wevers, T., Coughlin, E., et al. (**incl. Guolo, M.**), 2024, *Episodic X-ray Outflows from the Tidal Disruption Event ASASSN-14li*, submitted to [ApJL](#), [arXiv:2401.12908](#).
- (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., Gorpide, 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 CONFERENCE TALKS

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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 Letters, ApJ Letters

## PROFESSIONAL REFERENCES

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### Dr. Suvi Gezari

Associate Astronomer  
 Chair of the Science Staff  
 Space Telescope Science Institute  
 Baltimore, USA

### Prof. Timothy Heckman

Hermann Pfund Professor  
 Johns Hopkins University  
 Baltimore, USA

### Prof. Matt Nicholl

Reader in Astrophysics  
 Queen’s University Belfast  
 Belfast, Northern Ireland

### Dr. Andrew Mummery

Leverhulme-Peierls Fellow  
 Oxford University  
 Oxford, England

### Prof. Roberto Cid Fernandes

Professor of Physics  
 Federal University of Santa Catarina  
 Florianópolis, Brazil