Erica Hammerstein

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RESEARCH INTERESTS

Time domain astronomy; Sky surveys; Multi-wavelength discovery, classification, and characterization of astrophysical transients, particularly black hole-related transients; Studies of tidal disruption events and their host galaxies; Accretion and jet physics; Supermassive black hole and host galaxy connections

EDUCATION

Ph.D., Astronomy, University of Maryland, College Park — 2024

Thesis: *Population Studies of Tidal Disruption Events and their Hosts: Understanding Host Galaxy Preferences & the Origin of the UV/Optical Emission*

Advisors: Brad Cenko and Sylvain Veilleux

M.S., Astronomy, University of Maryland, College Park — 2020

Advisor: Suvi Gezari

B.S., Astronomy, University of Michigan, Ann Arbor — 2018

RESEARCH EXPERIENCE

Postdoctoral Scholar, University of California, Berkeley	September 2024 – present
Postdoctoral Associate, University of Maryland/GSFC	June 2024 – September 2024
Graduate Research Assistant, University of Maryland/GSFC	2019 – 2024
REU Research Assistant, Wayne State University	Summer 2017
Undergraduate Research Assistant, University of Michigan	2016 – 2018
UROP Research Assistant, University of Michigan	2015 – 2016

PUBLICATIONS

- Total publications (including submitted) / **as first author**: 39 / **6**
- Citations: >1,900 / >**265**
- h-index: 19 / **3**
- 58/36 TNS Classification Reports/AstroNotes, 10 GCN Circulars, 3 ATels

First Author Publications

[6] **Hammerstein, E.**, Cenko, S. B., Andreoni, I., et al. (2025), arXiv, arXiv:2506.08250. (in review)
The Jetted Tidal Disruption Event AT2022cmc: Investigating Connections to the Optical Tidal Disruption Event Population and Spectral Subclasses Through Late-Time Follow-up

[5] **Hammerstein, E.**, Cenko, S. B., Gezari, S., et al. (2023), ApJ, 957, 86.
Integral Field Spectroscopy of 13 Tidal Disruption Event Hosts from the Zwicky Transient Facility Survey

[4] **Hammerstein, E.**, van Velzen, S., Gezari, S., et al. (2023), ApJ, 942, 9.
The Final Season Reimagined: 30 Tidal Disruption Events from the ZTF-I Survey

[3] **Hammerstein, E.**, Gezari, S., van Velzen, S., et al. (2021), ApJL, 908, L20.
Tidal Disruption Event Hosts Are Green and Centrally Concentrated: Signatures of a Post-merger System

[2] **Hammerstein, E.**, Gültekin, K., & King, A. (2019), ApJ, 875, 82.
Probing the Jet Turnover Frequency Dependence on Black Hole Mass and Mass Accretion Rate

[1] **Hammerstein, E. K.**, Cackett, E. M., Reynolds, M. T., et al. (2018), MNRAS, 478, 4317.
Constraining the inclination of the low-mass X-ray binary Cen X-4

Co-Author Publications

[31] Sfaradi, I., Margutti, R., Chornock, R., et al. (2025), arXiv, arXiv:2508.03807.
The First Radio-Bright Off-Nuclear TDE 2024tvd Reveals the Fastest-Evolving Double-Peaked Radio Emission

[30] LeBaron, N., Margutti, R., Chornock, R., et al. (2025), arXiv, arXiv:2509.00951.
The Most Luminous Known Fast Blue Optical Transient AT 2024wpp: Unprecedented Evolution and Properties in the Ultraviolet to the Near-Infrared

[29] Yao, Y., Alexander, K. D., Lu, W., et al. (2025), arXiv, arXiv:2507.06453.
Optically Overluminous Tidal Disruption Events: Outflow Properties and Implications for Extremely Relativistic Disruptions

[28] Onori, F., Nicholl, M., Ramsden, P., et al. (2025), MNRAS, 540, 498.
The case of AT2022wtn: a tidal disruption event in an interacting galaxy

[27] Somalwar, J. J., Ravi, V., Yao, Y., et al. (2025), ApJ, 985, 175.
The First Systematically Identified Repeating Partial Tidal Disruption Event

[26] Yao, Y., Chornock, R., Ward, C., et al. (2025), ApJL, 985, L48.
A Massive Black Hole 0.8 kpc from the Host Nucleus Revealed by the Offset Tidal Disruption Event AT2024tvd

[25] Somalwar, J. J., Ravi, V., Margutti, R., et al. (2025), arXiv, arXiv:2505.11597.
A luminous and hot infrared through X-ray transient at a 5 kpc offset from a dwarf galaxy

[24] Somalwar, J. J., Ravi, V., Dong, D. Z., et al. (2025), ApJ, 982, 163.
VLASS Tidal Disruption Events with Optical Flares. I. The Sample and a Comparison to Optically Selected TDEs

[23] Das, K. K., Kasliwal, M. M., Fremling, C., et al. (2025), PASP, 137, 044203.
Low-luminosity Type IIP Supernovae from the Zwicky Transient Facility Census of the Local Universe. I. Luminosity Function, Volumetric Rate

[22] O'Connor, B., Pasham, D., Andreoni, I., et al. (2025), ApJL, 979, L30.
Characterization of a Peculiar Einstein Probe Transient EP240408a: An Exotic Gamma-Ray Burst or an Abnormal Jetted Tidal Disruption Event?

[21] Yao, Y., Guolo, M., Tombesi, F., et al. (2024), ApJ, 976, 34.
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

[20] Veres, P. M., Franckowiak, A., van Velzen, S., et al. (2024), arXiv, arXiv:2408.17419.
Back from the dead: AT2019aalc as a candidate repeating TDE in an AGN
[19] Das, K. K., Fremling, C., Kasliwal, M. M., et al. (2024), ApJL, 969, L11.
SN 2023zaw: An Ultrastripped, Nickel-poor Supernova from a Low-mass Progenitor
[18] Guolo, M., Gezari, S., Yao, Y., et al. (2024), ApJ, 966, 160.
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
[17] Stein, R., Mahabal, A., Reusch, S., et al. (2024), ApJL, 965, L14.
tdescore: An Accurate Photometric Classifier for Tidal Disruption Events
[16] Ward, C., Gezari, S., Nugent, P., et al. (2024), ApJ, 961, 172.
Panic at the ISCO: Time-varying Double-peaked Broad Lines from Evolving Accretion Disks Are Common among Optically Variable AGNs
[15] Srinivasaragavan, G. P., Swain, V., O'Connor, B., et al. (2024), ApJL, 960, L18.
Characterizing the Ordinary Broad-line Type Ic SN 2023pel from the Energetic GRB 230812B
[14] Mummery, A., van Velzen, S., Nathan, E., et al. (2024), MNRAS, 527, 2452.
Fundamental scaling relationships revealed in the optical light curves of tidal disruption events
[13] Dodd, S. A., Nukala, A., Connor, I., et al. (2023), ApJL, 959, L19.
Mid-infrared Outbursts in Nearby Galaxies: Nuclear Obscuration and Connections to Hidden Tidal Disruption Events and Changing-look Active Galactic Nuclei
[12] Ghosh, R., Laha, S., Meyer, E., et al. (2023), ApJ, 955, 3.
A Reemerging Bright Soft X-Ray State of the Changing-look Active Galactic Nucleus 1ES 1927+654: A Multiwavelength View
[11] Yao, Y., Ravi, V., Gezari, S., et al. (2023), ApJL, 955, L6.
Tidal Disruption Event Demographics with the Zwicky Transient Facility: Volumetric Rates, Luminosity Function, and Implications for the Local Black Hole Mass Function
[10] Srinivasaragavan, G. P., O'Connor, B., Cenko, S. B., et al. (2023), ApJL, 949, L39.
A Sensitive Search for Supernova Emission Associated with the Extremely Energetic and Nearby GRB 221009A
[9] O'Connor, B., Troja, E., Ryan, G., et al. (2023), SciA, 9, eadi1405.
A structured jet explains the extreme GRB 221009A
[8] Andreoni, I., Coughlin, M. W., Perley, D. A., et al. (2022), Nature, 612, 430.
A very luminous jet from the disruption of a star by a massive black hole
[7] Yao, Y., Lu, W., Guolo, M., et al. (2022), ApJ, 937, 8.
The Tidal Disruption Event AT2021ehb: Evidence of Relativistic Disk Reflection, and Rapid Evolution of the Disk-Corona System
[6] Goodwin, A. J., van Velzen, S., Miller-Jones, J. C. A., et al. (2022), MNRAS, 511, 5328.
AT2019azh: an unusually long-lived, radio-bright thermal tidal disruption event
[5] Frederick, S., Gezari, S., Graham, M. J., et al. (2021), ApJ, 920, 56.
A Family Tree of Optical Transients from Narrow-line Seyfert 1 Galaxies
[4] Ahumada, T., Singer, L. P., Anand, S., et al. (2021), NatAs, 5, 917.
Discovery and confirmation of the shortest gamma-ray burst from a collapsar
[3] Ward, C., Gezari, S., Frederick, S., et al. (2021), ApJ, 913, 102.
AGNs on the Move: A Search for Off-nuclear AGNs from Recoiling Supermassive Black Holes and Ongoing Galaxy Mergers with the Zwicky Transient Facility

[2] Stein, R., van Velzen, S., Kowalski, M., et al. (2021), NatAs, 5, 510.
A tidal disruption event coincident with a high-energy neutrino
[1] van Velzen, S., Gezari, S., **Hammerstein, E.**, et al. (2021), ApJ, 908, 4.
Seventeen Tidal Disruption Events from the First Half of ZTF Survey Observations: Entering a New Era of Population Studies

Other Works (Encyclopedias & White Papers)

[2] Mockler B., Coughlin E., **Hammerstein E.**, Nicholl M.
Tidal disruption events, Encyclopedia of Astrophysics, 1st Edition, Elsevier (in preparation)
[1] Miller, A. A., Abrams, N. S., Aldering, G., et al. (2025), arXiv, arXiv:2503.14579.
The La Silla Schmidt Southern Survey

PROPOSALS (**as PI***)

STIS, *HST*	**Cycle 33***: 30 orbits (3 ToOs)
KCWI, Keck-II Telescope	2025B (PI: Chornock): 1 night 2021B (PI: Gezari): 1 night
Swift Observatory	**Cycle 21***: 230ks / 40k USD
Kast, Shane Telescope	**2025A***: 6 ToOs, **2025B***: 6 ToOs
DeVeny/LMI, Lowell Discovery Telescope	**2022B***: 5 nights, **2023A***: 5 nights, **2023B***: 6 nights, **2024A***: 5 nights, **2024B***: 1.5 nights
SED machine (SEDM), P60	**2021 – 2023***: 70 hours
XRT/UVOT, *Swift*	24 ToO requests, 100 ksec

OBSERVING EXPERIENCE

Keck-I Telescope, Keck Observatory	3+ nights
Low Resolution Imaging Spectrometer (LRIS)	
Shane Telescope, Lick Observatory	12+ nights
Kast spectrograph	
Keck-II Telescope, Keck Observatory	2 nights
Keck Cosmic Web Imager (KCWI)	
Lowell Discovery Telescope (LDT), Lowell Observatory	40+ nights
DeVeny optical spectrograph	
Large Monolithic Imager (LMI)	
2.4-m Hiltner Telescope, MDM Observatory	3 nights
Ohio State Multi-Object Spectrograph (OSMOS)	

SELECTED TALKS

Invited Lecture	Rutgers Summer Transient Soiree	2025
Contributed Talk	Celebrating 20 Years of Swift Discoveries	2025

Invited Seminar	Stanford/KITP Compact Objects Group Meeting	2025
Invited Talk	KITP TDE Conference	2024
Dissertation Talk	243rd AAS Meeting, New Orleans, Louisiana	2024
Invited Seminar	Multi-messenger Seminar, Carnegie Mellon University	2023
Invited Talk	Lowell Discovery Telescope Partners' meeting, virtual	2023
Invited Seminar	Galaxy/AGN Journal Club, STScI/JHU	2023
Invited Seminar	Galread, Princeton University	2023
Contributed Talk	DMV Astrophysics Graduate Student Conference	2023
Invited Seminar	Data Analysis Seminar, George Washington University	2023
Contributed Talk	241st AAS Meeting, Seattle, Washington	2023
Contributed Talk	Lowell Discovery Telescope Partners' meeting, virtual	2022
Invited Talk	Workshop on Supermassive Black Holes, Cornell University	2022
Contributed Talks	ZTF Team meetings in Chicago, Paris, and virtual	2020 – 2022
Invited Seminar	CIERA Observational Astronomy Lunch, Northwestern	2022
Contributed Talk	240th AAS Meeting, Pasadena, California	2022
Invited Seminar	CGCA Seminar, University of Wisconsin – Milwaukee	2022

LEADERSHIP, **AWARDS**, & PROFESSIONAL SERVICE

Journal Referee, AAS Journals	
Journal Referee, MNRAS	
4th NASA TDAMM Workshop SOC	2025
Colloquium Committee (UCB)	2025
NOIRLab TAC Panelist	2025
NSF Review Panelist	2025
Departmental Awards Panel (UMD)	2024
Department of Astronomy Faculty Search Committee (UMD)	2023 – 2024
Department of Astronomy Service Award (UMD)	2023
UMD CMNS Dean's Graduate Advisory Council	2022 – 2025
Astronomy Graduate Council Representative (UMD)	2021 – 2025
Department of Astronomy FAMILE[1] Search Committee (UMD)	2022 – 2023
Astronomy Graduate Council Vice President (UMD)	2021 – 2023
Graduate Admissions Interviewer (UMD)	2020 – 2023
Department of Astronomy Chair Review Committee (UMD)	2021 – 2022
Prospective Graduate Student Visit Coordinator (UMD)	2019 – 2021
Gemini Fast Turnaround Proposal Reviewer	2021

TEACHING, MENTORING, & OUTREACH

Astronomy on Tap East Bay Coordinator	2025 – present
POWER Bay Area Mentor	2025
Science in the Park Volunteer, Cal State East Bay	2024

[1] https://faculty.umd.edu/famile-initiative

UMD Space Science Outreach Cooperative Volunteer	2023 – 2024
Skype a Scientist Volunteer	2019 – 2024
Volunteer Classroom Outreach Coordinator/Educator	2017 – 2023
St. Michael School, Livonia, MI	
Maryland Day Volunteer	2022
Lowell Observatory Live Stream Talk	2022
GRAD-MAP Winter Workshop Research Mentor	2019, 2021
GROWTH Summer School TA	2021
GRAD-MAP Python bootcamp TA	2019
TA for ASTR101	Fall 2018, Spring 2019

PRESS COVERAGE

AAS Nova highlight of my study of 30 TDEs published in ApJ	2023/01

AFFILIATIONS + COLLABORATIONS

American Astronomical Society Member
Zwicky Transient Facility Collaboration / TDE + AGN Science Working Group
Rubin Observatory Transients and Variable Stars Collaboration
La Silla Southern Sky Survey Massive Black Hole Working Group