Joseph Alexander GUIDRY

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SUMMARY

I am a Ph.D. candidate and former NSF Graduate Research Fellow at the Institute for Astrophysical Research in the Department of Astronomy at Boston University (Aug. 2021 – present). I work in the BU White Dwarf Group under the supervision of Prof. JJ Hermes. I intend to defend my PhD dissertation in Summer 2026 and then begin a career in elementary education.

RESEARCH INTERESTS

WHITE DWARF STARS	remnant planetary systems | pulsating white dwarfs | magnetic white dwarfs
VARIABLE STARS	time-domain surveys | time-series astronomy | transiting systems
SOFTWARE DEVELOPMENT	open source software | data reduction and processing | time-series analysis

EDUCATION

BOSTON UNIVERSITY *August 2021 – present (expected graduation July 2026)*

PhD Student, Department of Astronomy
PhD Candidacy, M.A. Astronomy earned April 2024
Cumulative GPA: 3.83/4.00

UNIVERSITY OF TEXAS AT AUSTIN *August 2017 – May 2021*

B.S. Astronomy (with Honors)
B.S. Physics
Cumulative GPA: 3.76/4.00

PUBLICATIONS

An ADS query of my publications can be accessed here. I hold an h-index of 8 with 296 citations, as of January 9, 2026.

FIRST-AUTHORED REFEREED PUBLICATIONS

1. **Guidry, J. A.** & Vanderbosch, Z. P., Hermes, J. J., et al. 2025, *ApJ*, 992, 167.
   Transiting Planetary Debris near the Roche Limit of a White Dwarf on a 4.97-hr Orbit–and its Vanishing
2. **Guidry, J. A.**, Hermes, J. J., De, K., et al. 2024, *ApJ*, 972, 126.
   Using 3.4-μm Variability towards White Dwarfs as a Signpost of Remnant Planetary Systems.
3. **Guidry, J. A.**, Vanderbosch, Z. P., Hermes, J. J., et al. 2021, *ApJ*, 912, 125.
   I Spy Transits and Pulsations: Empirical Variability in White Dwarfs Using Gaia and the Zwicky Transient Facility.

REFEREED PUBLICATIONS AS CONTRIBUTING AUTHOR

1. Ould Rouis, L. B., Hermes, J. J., **Guidry, J. A.**, et al. 2026, accepted to ApJ, arXiv:2602.02670.
   White Dwarf Merger Remnants with Cooling Delays on the Q Branch Lack Strong Magnetism.
2. Bhattacharjee, S., Vanderbosch, Z., ..., **Guidry, J. A.** (author 6/16), et al. 2025, *PASP*, 137, 074202.
   A ZTF Search for Circumstellar Debris Transits in White Dwarfs: Six New Candidates, One with Gas Disk Emission, Identified in a Novel Metric Space.
3. Hermes, J. J., **Guidry, J. A.**, et al. 2025, *ApJ*, 980, 56.
   Sporadic Dips from Extended Debris Transiting the Metal-rich White Dwarf SBSS 1232+563.
4. Steen, M., Hermes, J. J., **Guidry, J. A.**, et al. 2024, *ApJ*, 967, 166.
   Measuring White Dwarf Variability from Sparsely Sampled Gaia DR3 Multi-epoch Photometry.

5. Farihi, J., Hermes, J. J., Marsh, T. R., ..., **Guidry, J. A.** (author 6/14), et al. 2022, *MNRAS*, 511, 1647. *Relentless and complex transits from a planetesimal debris disc.*
6. Vanderbosch, Z. P., Rappaport, S., **Guidry, J. A.**, et al. 2021, *ApJ*, 917, 41. *Recurring Planetary Debris Transits and Circumstellar Gas around White Dwarf ZTF J0328-1219.*
7. Kupfer, T., Prince, T. A., van Roestel, J., ..., **Guidry, J. A.** (author 18/21), et al. 2021, *MNRAS*, 505, 1254. *Year 1 of the ZTF high-cadence Galactic plane survey: strategy, goals, and early results on new single-mode hot subdwarf B-star pulsators.*

Refereed Publications Acknowledged in

1. Bhattacharjee, S. 2025, *PASP*, 137, 114204.
2. Ould Rouis, L. B., et al. 2024, *ApJ*, 976, 156.

Conference Abstracts

1. Extreme Solar Systems V: **Guidry, J.**, Hermes, J. J., Vanderbosch, Z. P. 2024, Poster 612.01. *Transiting Planetary Debris around White Dwarfs: New Discoveries and Emerging Dichotomies*
2. 237th American Astronomical Society Meeting: **Guidry, J. A.**, Vanderbosch, Z. P., Hermes, J. J., et al. 2021, AAS. *I Spy Variability and Transits: Detecting Variable White Dwarfs Using Gaia and Zwicky Transient Facility Photometry Variability Metrics*

Outreach Publications

1. Astrobites Guest Submission: *UR: I Spy Transits and Pulsations – Empirical Variability in White Dwarfs Using Gaia and the Zwicky Transient Facility*.

Work Experience

Teaching Fellow *January 2026 – present | Boston University*

• Taught lab portions AS 203, Principles of Astronomy II for majors, spring 2026 course at Boston University (instructor Prof. Elizabeth Blanton).

Research Fellow *May 2022 – December 2025 | Boston University*

• Began tenure of NSF Graduate Research Fellowship August 2022.

Teaching Fellow *August 2021 – May 2022 | Boston University*

• Taught lab portions AS 102, The Astronomical Universe for non-majors, spring 2022 course at Boston University (instructor Prof. Jane Luu).

• Taught lab portions AS 202, Principles of Astronomy I for majors, fall 2021 course at Boston University (instructor Prof. Paul Withers).

Freshman Research Initiative Peer Mentor *January 2019 – August 2021 | UT Austin*

Peer Mentor in the FRI White Dwarf Stars stream (PIs: Dr. Mike Montgomery, Prof. Don Winget)

• Served as a mentor to the students of the white dwarf FRI stream by assisting them with their weekly labs and advising them on their research projects. I was trained to employed Socratic methods so that the students led their inquiries.

Observing Experience

James Webb Space Telescope

• Awarded 15.9 hours of Director's Discretionary Time as co-Investigator of program DD #12507.

Hubble Space Telescope

• Awarded 5 orbits as Principal Investigator of HST Cycle 32 Program GO #17789.

Southern Astrophysical Research Telescope (SOAR)

• Awarded 20 hours of AEON time as Principal Investigator via NOIRLab at SOAR during the 2024B semester.

Perkins Telescope Observatory

• Observed 51 nights as PI at Boston University's Perkins Telescope Observatory, Flagstaff, AZ over November 2021–present.

Lowell Discovery Telescope

• Awarded 10 nights as PI on the Lowell Discovery Telescope, Happy Jack, AZ over January 2024–present.

McDonald Observatory

• Observed 23 nights as PI at McDonald Observatory's Otto Struve Telescope, Fort Davis, TX over June 2023–present.

Awards and Fellowships

Awarded Grants

2024 Hubble Space Telescope Cycle 32 Program GO 17789 (PI; 5 orbits; $58.7k)
2022 NASA Exoplanet Research Program No. 80NSSC23K1068 (Co-I; PI: Hermes; $383.7k)

Personal Honors

2022	NSF Graduate Research Fellowship Program	National Science Foundation
2021	George H. Mitchell Award (STEM Category)	College of Natural Sciences, UT Austin
2021	Graduate with Distinction in Research	College of Natural Sciences, UT Austin
2021	Graduate with Distinction in Diversity, Equity, & Inclusion	College of Natural Sciences, UT Austin
2020	Outstanding Senior Award	Department of Astronomy, UT Austin
2020	Abel Family Scholarship in Physics	Department of Physics, UT Austin
2020	NSC Endowed Service Scholarship	Natural Sciences Council, UT Austin
2020	Summer Undergraduate Research Fellowship	J. W. Cox Endowment for the Advanced Studies in Astronomy, UT Austin
2019	Melvin J. Rieger Scholarship Fund in Physics	Department of Physics, UT Austin
2019	C. M. & J. C. Thompson Scholarship in Physics	Department of Physics, UT Austin
2019	CNS Second Year Excellence Award	College of Natural Sciences, UT Austin
2018	Dr. H. Franklyn Alexander Endowed Scholarship	College of Natural Sciences, UT Austin
2018	TIDES FRI Summer Research Fellowship	Texas Institute for Discovery Education in Science, UT Austin

Conference and Workshop Participation

Contributed Talks

1. **Boston Area Planetary Science Meeting**, The Dynamics of Transiting Debris Disks at White Dwarfs, Boston, January 2026
2. **EUROWD24: 23rd European Workshop on White Dwarfs**, Using Mid-Infrared Variability towards White Dwarfs as a Signpost of Remnant Planetary Systems, Barcelona, July 2024
3. **ZTF 5th Science Meeting**, The Nascent Class of White Dwarfs Showing Transits from Exoplanetary Debris, Caltech, October 2023
4. **KITP Conference: White Dwarfs from Physics to Astrophysics**, Characterizing the Orbital Periods of Transiting Planetary Debris around White Dwarfs, KITP-University of California, Santa Barbara, November 2022
5. **EUROWD22: 22nd European Workshop on White Dwarfs**, Characterizing the Orbital Periods of Transiting Planetary Debris around White Dwarfs, University of Tübingen, August 2022

Research Posters Presented

1. **EUROWD24**, Transiting Planetary Debris around White Dwarfs: New Discoveries and Emerging Dichotomies, July 2024, Barcelona, Spain
2. **Undergraduate Research Forum**, Searching for Color Changes During Outburst, April 2020, Austin, TX
3. **Frank N. Bash Symposium**, Searching for Color Changes During Outburst, October 2019, Austin, TX
4. **TASC5/KASC12**, Searching for Color Changes During Outburst, July 2019, Cambridge, MA

Conferences and Workshops Attended

- TESS Science Conference III, July 2024
- ZTF Summer School, August 2021
- Code/Astro 2021, June 2021

Other Presentations

Invited Talks

- Exoplanet Pizza Lunch, *Periodic and Vanishing Planetary Debris Transits at a White Dwarf*, Center for Astrophysics, Harvard University, February 2025
- Institute for Theory and Computation Luncheon, *Ancient Planetesimals Colliding around White Dwarfs*, Center for Astrophysics, Harvard University, April 2023
- Exoplanet Pizza Lunch, *Characterizing the Orbital Periods of Transiting Planetary Debris around White Dwarfs*, Center for Astrophysics, Harvard University, September 2022

Outreach Talks

1. **North Shore Amateur Astronomy Club**, *Can the oldest stars in the Galaxy reveal the fate of the Solar System?*, September 2023, Boxford, MA
2. **BU Astronomical Society**, *Probing the Orbital Dynamics of Remnant Planetary Systems Using Autocorrelation*, February 2022, Boston University

Labor Panels

1. Panelist at the Boston Labor Conference 2025, March 2025, Boston, MA.
2. Panelist for UT Austin Center for Media Engagement: Higher Ed Strikes & Workers' Rights: Improving News Coverage of Labor Issues, February 2023.

Other Service

Boston University Graduate Workers Union (BUGWU)

1. **Department Steward**, January 2025–present
2. **Bargaining Team Member**, June 2023–October 2024
3. **Union Representative** for the Astronomy Department, August 2022–December 2022

Skills

Programming Languages	***Experienced:*** Python | ***Familiar:*** IRAF | ***Learning:*** Julia
Software Development	Git | PyPI
Frameworks & Libraries	Jupyter | Matplotlib | Numpy | Pandas | Astropy | Photutils | PyCUDA
Languages	***Native:*** English ***Beginner:*** French, Spanish

References

Prof. JJ Hermes	Boston University (jjhermes@bu.edu)
Dr. Zachary Vanderbosch	McDonald Observatory (zachary.vanderbosch@austin.utexas.edu)
Prof. Paul Withers	Boston University (withers@bu.edu)
Prof. Phil Muirhead	Boston University (philipm@bu.edu)