

JJ Hermes

Assistant Professor of Astronomy, Boston University

<http://jjherm.es>

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Professional Appointments

- Assistant Professor, Department of Astronomy, **Boston University**, 2019–
- NASA Hubble Fellow, **University of North Carolina at Chapel Hill**, 2015–2018
- ERC Postdoctoral Research Fellow, **University of Warwick**, 2013–2015
- Reporter, **The Chronicle of Higher Education**, 2007–2008

Education

- **University of Texas at Austin**, Ph.D., August 2013
- **University of Texas at Austin**, B.S. Physics, B.A. Astronomy, May 2007

Professional Service

Leadership & Advisory Roles

- Survey Scientist, Milky Way Mapper, SDSS-V, 2024–
- BU Member Representative, Association of Universities for Research in Astronomy (AURA), 2022–
- Member, Zwicky Transient Facility II Community Science Advisory Committee, 2020–
- External Participant, SDSS-V, 2020–
- Steering Committee, *TESS* Asteroseismology Consortium (TASC), 2017–
- Co-Chair, *TESS* Asteroseismology Consortium (TASC) Working Group 8 (Compact Objects), 2017–
- Deputy Chair, K2 Users Panel, 2016–2019

Conference Organizing Committees

- Co-Chair, Scientific Organizing Committee, 25th European Workshop on WDs, Vienna, 2026 August
- Member, Scientific Organizing Committee, *TESS* Science Conference III, Boston, MA, 2024 July
- Member, Scientific Organizing Committee, 24th European Workshop on WDs, Barcelona, 2024 July
- Member, Scientific Organizing Committee, *TESS* Science Conference II, Boston, MA, 2021 August
- Chair, Scientific Organizing Committee, TASC5/KASC12 Workshop, Boston, MA, 2019 July
- Co-Chair, Scientific Organizing Committee, *Kepler* / K2 Science Conference V, Glendale, CA, 2019 March
- Member, Scientific Organizing Committee, *Kepler* / K2 Science Conference IV, NASA Ames, 2017 June

Peer Review

- NASA ADAP & XRP Review Panelist; NSF AAG & GRFP Review Panelist; STFC Reviewer
- NASA Keck Telescope Allocation Committee, 2020–2022
- Panelist, *Chandra* TAC (Cycle 20); Panelist, *HST* TAC (Cycles 25, 29 & 30)
- Journal referee for *Nature*, *The Astrophysical Journal*, *MNRAS*, *Science Advances*, and *A&A*

Recent External Research Support

- 2024, *TESS* Cycle 7 GI Proposal, **PI, \$70,000**: “Ultra-High-Speed Observations of WDs in *TESS* Cycle 7”
- 2024, *HST* Cycle 32 #17698 & #17789, Admin-PI, **\$211,175**: “NUV observations of WD transiting debris”
- 2023, *TESS* Cycle 6 GI Proposal, **PI, \$70,000**: “Ultra-High-Speed Observations of WDs in *TESS* Cycle 6”
- 2023, *HST* Cycle 31 #17420, Co-I, **\$53,694**: “A legacy survey for evolved planetary systems”
- 2022, NASA XRP22, **PI, \$383,681**: “The still-perilous fate of exoplanets that survive stellar evolution”
- 2021, *HST* Cycle 29 #16642 & #16719, Co-I, **\$90,771**: “A legacy survey for evolved planetary systems”
- 2021, *TESS* Cycle 4 GI Proposal, **PI, \$70,000**: “High-Speed Observations of White Dwarfs in *TESS* Cycle 4”
- 2019, *HST* Cycle 26 #15871 & #15915, Co-I, **\$22,824**: UV properties of supernova survivors
- 2019, *TESS* Cycle 2 GI Proposal, **PI, \$50,000**: “White Dwarf Variability in the Ecliptic North”
- 2019, NSF AAG, Co-PI, **\$428,031**: “Collaborative Research: The Coeval Degenerates Survey”
- 2018, *TESS* Cycle 1 GI Proposal, **PI, \$50,000**: “White Dwarf Variability in the Ecliptic South”
- 2018, K2 Cycle 6 GO Proposal, **PI, \$50,000**: “K2 Observations of Variable WDs in Fields 17, 18 and 19”
- 2016, *HST* Cycle 24 #14691, **PI, \$61,962**: “Unraveling the oscillations of the richest pulsating WD”

Summary of Awarded Telescope Time

- Hubble Space Telescope: COS, STIS [11 orbits (PI) + 103 orbits (co-I, GO) + 657 orbits (co-I, SNAP)]
- James Webb Space Telescope (JWST): MIRI [6.33 hr (co-I), Cycle 3]
- 4.3-m Lowell Discovery Telescope (LDT): Deveny [44 nights (PI), 2021-2025]
- 1.8-m Perkins Telescope Observatory (PTO): PRISM [146 nights (PI), 2019-2025]
- 4.1-m SOAR Telescope, via NOIRLab: Goodman [21 nights (PI), 2016-2025]
- 10-m Keck Telescope, via NASA: HIRESb [3 nights (co-I), 2022A-2022B]
- 8-m Very Large Telescope (VLT): UVES, FORS2 [23 hr (PI), 2013-2016]
- 4.2-m William Herschel Telescope: ISIS, ultracam [4 nights (PI), 2014]
- 3.6-m New Technology Telescope (NTT): EFOSC2 [4 nights (PI), 2015]
- 2.5-m Isaac Newton Telescope (INT): IDS [13 nights (PI), 2014-2015]
- 2.1-m Otto Struve, McDonald Observatory: Argos [101 nights (PI), 2012-2015]

Invited Talks (Additional Contributed Talks Online: speakerdeck.com/jjhermes)

Colloquia:

- UC Berkeley (2024-10-10)
- Caltech (2023-11-08)
- UMass Amherst (2023-03-30)
- Rutgers (2022-09-22)
- Pitt/CMU (2022-04-18)
- MIT (2021-10-19)
- Aarhus University (2021-03-11)
- STScI / Johns Hopkins (2020-02-19)
- IfA / U. Hawaii (2018-05-16)
- NRAO / U. Virginia (2017-11-09)
- University of Texas at Austin (2017-10-31)
- The Ohio State University (2017-10-19)
- Louisiana State University (2016-10-21)
- University of Montreal (2016-04-07)
- University of Toronto (2016-04-01)
- University of Washington (2013-10-31)

Invited Reviews:

- KITP Workshop; Santa Barbara, CA (2022-11)
- 5th TASC Workshop; Leuven, Belgium (2022-07)
- Maria Mitchell Obs.; Nantucket, MA (2021-06)
- Hydrogen Deficient Stars; Armagh, UK (2018-09-11)
- PHysics of Oscillating STars; France (2018-09-05)
- 10th KASC Workshop; Birmingham, UK (2017-07-18)
- Rotation, pulsation & chemical peculiarities in stars; Windermere, Cumbria, UK (2016-09-14)
- Sociedade Astronômica Brasileira, Ribeirão Preto, Brazil (2016-08-31)
- K2 SciCon; Santa Barbara, CA (2015-11-03)
- 8th KASC Workshop; Aarhus, Denmark (2015-06-15)
- RAS Specialist Meeting on Asteroseismology, London, UK (2015-05-08)
- 6th KASC Workshop; Sydney, Australia (2013-06-27)
- Planets Around Stellar Remnants; Arecibo, Puerto Rico (2012-01-24)

Selected Press Coverage

- 8.9-hr Rotation in the Partly Burnt Runaway Stellar Remnant LP 40-365 ([Hermes et al. 2021](#))
[LiveScience](#): Runaway star caught streaking across Milky Way at 2 million mph — in wrong direction
- A class of partly burnt runaway supernovae remnants ([Raddi et al. 2019](#))
[Scientific American](#): Zombie Stars Shine On after Mystery Detonations
- Core crystallization and pile-up in the cooling sequence of white dwarfs ([Tremblay et al. 2019](#))
[Los Angeles Times](#): One day our sun will solidify into a giant crystal orb
- Confirmation of outbursts in the coolest pulsating white dwarfs ([Hermes et al. 2015b](#))
[Sky & Telescope](#): White Dwarf Stars with Hiccups
- Discovery of the most massive pulsating white dwarf, GD 518 ([Hermes et al. 2013c](#))
[Astronomy Magazine](#): Astronomers discover pulsations from crystalized dying star
- The first indirect detection of gravitational waves using visible light ([Hermes et al. 2012c](#))
[Nature](#): Stellar duo tests Einstein's theory
[BBC News](#): Gravitational waves spotted from white-dwarf pair

JJ Hermes: Publications

20 first-author refereed publications, 155 other-author refereed publications

Refereed citations: 5950 Total refereed citations of first-author publications: 1003
h-index: 45 (as of August 12, 2025)

Noteworthy publications (directly supervised students underlined):

1. ["White Dwarf Rotation as a Function of Mass and a Dichotomy of Mode Line Widths: Kepler Observations of 27 Pulsating DA White Dwarfs through K2 Campaign 8,"](#) **Hermes, J. J.**, Gänsicke, B. T., Kawaler, S. D., Greiss, S., Tremblay, P.-E., Gentile Fusillo, N. P., Raddi, R., Fanale, S. M., Bell, K. J., Dennihy, E., Fuchs, J. T., Dunlap, B. H., Clemens, J. C., Montgomery, M. H., Winget, D. E., Chote, P., Marsh, T. R., & Redfield, S., 2017, *ApJS*, 232, 23.
2. ["A White Dwarf with Transiting Circumstellar Material Far outside the Roche Limit,"](#) Vanderbosch, Z., **Hermes, J. J.**, Dennihy, E., Dunlap, B. H., Izquierdo, P., Tremblay, P. E., Cho, P. B., Gänsicke, B. T., Toloza, O., Bell, K. J., Montgomery, M. H., & Winget, D. E., 2020, *ApJ*, 897, 171.
3. ["I Spy Transits and Pulsations: Empirical Variability in White Dwarfs Using Gaia and the Zwicky Transient Facility,"](#) Guidry, Joseph A., Vanderbosch, Zachary P., **Hermes, J. J.**, Barlow, B. N., Lopez, Isaac D., Boudreaux, T. M., Corcoran, K. A., Bell, K. J., Montgomery, M. H., Heintz, Tyler M., Castanheira, B. G., Reding, Joshua S., Dunlap, B. H., Winget, D. E., Winget, K. I., & Kuehne, J. W., 2021, *ApJ*, 912, 125.
4. ["Relentless and complex transits from a planetesimal debris disc,"](#) Farihi, J., **Hermes, J. J.**, Marsh, T. R., Mustill, A. J., Wyatt, M. C., Guidry, J. A., Wilson, T. G., Redfield, S., Izquierdo, P., Toloza, O., Gänsicke, B. T., Aungwerojwit, A., Kaewmanee, C., Dhillon, V. S., & Swan, A., 2022, *MNRAS*, 511, 1647.
5. ["Sporadic Dips from Extended Debris Transiting the Metal-rich White Dwarf SBSS 1232+563,"](#) **Hermes, J. J.**, Guidry, Joseph A., Vanderbosch, Z. P., Badenas-Agusti, M., Xu, S., Kao, M. L., Rodriguez, A. C., & Hawkins, K., 2025, *ApJ*, 980, 56.
6. ["Constraints on Remnant Planetary Systems as a Function of Main-sequence Mass with HST/COS,"](#) Ould Rouis, Lou Baya, **Hermes, J. J.**, Gänsicke, B. T., Sahu, S., Koester, D., Tremblay, P. E., Veras, D., Farihi, J., Heintz, Tyler M., Gentile Fusillo, N. P., & Redfield, S., 2024, *ApJ*, 976, 156.
7. ["Partly burnt runaway stellar remnants from peculiar thermonuclear supernovae,"](#) Raddi, R., Hollands, M. A., Koester, D., **Hermes, J. J.**, Gänsicke, B. T., Heber, U., Shen, K. J., Townsley, D. M., Pala, A. F., & Reding, J. S., 2019, *MNRAS*, 1623.
8. ["8.9 hr Rotation in the Partly Burnt Runaway Stellar Remnant LP 40-365 \(GD 492\),"](#) **Hermes, J. J.**, Putterman, Odelia, Hollands, M. A., Wilson, D. J., Swan, A., Raddi, R., Shen, K. J., & Gänsicke, B. T., 2021, *ApJ*, 914, L3.
9. ["Testing White Dwarf Age Estimates Using Wide Double White Dwarf Binaries from Gaia EDR3,"](#) Heintz, Tyler M., **Hermes, J. J.**, El-Badry, K., Walsh, Charlie, van Saders, J. L., Fields, C. E., & Koester, D., 2022, *ApJ*, 934, 148.
10. ["A Test of Spectroscopic Age Estimates of White Dwarfs Using Wide WD+WD Binaries,"](#) Heintz, Tyler M., **Hermes, J. J.**, Tremblay, P. E., Ould Rouis, Lou Baya, Reding, J. S., Kaiser, B. C., & van Saders, J. L., 2024, *ApJ*, 969, 68.
11. ["Rapid Orbital Decay in the 12.75-minute Binary White Dwarf J0651+2844,"](#) **Hermes, J. J.**, Kilic, M., Brown, W. R., Winget, D. E., Allende Prieto, C., Gianninas, A., Mukadam, A. S., Cabrera-Lavers, A., & Kenyon, S. J., 2012c, *ApJ*, 757, L21.

Teaching, Advising, and Outreach

- **AS 102**, “The Astronomical Universe,” Boston University, Spr 2019, Spr 2020
- **AS 105**, “Alien Worlds,” Boston University, Fall 2019, Fall 2020, Fall 2021, Fall 2025
- **AS 441**, “Observational Astronomy,” Boston University, Spr 2022, Spr 2023, Spr 2024, Spr 2025
- **AS 709**, “Observational Techniques,” Boston University, Fall 2023
- **AS 850**, “Astrophysics Seminar,” Boston University, Fall 2020, Spr 2021
- **AST 152M**, “Stellar Astronomy Lab,” UT-Austin, Fall 2010
- **Supervision** of research led by graduate students Ben Roulston (BU & CfA, defended 2022, now Asst. Prof. at Clarkson University), Tyler Heintz (BU, defended 2024), Lou Baya Ould Rouis (BU, NASA FINESST, ongoing), Joseph Guidry (BU, NSF GRFP, ongoing), Stefan Arseneau (BU, ongoing), Ciarra Coston (BU, ongoing) & Isaac Lopez (BU, 2019, now at Iowa State); ongoing undergraduates Reuben Dsouza (BU), Ariyana Bonab (2025 IAR Prize, BU); past undergraduates Bryce Badgett (NCAT), Raul Lama (BU), Brock Ewing (BU), Alex Thornton (BU), Madison VanWyngarden (Goldwater Scholar, USRA Distinguished Undergraduate Award, BU), Jay LoMonaco (BU), Maya Steen (2023 IAR Prize, BU, now NMSU), Corinna Peña (Butler, now U. Utah), Annabelle Paiva (BU), Odelia Putterman (Goldwater Scholar, BU), Alex Granados (Wellesley, now Minnesota), Huyongqing Chen (BU), & Kera Regan-Byrne (BU); high school students Filippo Nicolai (now BU), Charlie Walsh (now U. Chicago), Ben Rosenthal (now Yale) & Melissa Rivera (now Northeastern)
- **Co-supervision** of research led by graduate students Zach Vanderbosch (UT-Austin, defended 2021) and Josh Reding (UNC, defended 2022); undergraduates Joseph Guidry (UT-Austin, 2021), Stephen Fanale (UNC, 2017), Brandon Castillo (UNC, 2018), and George Miller (UT-Austin, 2011)
- **Outreach talks:** Exploring the Cosmos, joint with Katie Mack, JMP Statistically Speaking Event (2022 January); Maria Mitchell Observatory Science Speaker Series (2021 June); KITP Teachers’ Conference: White Dwarfs as Cosmic Labs (2021 March); Maria Mitchell Observatory Science Speaker Series (2020 July); Astronomy on Tap Boston (2020 March); Amateur Telescope Makers of Boston (2019 October); Galloway Ridge Retirement Community, Pittsboro, NC (2018 June); Holly Springs High School, Holly Springs, NC (2018 March); Staunton River Star Party, Staunton, VA (2017 October); CHAOS Astronomical and Observational Society, Chapel Hill, NC (2016 March); *Astronomy Days*, North Carolina Museum of Natural Sciences, Raleigh, NC (2016-2018 January); National Space Academy, Leicester, UK (2013 November); Elm Grove Elementary School, Austin, TX (2011 April)
- **Founding organizer and host:** Astronomy on Tap Triangle (<https://twitter.com/aottriangle>), a monthly outreach event at Fullsteam Brewery, Durham, NC
- **Advisory board:** Inclusive Astronomy, an affinity group and outreach organization aimed to provide an organized structure for underrepresented people within the Department of Astronomy at BU

Awards and Distinctions

- 2024, 2019: **Scialog Fellow**, Research Corporation for the Advancement of Science
- 2015: **Hubble Fellowship**, 2015-18
- 2015: **65th Lindau Nobel Laureate Meeting**, selected as participating young scientist
- 2013: **David Benfield Memorial Fellowship in Astronomy**, UT-Austin
- 2012: **Fred T. Goetting, Jr. Memorial Endowed Presidential Fellowship**, UT-Austin

Contact Information:

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