

JJ Hermes

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Employment

- **Hubble Fellow**, University of North Carolina at Chapel Hill, 2015–
- **ERC Postdoctoral Research Fellow**, University of Warwick, 2013–2015
- **Research/Teaching Assistant**, University of Texas at Austin, 2008–2013
- **Reporter**, The Chronicle of Higher Education, 2007–2008
- **Editor-in-Chief**, The Daily Texan, 2006–2007

Education

- **University of Texas at Austin**, Ph.D. Astronomy, August 2013
Dissertation: “Gravitational Waves, Pulsations, and More: High-Speed Photometry of Low-Mass, Helium-Core White Dwarfs” Co-Advisors: [Don Winget](#) & [Mike Montgomery](#)
- **University of Texas at Austin**, M.A. Astronomy, August 2010
Thesis: “A Search for Planetary Companions in Pulsation Arrival Times of White Dwarfs”
- **University of Texas at Austin**, B.S. Physics, B.A. Astronomy, May 2007

Fellowships and Awards

- 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

Professional Service

- Panelist, *HST* Cycle 25 TAC, 2017 June
- Co-Chair, *TESS* Asteroseismology Consortium Working Group 8 (Compact Pulsators), 2017–
- Deputy Chair, *K2* Users Panel, 2016–
- Scientific Organizing Committee, *Kepler* and *K2* Science Conference IV, NASA Ames, 2017 June 19-24
- Journal referee for *Science Advances*, *The Astrophysical Journal*, *MNRAS*, and *A&A*

Selected Successful Telescope Proposals

- 2017, 342 short-cadence targets, *K2* Fields 1 – 16, *Kepler* Space Telescope [**PI**, 20 GO programs]
- 2017, 145 orbits, Cycle 25, *Hubble* Space Telescope: COS [Co-I, Programs 15072 & 15073]
- 2016, 6 orbits, Cycle 24, *Hubble* Space Telescope: COS [**PI**, Program 14691]
- 2016, 5 nights NOAO, 4.1 m SOAR telescope: Goodman spectroscopy [**PI**, 2017A-0212]
- 2016, 6.25 hr, 9.8 m Southern African Large Telescope: RSS [**PI**, 2016-2-SCI-030]
- 2016, 5.5 hr, 9.8 m Southern African Large Telescope: SALTICAM [**PI**, 2016-1-SCI-017]
- 2015, 5 hr, 8 m Very Large Telescope: UVES [**PI**, ESO 095.D-0409]
- 2015, 3 hr, 8 m Gemini North Telescope: GMOS-N [**PI**, GN-2015B-FT-29]
- 2015, 4 nights, 3.6 m New Technology Telescope: EFOSC2 [**PI**, ESO 095.D-0406]
- 2015, 8 nights, 2.5 m Isaac Newton Telescope: IDS [**PI**, I/2015A/P04]
- 2014, 5 nights, 2.5 m Isaac Newton Telescope: IDS [**PI**, I/2014B/P06]
- 2014, 2 nights, 4.2 m William Herschel Telescope: ISIS [**PI**, W/2014A/P14]
- 2014, 2 nights, 4.2 m William Herschel Telescope: ULTRACAM [**PI**, W/2014A/P15]
- 2013, 19 orbits, Cycle 21, *Hubble* Space Telescope: COS [Co-I, Programs 13430 & 13319]
- 2013, 2.7 hr, 8 m Very Large Telescope: FORS2 [**PI**, ESO 093.D-0300(B)]
- 2012, 101 nights, 2.1 m Telescope, McDonald Observatory: Argos high-speed photometry [**PI**]

External Research Support

- 2017, K2 Cycle 5 GO Proposal, **PI, \$50,000**: “K2 Observations of Variable WDs in Fields 14, 15 and 16”
- 2017, HST Cycle 24 #14912, Co-I, **\$5,085**: “High-precision asteroseismology of the accreting white dwarf in GW Lib through simultaneous HST and K2 observations”
- 2016, HST Cycle 24 #14691, **PI, \$61,962**: “Unraveling the oscillations of the richest DAV”
- 2016, K2 Cycle 4 GO Proposal, **PI, \$50,000**: “K2 Observations of Variable WDs in Fields 11, 12 and 13”
- 2015, Hubble Fellowship, **\$348,157**: “Breaking New Ground: Measuring Interiors in the Stellar Graveyard”
- 2015, HST Cycle 23 #14076, Co-I, **\$12,273**: “A legacy UV spectroscopic survey of the 13pc WD sample”
- 2013, National Science Foundation, Co-Author, **\$694,152**: “Collaborative Proposal: The ELM Survey, Short Period Binary WDs as SNe Progenitors, Gravitational Wave Sources, and Probes of Extreme Stellar Evolution”
- 2013, Kepler Cycle 5 GO Proposal, Co-I, **\$43,695**: “Kepler’s Active DAV”
- 2012, Kepler Cycle 4 GO Proposal, Co-I, **\$81,040**: “Kepler’s Unique DAV”
- 2011, UT-Austin, Longhorn Innovation for Teaching Grant, Co-PI, **\$74,090**: “Reaching Undergraduates with Research: Remote Observing on a 36” Telescope”

Selected Presentations (All Presentations Online at speakerdeck.com/jjhermes)

- “Watching Stellar Evolution All the Way to the Closing Credits,” STARS2016 Conference (*invited talk*), Windermere, Lake District, UK, 2016 September
- “Gravitational Waves from Ultracompact Binaries,” Annual Meeting, Sociedade Astronômica Brasileira (*invited talk*), Ribeirão Preto, Brazil, 2016 August
- “Rogue Waves on Pulsating White Dwarfs,” Colloquium, University of Toronto, 2016 April
- “Pulsating white dwarfs in Kepler and K2,” KASC8/TASC1 Workshop (*invited talk*), University of Aarhus, Denmark, 2015 June
- “Compact objects in compact binaries: The extremely low-mass white dwarfs,” Colloquium, University of Washington, 2013 October
- “The extremely low-mass, He-core pulsating white dwarfs,” 8th Workshop of the Whole Earth Telescope (*invited talk*), Beijing, China, 2013 March
- “Orbital decay from gravitational radiation in a 12.75-min WD+WD binary,” Solar, Stellar, and Planetary Sciences Division Seminar, Harvard-Smithsonian Center for Astrophysics, 2012 October
- “Eight years on: A search for planets around isolated white dwarfs,” Planets Around Stellar Remnants, Arecibo, Puerto Rico (*invited talk*), 2012 January

Press Coverage

- The fastest rotating white dwarf is the most massive ([Hermes et al. 2017c](#))
[AAS Nova](#): Rapid Rotation of a Heavy White Dwarf
- Confirmation of outbursts in the coolest pulsating white dwarfs ([Hermes et al. 2015b](#))
[Daily Mail](#): Dying stars suffer ‘irregular heartbeats’
- The cleanest 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
[Scientific American](#): White Dwarf Binary Stars Make Merger Plans
[SPIE Newsroom](#): 12.75-minute binary evidences gravitational waves in visible-light observations
- Discovery of the most massive pulsating white dwarf, GD 518 ([Hermes et al. 2013c](#))
[Astronomy Magazine](#): Astronomers discover pulsations from crystalized dying star
- Discovery of the 12.75-minute WD+WD binary J0651+2844 ([Brown et al. 2011](#))
[National Geographic](#): “Death Dance” Stars Found — May Help Prove Einstein Right

JJ Hermes: Publications

First-Author Refereed Publications

18. [“Observations of the First 27 Pulsating DA White Dwarfs from Kepler Reveal a Dichotomy of Mode Linewidths and Bulk Rotation Periods,”](#) **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., 2017c, ApJS, submitted.
17. [“Evidence from K2 for Rapid Rotation in the Descendant of an Intermediate-mass Star,”](#) **Hermes, J. J.**, Kawaler, S. D., Romero, A. D., Kepler, S. O., Tremblay, P.-E., Bell, K. J., Dunlap, B. H., Montgomery, M. H., Gänsicke, B. T., Clemens, J. C., Dennihy, E., & Redfield, S., 2017d, ApJ, 841, L2.
16. [“When flux standards go wild: white dwarfs in the age of Kepler,”](#) **Hermes, J. J.**, Gänsicke, B. T., Gentile Fusillo, N. P., Raddi, R., Hollands, M. A., Dennihy, E., Fuchs, J. T., & Redfield, S., 2017b, MNRAS, 468, 1946.
15. [“A Deep Test of Radial Differential Rotation in a Helium-atmosphere White Dwarf. I. Discovery of Pulsations in PG 0112+104,”](#) **Hermes, J. J.**, Kawaler, S. D., Bischoff-Kim, A., Provencal, J. L., Dunlap, B. H., & Clemens, J. C., 2017, ApJ, 835, 277.
14. [“The search for ZZ Ceti stars in the original Kepler mission,”](#) Greiss, S., **Hermes, J. J.**, Gänsicke, B. T., Steeghs, D. T. H., Bell, K. J., Raddi, R., Tremblay, P.-E., Breedt, E., Ramsay, G., Koester, D., Carter, P. J., Vanderbosch, Z., Winget, D. E., & Winget, K. I., 2016, MNRAS, 457, 2855.
13. [“A Second Case of Outbursts in a Pulsating White Dwarf Observed by Kepler,”](#) **Hermes, J. J.**, Montgomery, M. H., Bell, K. J., Chote, P., Gänsicke, B. T., Kawaler, S. D., Clemens, J. C., Dunlap, B. H., Winget, D. E., & Armstrong, D. J., 2015c, ApJ, 810, L5.
12. [“Insights into internal effects of common-envelope evolution using the extended Kepler mission,”](#) **Hermes, J. J.**, Gänsicke, B. T., Bischoff-Kim, A., Kawaler, S. D., Fuchs, J. T., Dunlap, B. H., Clemens, J. C., Montgomery, M. H., Chote, P., Barclay, T., Marsh, T. R., Gianninas, A., Koester, D., Winget, D. E., Armstrong, D. J., Rebassa-Mansergas, A., & Schreiber, M. R., 2015a, MNRAS, 451, 1701.
11. [“Heavy metals in a light white dwarf: abundances of the metal-rich, extremely low-mass GALEX J1717+6757,”](#) **Hermes, J. J.**, Gänsicke, B. T., Koester, D., Bours, M. C. P., Townsley, D. M., Farihi, J., Marsh, T. R., Littlefair, S., Dhillon, V. S., Gianninas, A., Breedt, E., & Raddi, R., 2014c, MNRAS, 444, 1674.
10. [“Radius Constraints from High-speed Photometry of 20 Low-mass White Dwarf Binaries,”](#) **Hermes, J. J.**, Brown, W. R., Kilic, M., Gianninas, A., Chote, P., Sullivan, D. J., Winget, D. E., Bell, K. J., Falcon, R. E., Winget, K. I., Mason, P. A., Harrold, S. T., & Montgomery, M. H., 2014b, ApJ, 792, 39.
9. [“Precision Asteroseismology of the Pulsating White Dwarf GD 1212 Using a Two-wheel-controlled Kepler Spacecraft,”](#) **Hermes, J. J.**, Charpinet, S., Barclay, T., Pakštienė, E., Mullally, F., Kawaler, S. D., Bloemen, S., Castanheira, B. G., Winget, D. E., Montgomery, M. H., Van Grootel, V., Huber, D., Still, M., Howell, S. B., Caldwell, D. A., Haas, M. R., & Bryson, S. T., 2014a, ApJ, 789, 85.
8. [“A new class of pulsating white dwarf of extremely low mass: the fourth and fifth members,”](#) **Hermes, J. J.**, Montgomery, M. H., Gianninas, A., Winget, D. E., Brown, W. R., Harrold, S. T., Bell, K. J., Kenyon, S. J., Kilic, M., & Castanheira, B. G., 2013d, MNRAS, 436, 3573.

7. *"Discovery of an Ultramassive Pulsating White Dwarf,"* **Hermes, J. J.**, Kepler, S. O., Castanheira, B. G., Gianninas, A., Winget, D. E., Montgomery, M. H., Brown, W. R., & Harrold, S. T., 2013c, ApJ, 771, L2.
6. *"A New Timescale for Period Change in the Pulsating DA White Dwarf WD 0111+0018,"* **Hermes, J. J.**, Montgomery, M. H., Mullally, F., Winget, D. E., & Bischoff-Kim, A., 2013b, ApJ, 766, 42.
5. *"Discovery of Pulsations, Including Possible Pressure Modes, in Two New Extremely Low Mass, He-core White Dwarfs,"* **Hermes, J. J.**, Montgomery, M. H., Winget, D. E., Brown, W. R., Gianninas, A., Kilic, M., Kenyon, S. J., Bell, K. J., & Harrold, S. T., 2013a, ApJ, 765, 102.
4. *"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.
3. *"SDSS J184037.78+642312.3: The First Pulsating Extremely Low Mass White Dwarf,"* **Hermes, J. J.**, Montgomery, M. H., Winget, D. E., Brown, W. R., Kilic, M., & Kenyon, S. J., 2012b, ApJ, 750, L28.
2. *"Two New Tidally Distorted White Dwarfs,"* **Hermes, J. J.**, Kilic, M., Brown, W. R., Montgomery, M. H., & Winget, D. E., 2012a, ApJ, 749, 42.
1. *"Discovery of a ZZ Ceti in the Kepler Mission Field,"* **Hermes, J. J.**, Mullally, F., Østensen, R. H., Williams, K. A., Telting, J., Southworth, J., Bloemen, S., Howell, S. B., Everett, M., & Winget, D. E., 2011, ApJ, 741, L16.

Other-Author Refereed Publications

41. *"Two white dwarfs in ultrashort binaries with detached, eclipsing, likely sub-stellar companions detected by K2,"* Parsons, S. G., **Hermes, J. J.**, Marsh, T. R., Gänsicke, B. T., Tremblay, P.-E., Littlefair, S. P., Sahman, D. I., Ashley, R. P., Green, M., Rattanasoon, S., Dhillon, V. S., Burleigh, M. R., Casewell, S. L., Buckley, D. A. H., Braker, I. P., Irawati, P., Dennihy, E., Rodríguez-Gil, P., Winget, D. E., Winget, K. I., Bell, K. J., & Kilic, M., 2017b, MNRAS, 471, 976.
40. *"Testing the white dwarf mass-radius relationship with eclipsing binaries,"* Parsons, S. G., Gänsicke, B. T., Marsh, T. R., Ashley, R. P., Bours, M. C. P., Breedt, E., Burleigh, M. R., Copperwheat, C. M., Dhillon, V. S., Green, M., Hardy, L. K., **Hermes, J. J.**, Irawati, P., Kerry, P., Littlefair, S. P., McAllister, M. J., Rattanasoon, S., Rebassa-Mansergas, A., Sahman, D. I., & Schreiber, M. R., 2017a, MNRAS, 470, 4473.
39. *"A catalogue of white dwarf candidates in VST ATLAS,"* Gentile Fusillo, N. P., Raddi, R., Gänsicke, B. T., **Hermes, J. J.**, Pala, A. F., Fuchs, J. T., Chehade, B., Metcalfe, N., & Shanks, T., 2017, MNRAS, 469, 621.
38. *"Using large spectroscopic surveys to test the double degenerate model for Type Ia supernovae,"* Breedt, E., Steeghs, D., Marsh, T. R., Gentile Fusillo, N. P., Tremblay, P.-E., Green, M., De Pasquale, S., **Hermes, J. J.**, Gänsicke, B. T., Parsons, S. G., Bours, M. C. P., Longa-Peña, P., & Rebassa-Mansergas, A., 2017, MNRAS, 468, 2910.
37. *"Pruning The ELM Survey: Characterizing Candidate Low-mass White Dwarfs through Photometric Variability,"* Bell, K. J., Gianninas, A., **Hermes, J. J.**, Winget, D. E., Kilic, M., Montgomery, M. H., Castanheira, B. G., Vanderbosch, Z., Winget, K. I., & Brown, W. R., 2017a, ApJ, 835, 180.

36. *“SDSS J105754.25+275947.5: a period-bounce eclipsing cataclysmic variable with the lowest-mass donor yet measured,”* McAllister, M. J., Littlefair, S. P., Dhillon, V. S., Marsh, T. R., Gänsicke, B. T., Bochinski, J., Bours, M. C. P., Breedt, E., Hardy, L. K., **Hermes, J. J.**, Kengkriangkrai, S., Kerry, P., Parsons, S. G., & Rattanasoon, S., 2017b, ArXiv e-prints.
35. *“Using Gaussian processes to model light curves in the presence of flickering: the eclipsing cataclysmic variable ASASSN-14ag,”* McAllister, M. J., Littlefair, S. P., Dhillon, V. S., Marsh, T. R., Ashley, R. P., Bours, M. C. P., Breedt, E., Hardy, L. K., **Hermes, J. J.**, Kengkriangkrai, S., Kerry, P., Rattanasoon, S., & Sahman, D. I., 2017a, MNRAS, 464, 1353.
34. *“Outbursts in Two New Cool Pulsating DA White Dwarfs,”* Bell, K. J., **Hermes, J. J.**, Montgomery, M. H., Gentile Fusillo, N. P., Raddi, R., Gänsicke, B. T., Winget, D. E., Denny, E., Gianninas, A., Tremblay, P.-E., Chote, P., & Winget, K. I., 2016, ApJ, 829, 82.
33. *“Long-term eclipse timing of white dwarf binaries: an observational hint of a magnetic mechanism at work,”* Bours, M. C. P., Marsh, T. R., Parsons, S. G., Dhillon, V. S., Ashley, R. P., Bento, J. P., Breedt, E., Butterley, T., Caceres, C., Chote, P., Copperwheat, C. M., Hardy, L. K., **Hermes, J. J.**, Irawati, P., Kerry, P., Kilkenny, D., Littlefair, S. P., McAllister, M. J., Rattanasoon, S., Sahman, D. I., Vučković, M., & Wilson, R. W., 2016, MNRAS, 460, 3873.
32. *“GW Librae: a unique laboratory for pulsations in an accreting white dwarf,”* Toloza, O., Gänsicke, B. T., **Hermes, J. J.**, Townsley, D. M., Schreiber, M. R., Szkody, P., Pala, A., Beuermann, K., Bildsten, L., Breedt, E., Cook, M., Godon, P., Henden, A. A., Hubeny, I., Knigge, C., Long, K. S., Marsh, T. R., de Martino, D., Mukadam, A. S., Myers, G., Nelson, P., Oksanen, A., Patterson, J., Sion, E. M., & Zorotovic, M., 2016, MNRAS, 459, 3929.
31. *“Constraining the Angular Momentum Evolution of V455 Andromedae,”* Mukadam, A. S., Pyrzas, S., Townsley, D. M., Gänsicke, B. T., **Hermes, J. J.**, Szkody, P., Kemp, J., Patterson, J., Ding, C., Wolf, K., Gemma, M., Karamehmetoglu, E., & Rock, J., 2016, ApJ, 821, 14.
30. *“A search for white dwarfs in the Galactic plane: the field and the open cluster population,”* Raddi, R., Catalán, S., Gänsicke, B. T., **Hermes, J. J.**, Napiwotzki, R., Koester, D., Tremblay, P.-E., Barentsen, G., Farnhill, H. J., Mohr-Smith, M., Drew, J. E., Groot, P. J., Guzman-Ramirez, L., Parker, Q. A., Steeghs, D., & Zijlstra, A., 2016, MNRAS, 457, 1988.
29. *“A large, long-lived structure near the trojan L5 point in the post common-envelope binary SDSS J1021+1744,”* Irawati, P., Richichi, A., Bours, M. C. P., Marsh, T. R., Sanguansak, N., Chanthorn, K., **Hermes, J. J.**, Hardy, L. K., Parsons, S. G., Dhillon, V. S., & Littlefair, S. P., 2016, MNRAS, 456, 2446.
28. *“A Dark Spot on a Massive White Dwarf,”* Kilic, M., Gianninas, A., Bell, K. J., Curd, B., Brown, W. R., **Hermes, J. J.**, Dufour, P., Wisniewski, J. P., Winget, D. E., & Winget, K. I., 2015a, ApJ, 814, L31.
27. *“A search for variable white dwarfs in large-area time-domain surveys: a pilot study in SDSS Stripe 82,”* Pietro Gentile Fusillo, N., **Hermes, J. J.**, & Gänsicke, B. T., 2016, MNRAS, 455, 2295.
26. *“3D Model Atmospheres for Extremely Low-mass White Dwarfs,”* Tremblay, P.-E., Gianninas, A., Kilic, M., Ludwig, H.-G., Steffen, M., Freytag, B., & **Hermes, J. J.**, 2015, ApJ, 809, 148.
25. *“KIC 4552982: Outbursts and Asteroseismology from the Longest Pseudo-continuous Light Curve of a ZZ Ceti,”* Bell, K. J., **Hermes, J. J.**, Bischoff-Kim, A., Moorhead, S., Montgomery, M. H., Østensen, R., Castanheira, B. G., & Winget, D. E., 2015, ApJ, 809, 14.
24. *“A double white dwarf with a paradoxical origin?,”* Bours, M. C. P., Marsh, T. R., Gänsicke, B. T., Tauris, T. M., Istrate, A. G., Badenes, C., Dhillon, V. S., Gal-Yam, A., **Hermes, J. J.**, Kengkriangkrai, S., Kilic, M., Koester, D., Mullally, F., Prasert, N., Steeghs, D., Thompson, S. E., & Thorstensen, J. R., 2015, MNRAS, 450, 3966.

23. *"Likely detection of water-rich asteroid debris in a metal-polluted white dwarf,"* Raddi, R., Gänsicke, B. T., Koester, D., Farihi, J., **Hermes, J. J.**, Scaringi, S., Breedt, E., & Girven, J., 2015, MNRAS, 450, 2083.
22. *"Discovery of ZZ Ceti in detached white dwarf plus main-sequence binaries,"* Pyrzas, S., Gänsicke, B. T., **Hermes, J. J.**, Copperwheat, C. M., Rebassa-Mansergas, A., Dhillon, V. S., Littlefair, S. P., Marsh, T. R., Parsons, S. G., Savoury, C. D. J., Schreiber, M. R., Barros, S. C. C., Bento, J., Breedt, E., & Kerry, P., 2015, MNRAS, 447, 691.
21. *"PSR J1738+0333: the first millisecond pulsar + pulsating white dwarf binary,"* Kilic, M., **Hermes, J. J.**, Gianninas, A., & Brown, W. R., 2015b, MNRAS, 446, L26.
20. *"Precise Atmospheric Parameters for the Shortest-period Binary White Dwarfs: Gravitational Waves, Metals, and Pulsations,"* Gianninas, A., Dufour, P., Kilic, M., Brown, W. R., Bergeron, P., & **Hermes, J. J.**, 2014b, ApJ, 794, 35.
19. *"Seven-period Asteroseismic Fit of the Kepler DBV,"* Kim, A., Ostensen, R., **Hermes, J. J.**, & Provencal, J., 2014, ApJ, 794, 39.
18. *"A new 20-minute period gravitational wave verification source,"* Kilic, M., Brown, W. R., Gianninas, A., **Hermes, J. J.**, Allende Prieto, C., & Kenyon, S. J., 2014b, MNRAS, 444, L1.
17. *"KIC 11911480: the second ZZ Ceti in the Kepler field,"* Greiss, S., Gänsicke, B. T., **Hermes, J. J.**, Steeghs, D., Koester, D., Ramsay, G., Barclay, T., & Townsley, D. M., 2014, MNRAS, 438, 3086.
16. *"SDSS J074511.56+194926.5: Discovery of a Metal-rich and Tidally Distorted Extremely Low Mass White Dwarf,"* Gianninas, A., **Hermes, J. J.**, Brown, W. R., Dufour, P., Barber, S. D., Kilic, M., Kenyon, S. J., & Harrold, S. T., 2014a, ApJ, 781, 104.
15. *"Found: the progenitors of AM CVn and supernovae Ia,"* Kilic, M., **Hermes, J. J.**, Gianninas, A., Brown, W. R., Heinke, C. O., Agüeros, M. A., Chote, P., Sullivan, D. J., Bell, K. J., & Harrold, S. T., 2014a, MNRAS, 438, L26.
14. *"Enigmatic Recurrent Pulsational Variability of the Accreting White Dwarf EQ Lyn,"* Mukadam, A. S., Townsley, D. M., Szkody, P., Gänsicke, B. T., Southworth, J., Brockett, T., Parsons, S., **Hermes, J. J.**, Montgomery, M. H., Winget, D. E., Harrold, S., Tovmassian, G., Zharikov, S., Drake, A. J., Henden, A., Rodriguez-Gil, P., Sion, E. M., Zola, S., Szymanski, T., Pavlenko, E., Aungwerojwit, A., & Qian, S.-B., 2013b, AJ, 146, 54.
13. *"Measuring the Evolutionary Rate of Cooling of ZZ Ceti,"* Mukadam, A. S., Bischoff-Kim, A., Fraser, O., Córscico, A. H., Montgomery, M. H., Kepler, S. O., Romero, A. D., Winget, D. E., **Hermes, J. J.**, Riecken, T. S., Kronberg, M. E., Winget, K. I., Falcon, R. E., Chandler, D. W., Kuehne, J. W., Sullivan, D. J., Reaves, D., von Hippel, T., Mullally, F., Shipman, H., Thompson, S. E., Silvestri, N. M., & Hynes, R. I., 2013a, ApJ, 771, 17.
12. *"Photometric Variability in a Warm, Strongly Magnetic DQ White Dwarf,"* Williams, K. A., Winget, D. E., Montgomery, M. H., Dufour, P., Kepler, S. O., **Hermes, J. J.**, Falcon, R. E., Winget, K. I., Bolte, M., Rubin, K. H. R., & Liebert, J., 2013, ApJ, 769, 123.
11. *"The seismic properties of low-mass He-core white dwarf stars,"* Córscico, A. H., Romero, A. D., Althaus, L. G., & **Hermes, J. J.**, 2012, A&A, 547, A96.
10. *"Seismic evidence for non-synchronization in two close sdb+dM binaries from Kepler photometry,"* Pablo, H., Kawaler, S. D., Reed, M. D., Bloemen, S., Charpinet, S., Hu, H., Telting, J., Østensen, R. H., Baran, A. S., Green, E. M., **Hermes, J. J.**, Barclay, T., O'Toole, S. J., Mullally, F., Kurtz, D. W., Christensen-Dalsgaard, J., Caldwell, D. A., Christiansen, J. L., & Kinemuchi, K., 2012, MNRAS, 422, 1343.

9. [“Seismology of a Massive Pulsating Hydrogen Atmosphere White Dwarf,”](#) Kepler, S. O., Pelisoli, I., Peçanha, V., Costa, J. E. S., Fraga, L., **Hermes, J. J.**, Winget, D. E., Castanheira, B., Córscico, A. H., Romero, A. D., Althaus, L., Kleinman, S. J., Nitta, A., Koester, D., Külebi, B., Jordan, S., & Kanaan, A., 2012, *ApJ*, 757, 177.
8. [“GALEX and Optical Data on V455 Andromedae at Three Years Post-outburst,”](#) Silvestri, N. M., Szkody, P., Mukadam, A. S., **Hermes, J. J.**, Seibert, M., Schwartz, R. D., & Harpe, E. J., 2012, *AJ*, 144, 84.
7. [“Orbital properties of an unusually low-mass sdB star in a close binary system with a white dwarf,”](#) Silvotti, R., Østensen, R. H., Bloemen, S., Teltng, J. H., Heber, U., Oreiro, R., Reed, M. D., Farris, L. E., O’Toole, S. J., Lanteri, L., Degroote, P., Hu, H., Baran, A. S., **Hermes, J. J.**, Althaus, L. G., Marsh, T. R., Charpinet, S., Li, J., Morris, R. L., & Sanderfer, D. T., 2012, *MNRAS*, 424, 1752.
6. [“HST and Optical Data Reveal White Dwarf Cooling, Spin, and Periodicities in GW Librae 3-4 Years after Outburst,”](#) Szkody, P., Mukadam, A. S., Gänsicke, B. T., Henden, A., Sion, E. M., Townsley, D., Chote, P., Harmer, D., Harpe, E. J., **Hermes, J. J.**, Sullivan, D. J., & Winget, D. E., 2012, *ApJ*, 753, 158.
5. [“SDSS J163030.58+423305.8: a 40-min orbital period detached white dwarf binary,”](#) Kilic, M., Brown, W. R., **Hermes, J. J.**, Allende Prieto, C., Kenyon, S. J., Winget, D. E., & Winget, K. I., 2011b, *MNRAS*, 418, L157.
4. [“A 12 Minute Orbital Period Detached White Dwarf Eclipsing Binary,”](#) Brown, W. R., Kilic, M., **Hermes, J. J.**, Allende Prieto, C., Kenyon, S. J., & Winget, D. E., 2011, *ApJ*, 737, L23.
3. [“The shortest period detached binary white dwarf system,”](#) Kilic, M., Brown, W. R., Kenyon, S. J., Allende Prieto, C., Andrews, J., Kleinman, S. J., Winget, K. I., Winget, D. E., & **Hermes, J. J.**, 2011a, *MNRAS*, 413, L101.
2. [“First Unambiguous Detection of the Return of Pulsations in the Accreting White Dwarf SDSS J074531.92+453829.6 After an Outburst,”](#) Mukadam, A. S., Townsley, D. M., Szkody, P., Gänsicke, B. T., Winget, D. E., **Hermes, J. J.**, Howell, S. B., Teske, J., Patterson, J., Kemp, J., & Armstrong, E., 2011, *ApJ*, 728, L33.
1. [“Two planets orbiting the recently formed post-common envelope binary NN Serpentis,”](#) Beuermann, K., Hessman, F. V., Dreizler, S., Marsh, T. R., Parsons, S. G., Winget, D. E., Miller, G. F., Schreiber, M. R., Kley, W., Dhillon, V. S., Littlefair, S. P., Copperwheat, C. M., & **Hermes, J. J.**, 2010, *A&A*, 521, L60.

Selected Conference Proceedings

11. [“sdA in SDSS DR12 are Overwhelmingly Not Extremely Low-Mass \(ELM\) White Dwarfs,”](#) **Hermes, J. J.**, Gänsicke, B. T., & Breedt, E., 2017a, in 20th European White Dwarf Workshop, P.-E. Tremblay, B. Gänsicke, & T. Marsh, eds., Vol. 509 of *Astronomical Society of the Pacific Conference Series*, 453.
10. [“Seismology of an Ensemble of ZZ Ceti Stars,”](#) Clemens, J. C., O’Brien, P. C., Dunlap, B. H., & **Hermes, J. J.**, 2017, in 20th European White Dwarf Workshop, P.-E. Tremblay, B. Gänsicke, & T. Marsh, eds., Vol. 509 of *Astronomical Society of the Pacific Conference Series*, 255.
9. [“The First Six Outbursting Cool DA White Dwarf Pulsators,”](#) Bell, K. J., **Hermes, J. J.**, Montgomery, M. H., Winget, D. E., Gentile Fusillo, N. P., Raddi, R., & Gänsicke, B. T., 2017b, in 20th European White Dwarf Workshop, P.-E. Tremblay, B. Gänsicke, & T. Marsh, eds., Vol. 509 of *Astronomical Society of the Pacific Conference Series*, 303.

8. [“Stellar Archaeology with Gaia: The Galactic White Dwarf Population,”](#) Gänsicke, B., Tremblay, P., Barstow, M., Bono, G., Burleigh, M., Casewell, S., Dhillon, V., Farihi, J., Garcia-Berro, E., Geier, S., Gentile-Fusillo, N., **Hermes, J. J.**, Hollands, M., Istrate, A., Jordan, S., Knigge, C., Manser, C., Marsh, T., Nelemans, G., Pala, A., Raddi, R., Tauris, T., Toloza, O., Veras, D., Werner, K., & Wilson, D., 2016, in *Multi-Object Spectroscopy in the Next Decade: Big Questions, Large Surveys, and Wide Fields*, I. Skillen, M. Barcells, & S. Trager, eds., Vol. 507 of *Astronomical Society of the Pacific Conference Series*, 159.
7. [“Amplitude Variability as Evidence of Crystallization in GD 518 and Other Massive Pulsating White Dwarfs,”](#) **Hermes, J. J.**, Kepler, S. O., Montgomery, M. H., Gianninas, A., Castanheira, B. G., & Winget, D. E., 2015b, in *19th European Workshop on White Dwarfs*, P. Dufour, P. Bergeron, & G. Fontaine, eds., Vol. 493 of *Astronomical Society of the Pacific Conference Series*, 59.
6. [“GW Lib: a Unique Laboratory for White Dwarf Pulsations,”](#) Toloza, O., Gänsicke, B. T., **Hermes, J. J.**, Townsley, D. M., Szkody, P., Beuermann, K., Bildsten, L., de Martino, D., Godon, P., Henden, A. A., Hubeny, I., Knigge, C., Long, K. S., Marsh, T. R., Patterson, J., Schreiber, M. R., Sion, E. M., & Zorotovic, M., 2015, in *19th European Workshop on White Dwarfs*, P. Dufour, P. Bergeron, & G. Fontaine, eds., Vol. 493 of *Astronomical Society of the Pacific Conference Series*, 253.
5. [“Ultra-Compact Binaries: eLISA Verification Sources,”](#) Kilic, M., Brown, W. R., & **Hermes, J. J.**, 2013, in *Astronomical Society of the Pacific Conference Series*, G. Auger, P. Binétruy, & E. Plagnol, eds., Vol. 467 of *Astronomical Society of the Pacific Conference Series*, 47.
4. [“Return of Pulsations in SDSS 0745+4538,”](#) Mukadam, A. S., Townsley, D. M., Szkody, P., Gänsicke, B. T., Winget, D. E., **Hermes, J. J.**, Howell, S. B., Teske, J., Patterson, J., Kemp, J., & Armstrong, E., 2010, in *American Institute of Physics Conference Series*, K. Werner & T. Rauch, eds., Vol. 1273 of *American Institute of Physics Conference Series*, 520–525.
3. [“Limits of Perturbative Nonlinear Light Curve Analyses: the Case of G117-B15A,”](#) Montgomery, M. H., **Hermes, J. J.**, & Winget, D. E., 2010, in *American Institute of Physics Conference Series*, K. Werner & T. Rauch, eds., Vol. 1273 of *American Institute of Physics Conference Series*, 512–515.
2. [“A Status Report on a Planet Search Around White Dwarf Stars,”](#) **Hermes, J. J.**, Mullally, F., Winget, D. E., Montgomery, M. H., Miller, G. F., & Ellis, J. L., 2010, in *American Institute of Physics Conference Series*, K. Werner & T. Rauch, eds., Vol. 1273 of *American Institute of Physics Conference Series*, 446–449.
1. [“White Dwarfs in the HET Dark Energy Experiment,”](#) Castanheira, B. G., Winget, D. E., Williams, K., Montgomery, M. H., Falcon, R. E., & **Hermes, J. J.**, 2010, in *American Institute of Physics Conference Series*, K. Werner & T. Rauch, eds., Vol. 1273 of *American Institute of Physics Conference Series*, 160–163.

Textbooks

2. [“Timing by Stellar Pulsations as an Exoplanet Discovery Method,”](#) **Hermes, J. J.**, 2017, ArXiv e-prints.
Invited review to appear in ‘*Handbook of Exoplanets*,’ Springer Reference Works, edited by Hans J. Deeg and Juan Antonio Belmonte [Handbook of Exoplanets, 2018, Springer, in press](#)
1. Winget, D. E., **Hermes, J. J.**, Shawl, S. J., Ashman, K., & Hufnagel, B., 2011, *We’re Texas: Astronomy* (Kendall Hunt).
Don Winget and I adapted an astronomy textbook for non-major undergraduates. I contributed a section at the end of each chapter localizing the subject matter to research being done at UT-Austin, and the textbook retails for significantly less than most introductory astronomy texts. [Amazon link](#), ISBN-10: 0757599192

Selected Scientific Interests

White dwarf stars; gravitational wave sources; merging compact binaries; stellar evolution; high-speed photometry; extremely low-mass ($\leq 0.30 M_{\odot}$) white dwarfs; precision determinations of stellar parameters in binary systems; planetary survival around post-main-sequence stars

Teaching and Outreach Experience

- Founding organizer: Astronomy on Tap Triangle (<https://twitter.com/aottriangle>)
- Current mentorship of graduate students Zach Vanderbosch (UT-Austin) & Ben Kaiser (UNC), undergraduate Brandon Castillo, and high school student Ayesha Darekar
- Past mentorship of UNC undergraduate Stephen Fanale, culminating in trip to conference in UK to present research results
- Past mentorship of multiple UT undergraduates (George Miller, Jennifer Ellis, Sean Moorhead, John Pelletier, Arina Rostopchina)
- Outreach talk: CHAOS Chapel Hill Astronomical and Observational Society, 2016 March
- Outreach talks at *Astronomy Days*, North Carolina Museum of Natural Sciences, 2016 & 2017 January
- Outreach talk: National Space Academy careers event, Leicester, UK, 2013 November
- Outreach talks: Elm Grove Elementary School, Austin, TX, 2011 April
- **Instructor** for Hermes's AST 152M (upper-division undergraduate Stellar Astronomy laboratory)
- TA for Winget's AST 301 (undergraduate Introduction to Astronomy course); 6 sections over 4 terms
- TA for Montgomery's AST 210K (undergraduate Freshmen Research Initiative course); 2 terms
- TA for Yoachim's AST 392G (graduate student Observing Techniques course); 1 term
- TA for Gaskell's AST 301 (undergraduate Introduction to Astronomy course); 1 term
- TA for Robinson's AST 301 (undergraduate Introduction to Astronomy course); 1 term

Selected Collaborators

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