

# JJ Hermes

Hubble Fellow, University of North Carolina at Chapel Hill  
<http://jjherm.es> [jjhermes@unc.edu](mailto:jjhermes@unc.edu)

## Employment

- **Assistant Professor of Astronomy**, Boston University, 2019–
- **Hubble Fellow**, University of North Carolina at Chapel Hill, 2015–2018
- **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
- **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

- Co-Chair, Scientific Organizing Committee, *Kepler*/K2 Science Conference V, Glendale, CA, 2019 March
- Chair, Scientific Organizing Committee, TASC5/KASC12 Workshop, Boston, MA, 2019 July
- External Collaborator (Pulsating Compact Objects), Zwicky Transient Factory
- Co-Chair, *TESS* Asteroseismology Consortium (TASC) Working Group 8 (sdBs & WDs), 2017–
- Deputy Chair, K2 Users Panel, 2016–
- Scientific Organizing Committee, 4th TASC Meeting, Aarhus, Denmark, 2018 July 9-13
- Panelist, *HST* Cycle 25 TAC, 2017 June; *Chandra* Cycle 20 TAC, 2018 June
- Scientific Organizing Committee, *Kepler*/K2 Science Conference IV, NASA Ames, 2017 June
- *TESS* Target Selection Working Group, 2016–
- Journal referee for *Science Advances*, *The Astrophysical Journal*, *MNRAS*, and *A&A*

## Selected Successful Telescope Proposals

- 2018, 399 short-cadence targets, K2 Campaigns 1-17, *Kepler* Space Telescope [PI, 6 GO programs]
- 2018, 9 nights NOAO, 4.1-m SOAR telescope: Goodman spectroscopy [PI, 2018A-0188 & 2018B-0138]
- 2017, 150 orbits, Cycle 25, *Hubble* Space Telescope: COS [Co-I, Programs 15072, 15073 & 15431]
- 2017, 8 nights NOAO, 4.1-m SOAR telescope: Goodman spectroscopy [PI, 2017A-0212 & 2017B-0125]
- 2016, 6 orbits, Cycle 24, *Hubble* Space Telescope: COS [PI, Program 14691]
- 2016, 11 hr, 9.8-m Southern African Large Telescope: RSS [PI, 2016-1-SCI-017 & 2016-2-SCI-030]
- 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, 13 nights, 2.5-m Isaac Newton Telescope: IDS [PI, I/2015A/P04, I/2014B/P06]
- 2014, 4 nights, 4.2-m William Herschel Telescope: ISIS/ULTRACAM [PI, 2014A/P14 & 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]
- 2012, 101 nights, 2.1-m Telescope, McDonald Observatory: Argos high-speed photometry [PI]

## External Research Support

- 2018, K2 Cycle 6 GO Proposal, **PI, \$50,000**: “K2 Observations of Variable WDs in Fields 17, 18 and 19”
- 2018, TESS Cycle 1 GI Proposal, **PI, \$50,000**: “White Dwarf Variability in the Ecliptic South”
- 2017, K2 Cycle 5 GO Proposal, **PI, \$50,000**: “K2 Observations of Variable WDs in Fields 14, 15 and 16”
- 2017, HST Cycle 25 #15073, Co-I, **\$59,775**: “Extreme evolved solar systems”
- 2017, HST Cycle 25 #15072, Co-I, **\$10,229**: “Classical novae hibernation: a definitive confirmation”
- 2017, HST Cycle 24 #14912, Co-I, **\$5,085**: “High-precision asteroseismology of GW Lib”
- 2016, HST Cycle 24 #14691, **PI, \$61,962**: “Unraveling the oscillations of the richest pulsating WD”
- 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, Collaborator, **\$468,948**: “Collaborative Proposal: The ELM Survey”
- 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 Longhorn Innovation for Teaching Grant, Co-**PI, \$74,090**: “Remote Undergraduate Observing”

## Invited Talks (Additional Contributed Talks Online: [speakerdeck.com/jjhermes](http://speakerdeck.com/jjhermes))

### Colloquia:

- 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)
- University of Delaware (2017-10-05)
- Louisiana State University (2016-10-21)
- University of Montreal (2016-04-07)
- University of Toronto (2016-04-01)
- Wesleyan University (2016-02-24)
- Keele University (2014-11-19)
- Armagh Observatory (2014-03-13)
- University of Washington (2013-10-31)

### Invited Reviews:

- 10<sup>th</sup> Kepler Asteroseismic Consortium (KASC) Workshop; Birmingham, UK (2017-07-18)
- Rotation, pulsation & chemical peculiarities in stars; Windermere, Cumbria, UK (2016-09-14)
- Annual Meeting, Sociedade Astronômica Brasileira; Ribeirão Preto, Brazil (2016-08-31)
- K2 SciCon; Santa Barbara, CA (2015-11-03)
- 8<sup>th</sup> KASC Workshop; Aarhus, Denmark (2015-06-15)
- RAS Specialist Meeting on Asteroseismology, London, UK (2015-05-08)
- 6<sup>th</sup> KASC Workshop; Sydney, Australia (2013-06-27)
- Planets Around Stellar Remnants; Arecibo, Puerto Rico (2012-01-24)

## 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
- 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

### 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*

### First-Author Refereed Publications

17. [“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., 2017c, *ApJS*, 232, 23.
16. [“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.
15. [“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.
14. [“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.
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.

#### *Second- and Third-Author Refereed Publications*

16. *"A refined search for pulsations in white dwarf companions to millisecond pulsars,"* Kilic, M., **Hermes, J. J.**, Córscico, A. H., Kosakowski, A., Brown, W. R., Antoniadis, J., Calcaferro, L. M., Gianninas, A., Althaus, L. G., & Green, M. J., 2018, *MNRAS*, 479, 1267.
15. *"A 15.7-min AM CVn binary discovered in K2,"* Green, M. J., **Hermes, J. J.**, Marsh, T. R., Steeghs, D. T. H., Bell, K. J., Littlefair, S. P., Parsons, S. G., Dennihy, E., Fuchs, J. T., Reding, J. S., Kaiser, B. C., Ashley, R. P., Breedt, E., Dhillon, V. S., Gentile Fusillo, N. P., Kerry, P., & Sahman, D. I., 2018a, *MNRAS*, 477, 5646.
14. *"Destroying Aliases from the Ground and Space: Super-Nyquist ZZ Ceti in K2 Long Cadence Data,"* Bell, K. J., **Hermes, J. J.**, Vanderbosch, Z., Montgomery, M. H., Winget, D. E., Dennihy, E., Fuchs, J. T., & Tremblay, P.-E., 2017c, *ApJ*, 851, 24.
13. *"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.

12. *“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.
11. *“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.
10. *“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.
9. *“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.
8. *“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., 2015a, *ApJ*, 809, 14.
7. *“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.
6. *“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.
5. *“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.
4. *“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.
3. *“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.
2. *“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.
1. *“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.

*Other-Author Refereed Publications*

39. *"The scatter of the M dwarf mass-radius relationship,"* Parsons, S. G., Gänsicke, B. T., Marsh, T. R., Ashley, R. P., Breedt, E., Burleigh, M. R., Copperwheat, C. M., Dhillon, V. S., Green, M. J., **Hermes, J. J.**, Irawati, P., Kerry, P., Littlefair, S. P., Rebassa-Mansergas, A., Sahman, D. I., Schreiber, M. R., & Zorotovic, M., 2018, MNRAS, 481, 1083.
38. *"Anatomy of the hyper-runaway star LP 40-365 with Gaia,"* Raddi, R., Hollands, M. A., Gänsicke, B. T., Townsley, D. M., **Hermes, J. J.**, Gentile Fusillo, N. P., & Koester, D., 2018a, MNRAS, 479, L96.
37. *"The McDonald Observatory search for pulsating sdA stars. Asteroseismic support for multiple populations,"* Bell, K. J., Pelisoli, I., Kepler, S. O., Brown, W. R., Winget, D. E., Winget, K. I., Vanderbosch, Z., Castanheira, B. G., **Hermes, J. J.**, Montgomery, M. H., & Koester, D., 2018, A&A, 617, A6.
36. *"Searching for new white dwarf pulsators for TESS observations at Konkoly Observatory,"* Bognár, Z., Kalup, C., Sódor, Á., Charpinet, S., & **Hermes, J. J.**, 2018, MNRAS, 478, 2676.
35. *"Further Insight on the Hypervelocity White Dwarf, LP 40-365 (GD 492): A Nearby Emissary from a Single-degenerate Type Ia Supernova,"* Raddi, R., Hollands, M. A., Koester, D., Gänsicke, B. T., Gentile Fusillo, N. P., **Hermes, J. J.**, & Townsley, D. M., 2018b, ApJ, 858, 3.
34. *"High-speed photometry of Gaia14aae: an eclipsing AM CVn that challenges formation models,"* Green, M. J., Marsh, T. R., Steeghs, D. T. H., Kupfer, T., Ashley, R. P., Bloemen, S., Breedt, E., Campbell, H. C., Chakpor, A., Copperwheat, C. M., Dhillon, V. S., Hallinan, G., Hardy, L. K., **Hermes, J. J.**, Kerry, P., Littlefair, S. P., Milburn, J., Parsons, S. G., Prasert, N., van Roestel, J., Sahman, D. I., & Singh, N., 2018b, MNRAS, 476, 1663.
33. *"The first sub-70 min non-interacting WD-BD system: EPIC212235321,"* Casewell, S. L., Braker, I. P., Parsons, S. G., **Hermes, J. J.**, Burleigh, M. R., Belardi, C., Chaushev, A., Finch, N. L., Roy, M., Littlefair, S. P., Goad, M., & Dennihy, E., 2018, MNRAS, 476, 1405.
32. *"Rapid Evolution of the Gaseous Exoplanetary Debris around the White Dwarf Star HE 1349-2305,"* Dennihy, E., Clemens, J. C., Dunlap, B. H., Fanale, S. M., Fuchs, J. T., & **Hermes, J. J.**, 2018, ApJ, 854, 40.
31. *"Probing the Structure of Kepler ZZ Ceti Stars with Full Evolutionary Models-based Asteroseismology,"* Romero, A. D., Córscico, A. H., Castanheira, B. G., De Gerónimo, F. C., Kepler, S. O., Koester, D., Kawka, A., Althaus, L. G., **Hermes, J. J.**, Bonato, C., & Gianninas, A., 2017, ApJ, 851, 60.
30. *"Multiband photometry and spectroscopy of an all-sky sample of bright white dwarfs,"* Raddi, R., Gentile Fusillo, N. P., Pala, A. F., **Hermes, J. J.**, Gänsicke, B. T., Chote, P., Hollands, M. A., Henden, A., Catalán, S., Geier, S., Koester, D., Munari, U., Napiwotzki, R., & Tremblay, P.-E., 2017, MNRAS, 472, 4173.
29. *"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.
28. *"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.

27. *“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.
26. *“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.
25. *“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.
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16. *“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.
15. *“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.

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6. *“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.
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### *Selected Conference Proceedings*

13. *“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.
12. *“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.
11. *“Kepler Campaign 6 Observations of the DA Pulsating White Dwarf EC 14012-1446,”* Provençal, J. L., **Hermes, J. J.**, Kawaler, S. K., Shipman, H. L., Bischoff-Kim, A., & Thompson, S. E., 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*, 359.
10. *“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.
9. *“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.
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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. *“SDSS J1618+3854: The Sixth Extremely Low-Mass White Dwarf Pulsator,”* Bell, K. J., Kepler, S. O., Montgomery, M. H., **Hermes, J. J.**, Harrold, S. T., & 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*, 217.
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.

## 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

## Outreach and Teaching

- **Founding organizer and host:** Astronomy on Tap Triangle (<https://twitter.com/aotriangle>)
- **Co-supervision** of research led by graduate students Zach Vanderbosch (UT-Austin, ongoing), Josh Reding (UNC, ongoing), & Ben Kaiser (UNC, ongoing); undergraduates Richard Lang (UNC, ongoing), Stephen Fanale (UNC), Brandon Castillo (UNC) and Teng-Ru Fang (UNC); and high school students Ayesha Darekar and Anna Gambardella
- **Outreach talks:** 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)
- **Instructor:** Hermes, AST 152M (upper-division undergraduate Stellar Astronomy laboratory)
- **Teaching Assistant:** Winget, AST 301 (undergraduate Introduction to Astronomy course), 6 sections over 4 terms; Montgomery, AST 210K (undergraduate Freshmen Research Initiative course), 2 terms; Yoachim, AST 392G (graduate student Observing Techniques course), 1 term

## Selected Collaborators

Warren R. Brown (Harvard-Smithsonian CfA); Chris Clemens (University of North Carolina, Chapel Hill); Alejandro H. Córscico (Instituto de Astrofísica de La Plata); Jay Farihi (University College London); Boris T. Gänsicke (University of Warwick); Steven D. Kawaler (Iowa State University); S. O. Kepler (Universidade Federal do Rio Grande do Sul); Mukremin Kilic (University of Oklahoma); Agnes Bischoff-Kim (Penn State Worthington Scranton); Tom Marsh (University of Warwick); Mike Montgomery (University of Texas at Austin); S. G. Parsons (University of Sheffield); Judith L. Provencal (University of Delaware); Pier-Emmanuel Tremblay (University of Warwick); D. E. Winget (University of Texas at Austin)

**Contact Information:**

JJ Hermes  
University of North Carolina, Chapel Hill  
Department of Physics & Astronomy  
Phillips Hall — CB# 3255  
Chapel Hill, NC 27599, USA

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