

# THERON W. CARMICHAEL

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## Employment

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### University of Hawai'i at Mānoa

NSF Ascend Fellow

July 2023 - Present

### The University of Edinburgh

Postdoctoral Research Associate

August 2021 - June 2023

## Education

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### Harvard University

Ph.D. in Astronomy & Astrophysics

May 2021

M.A. in Astronomy & Astrophysics

May 2020

### University of California, Santa Cruz

B.S. in Physics (Astrophysics) with Honors in the major

June 2015

## Key Publications

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**Carmichael, T. W.** (2022). *Improved radius determinations for the transiting brown dwarf population in the era of Gaia and TESS*. *MNRAS*, 519, 5177.

**Carmichael, T. W.**, Irwin, J. M., Murgas, F., et al. (2022). *TOI-2119: A transiting brown dwarf orbiting an active M-dwarf from NASA's TESS mission*. *MNRAS*, 514, 4944.

**Carmichael, T. W.**, Quinn, S. N., Zhou, G., et al. (2021). *TOI-811b and TOI-852b: New transiting brown dwarfs with similar masses and very different radii and ages from the TESS mission*. *AJ*, 161, 97.

## Other Publications

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Di Stefano, R., Berndtsson, J., Urquhart, R., Soria, R., Kashyap, V. L., **Carmichael, T. W.**, & Imara, N. (2021). *A possible planet candidate in an external galaxy detected through X-ray transit*. *Nature Astronomy*, Volume 5, p. 1297-1307.

Grieves, N., Bouchy, F., Lendl, M., **Carmichael, T. W.**, et al. (2021) *Populating the brown dwarf and stellar boundary: Five stars with transiting companions near the hydrogen-burning mass limit*. *Astronomy & Astrophysics*, Volume 652, id.A127, 25 pp.

**Carmichael, T. W.**, Quinn, S. N., Mustill, A. J., et al. (2020). *Two intermediate-mass transiting brown dwarfs from the TESS mission*. *AJ*, 160, 53.

Šubjak, J., Sharma, R., **Carmichael, T. W.**, et al. (2020). *TOI-503: The First Known Brown-dwarf Am-star Binary from the TESS Mission*. *AJ*, 159, 151.

**Carmichael, T. W.**, Latham, D. W., Vanderburg, A. M. (2019). *New Substellar Discoveries from Kepler and K2: Is there a brown dwarf desert?* *AJ*, 158, 38.

## Awards & Honors

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Harvard Astronomy Fireman Fellowship Award

May 2021

Graduate Research Fellowship from the National Science Foundation

2017 - 2020

Harvard Graduate School of Arts & Sciences Professional Development Fund Award

February 2018

## Presentations & Posters

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- Carmichael, T. W.** (2023) *Bringing the past forward: Transiting brown dwarfs with Gaia and TESS*. University of Warwick, invited talk.
- Carmichael, T. W.** (2022) *Space is Black DEI event*. University of Birmingham, invited talk.
- Carmichael, T. W.** (2021). *Using transiting brown dwarfs to test substellar evolutionary models*. Michigan State University, invited talk
- Carmichael, T. W.** (2021). *A tour of the transiting brown dwarf population with NASA's TESS mission*. California Institute of Technology, invited talk
- Carmichael, T. W., Latham, D. W.** (2021). *The search for transiting brown dwarfs with the TESS mission*. The American Astronomical Society Conference 237, dissertation talk
- Carmichael, T. W.** (2020). *Exploring the Transition Between Giant Planets and Brown Dwarfs with TESS and Gaia*. Exoplanet Demographics Conference 2020, contributed talk, [recording available](#).
- Carmichael, T. W., Latham, D. W., et al.** (2020). *Transiting brown dwarfs and the substellar mass-radius diagram*. MIT Planetary Lunch Seminar, invited talk
- Carmichael, T. W., Latham, D. W., et al.** (2020). *The mass-radius relationship for transiting brown dwarfs*. Center for Astrophysics Exoplanet Lunch, contributed talk
- Carmichael, T. W., Šubjak, J., Sharma, R., Johnson, M., et al.** (2020). *Brown dwarf discoveries from the TESS mission*. 235<sup>th</sup> AAS Meeting, poster #122.05
- Carmichael, T. W., Latham, D. W., et al.** (2019). *Transiting brown dwarfs and where to find them*. Center for Astrophysics ITC Luncheon, invited talk
- Carmichael, T. W., Quinn, S. N., Mustill, A. J., et al.** (2019). *Brown dwarf discoveries from NASA's TESS mission*. TESS Science Conference I, contributed talk
- Carmichael, T. W., Latham, D. W., Vanderburg, A. M.** (2019). *Exploring the Brown Dwarf Desert: Short-period substellar companions from the Kepler and K2 missions*. 233<sup>rd</sup> AAS Meeting, poster #465.01
- Carmichael, T. W., Johnson, J. A.** (2018). *Echelle data reduction with application to a binary*. 231<sup>st</sup> AAS Meeting, poster #246.03

## Proposals & Observing experience

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KPF time

Principle Investigator for CHIRON Program (CARM-20A-0043), 2.4 nights allocated	Spring 2020
Principle Investigator for TRES Program, 1 dark, 2 gray, 5.5 bright nights allocated	Winter 2019
Principle Investigator for CHIRON Program (CARM-19B-0131), 2.4 nights allocated	Fall 2019
Principle Investigator for TRES Program, 1 gray, 4 bright nights allocated	Summer 2019
Principle Investigator for TRES Program, 2 gray, 4 bright nights allocated	Spring 2019
Principle Investigator for TRES Program, 2 gray, 2 bright nights allocated	Winter 2018
Training on the 3.6-meter Galileo National Telescope, La Palma, Spain	October 2018
Training on the 2.4-meter Hiltner telescope, Kitt Peak, Arizona, USA	February 2018
Training on the 1.2-meter and 1.5-meter telescopes, Mt. Hopkins, Arizona, USA	March 2017
Training on the Shane 3-meter Telescope, Mt. Hamilton, California, USA	April 2014
Training on the MOSFIRE instrument on the Keck Telescopes, Waimea, Hawai'i, USA	December 2012

## Teaching & Outreach

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Telescope operator for the Harvard Observing Project	2016 - 2021
Scientific advisor and voice contributor to PBS NOVA Labs education module	Summer 2020
Instructor/Mentor for the Banneker & Aztlán Institute	Summer 2020
Teaching Fellow for Harvard undergrad astronomy class, GENED 1037	February 2020
Instructor/Mentor for the Banneker & Aztlán Institute	Summer 2019
Instructor/Mentor for the Banneker & Aztlán Institute	Summer 2018
Instructor/Mentor for the Banneker & Aztlán Institute	Summer 2017
Teaching Fellow for Harvard undergrad astronomy lab, AY 100	Spring 2017
Teaching Fellow for Harvard undergrad astronomy class, AY 17	Fall 2016
Instructor/Mentor for the Banneker & Aztlán Institute	Summer 2016
Teaching Fellow for Harvard General Education class, SPU 30	Spring 2016