

Stephanie T. Douglas

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Employment & Education

Lafayette College
Assistant Professor, Department of Physics 2020–present
Center for Astrophysics | Harvard & Smithsonian
National Science Foundation (NSF)
Astronomy & Astrophysics Post-doctoral Fellow 2017–2020
Colorado College
Visiting Lecturer in Physics & Astronomy, Block 6 2019
Columbia University
Ph.D. in Astronomy 2017
M.A., M.Phil. in Astronomy 2014
Franklin & Marshall College
B.A. in Astrophysics, *summa cum laude* 2012

Grants and Fellowships

NASA Astrophysical Data Analysis Program (PI; \$88,579) 2021
NASA *TESS* Guest Investigator (PI; \$31,869) 2018
NASA WIYN PI Data Award (PI) 2017
NASA Keck PI Data Award (PI) 2017, 2018
NSF Astronomy and Astrophysics Postdoctoral Fellowship (PI) 2017
NASA *K2* Guest Observer – Cycle 4 (Science PI) 2016

First-author Publications

K2 Rotation Periods for Low-mass Hyads and a Quantitative Comparison of the Distribution of Slow Rotators in the Hyades and Praesepe. **Douglas**, Curtis, Agüeros, Cargile, Brewer, Meibom, Jansen, 2019, *ApJ*, 879, 100
Poking the Beehive from Space: K2 Rotation Periods for Praesepe. **Douglas**, Agüeros, Covey, Kraus, 2017, *ApJ* 842, 83
K2 Rotation Periods for Low-mass Hyads and the Implications for Gyrochronology. **Douglas**, Agüeros, Covey, Cargile, Barclay, Cody, Howell, Kopytova, 2016, *ApJ*, 822, 1
The Factory and the Beehive II: Activity and Rotation in Praesepe and the Hyades. **Douglas**, Agüeros, Covey, Bowsher, Bochanski, Cargile, Kraus, Law, Lemonias, Arce, Fierroz, Kundert, 2014, *ApJ*, 795, 161

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|---|---|-----------------|
| Teaching Experience | Lafayette College | |
| | <i>PHYS 104 Astronomy: The Solar System</i> | Fall 2020-22 |
| | <i>PHYS 108 Astronomy: Stars/Galaxies/Big Bang</i> | Spring 2021-23 |
| | <i>PHYS 112 General Physics I (lab)</i> | Spring 2021 |
| | <i>PHYS 131 Physics I (lab)</i> | Spring 2022 |
| | <i>PHYS 133 Physics II</i> | Fall 2022 |
| | <i>PHYS 133 Physics II (lab)</i> | Fall 2020 |
| | <i>PHYS 304 Observational Astronomy</i> | Spring 2023 |
| | <i>PHYS 308 Astrophysics</i> | Fall 2021 |
| | Colorado College | |
| <i>Intro Physics I for Life Sciences</i> | Spring 2019 | |
| Students | †Jared Sofair '25 | 2022 |
| | <i>Measuring the sensitivity of Keck imaging to low-mass stellar binaries</i> | |
| | †Kira McCracken '25 | 2022 |
| | <i>Measuring the sensitivity of Zorro speckle imaging to Solar-mass binaries</i> | |
| | †Jessica McDivitt '24 | 2021 |
| | <i>Using stellar rotation to test the membership of tidally stripped open cluster members</i> | |
| | †Emily Taub '22 | 2021 |
| | <i>Measuring the sensitivity of Keck imaging to low-mass stellar binaries</i> | |
| | José Pérez-Chavez (Banneker; now a grad student at Howard University) | 2019-2020 |
| | <i>Measuring rotation periods for 30-70 Myr old Sun-like stars using TESS</i> | |
| Amanda Ash (CfA REU; now a grad student at OSU) | 2019 | |
| <i>Rotationally Modulated Magnetic Variability in Praesepe K and M Dwarfs</i> | | |
| Valeria Villegas (Banneker; completed MA in Physics at WUSTL) | | |
| <i>Searching for Binaries in the Praesepe Open Cluster</i> | 2018 | |
| Evan Morris (Columbia U.; now a grad student at UCSC) | 2017 | |
| <i>Characterizing T Dwarfs with Medium Resolution Near-Infrared Spectra</i> | | |
| Co-supervised with K. Cruz & E. Rice | | |
| † Lafayette College Student | | |
| Professional Development | Institute for Scientist and Engineer Educators | |
| | Professional Development Program | 2015, 2019-2020 |
| | (Participant in 2015, Design Team Leader in 2019-2020, cancelled 2020 due to COVID-19) | |
| | Science Mentoring Workshop Intensive, Harvard University | 2018 |
| Center for Teaching and Learning, Columbia University | | |
| Lead Teaching Fellow | 2015/2016 | |

**Co-authored
Publications**

TOI-4562 b: A highly eccentric temperate Jupiter analog orbiting a young field star

Heitzmann, (+ 51, including **Douglas**), 2023, submitted to the AAS Journals

Hyades Member K2-136c: The Smallest Planet in an Open Cluster with a Precisely Measured Mass

Mayo, (+ 40, including **Douglas**), 2023, submitted to the AAS Journals, received a positive referee report

A Mini-Neptune from TESS and CHEOPS Around the 120 Myr Old AB Dor member HIP 94235

Zhou, (+38, including **Douglas**), 2022, *AJ*, 163, 289

A Comprehensive Study of the Rotation–X-ray Activity Relation in Praesepe and the Hyades.

Núñez, Agüeros, Covey, **Douglas**, Drake, Bowsher, Cargile, Kraus, Law, 2022, *ApJ*, 931, 45

A Spectroscopic Analysis of the Ultraviolet Evolution of K Stars: Additional Evidence for K Dwarf Stalling in the First Gigayear

Richey-Yowell, (+ 9, including **Douglas**), 2022, *ApJ*, 929, 169

NEID Rossiter-McLaughlin Measurement of TOI-1268b: A Young Warm Saturn Aligned with Its Cool Host Star

Dong, (+54, including **Douglas**), 2022, *ApJL*, 926, 7

Three K2 Campaigns yield rotation periods for 1013 stars in Praesepe.

Rampalli, Agüeros, Curtis, **Douglas**, (+7), 2021, *ApJ*, 921, 167

MESA models with magnetic braking.

Gossage, Dotter, Garraffo, Drake, **Douglas**, Conroy, 2021, *ApJ*, 912, 65

Two Young Planetary Systems around Field Stars with Ages between 20 and 320 Myr from TESS.

Zhou, Quinn, Irwin, Haunt, Collins, Bouma, Khan, Landrigan, Vanderburg, Rodriguez, Latham, Torres, **Douglas**, (+36), 2020, *AJ*, 161, 1

When Do Stalled Stars Resume Spinning Down? Advancing Gyrochronology with Ruprecht 147.

Curtis, Agüeros, Matt, Covey, **Douglas**, Angus, Saar, Cody, Vanderburg, Law, 2020, *ApJ*, 904, 2

A Temporary Epoch of Stalled Spin-Down for Low-Mass Stars: Insights from NGC 6811 with Gaia and Kepler.

Curtis, Agüeros, **Douglas**, Meibom, 2019, *ApJ*, 879, 49

A search for radius inflation among active M-dwarfs in Praesepe.

Jackson, Jeffries, Deliyannis, Sun, **Douglas**, 2018, *MNRAS*, 483, 1125

Are Starspots and Plage Co-Located on Active G and K Stars?

Morris, Curtis, **Douglas**, Hawley, Borra, Agüeros, Agol, 2018, *AJ*, 156,

Zodiacal Exoplanets in Time (ZEIT) VIII: A Two Planet System in Praesepe from K2 Campaign 16

Rizzuto, Vanderburg, Mann, Kraus, Dressing, Agüeros, **Douglas**, 2018, *AJ*, 196, 195

Zodiacal Exoplanets in Time (ZEIT). VII. A Temperate Candidate Super-Earth in the Hyades Cluster.

Vanderburg, Mann, Rizzuto, Bieryla, Kraus, Berlind, Calkins, Curtis, **Douglas**, Esquerdo, Everett, Horch, Howell, Latham, Mayo, Quinn, Scott, Stefanik, 2018, *AJ*, 156, 2

A New Look at an Old Cluster: The Membership, Rotation, and Magnetic Activity of Low-Mass Stars in the 1.6-Gyr-Old Open Cluster NGC 752

Agüeros, Bowsher, Bochanski, Cargile, Covey, **Douglas**, Kraus, Kunderdt, Law, Ahmadi, Arce, 2018, *ApJ*, 862, 1

astroman: An Open Source Observation Planning Package in Python.

Morris, Tollerud, Sipocz, Deil, **Douglas**, Medina, Vyhmeister, Smith, Littlefair, Price-Whelan, Gee, Jeschke, 2017 *AJ*, 155, 128

The Factory and the Beehive III: PTFEB132.707+19.810, a Low-Mass Eclipsing Binary in Praesepe Observed by PTF and K2.

Kraus, **Douglas**, Mann, Agüeros, Covey, Law, Feiden, Rizzuto, Howard, Isaacson, Gaidos, Torres, Bakos, 2017, *ApJ*, 845, 72

Demonstrating the Existence of Sub-micron size dust grains in the Atmospheres of Red L Dwarfs

Hiranaka, Cruz, Marley, **Douglas**, Baldassare, 2016, *ApJ*, 830, 9

Linking Stellar Coronal Activity and Rotation at 500 Myr: A Deep Chandra Observation of M37

Núñez, Agüeros, Covey, Hartman, Kraus, Bowsher, **Douglas**, López-Morales, Pooley, Posselt, Saar, West, 2015, *ApJ*, 809, 161

Talks

Constraining Stellar Rotation at the Zero-Age Main Sequence

Contributed Talk; Fifty Years of the Skumanich Relations 2022

Open Star Clusters as Laboratories for Stellar Rotational Evolution

Invited Colloquium; Five Colleges Astronomy Department
(cancelled due to COVID-19) 2020

Invited Colloquium; Boston University (delivered remotely) 2020

The Impact of Companions on Rotational Evolution

Invited Talk; Bash Fest 2019

The Hyades and Praesepe open clusters as benchmarks for stellar rotational evolution

Invited talk; Thinkshop 16: The rotation periods of cool stars 2019

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| | <i>Calibrating stellar activity, rotation, and multiplicity with open clusters</i> | |
| | Colloquium, University of Texas at Austin | 2019 |
| | CEHW Seminar, Pennsylvania State University | 2018 |
| | <i>Measuring stellar rotation periods with Kepler and K2</i> | |
| | Colloquium, Franklin & Marshall College | 2018 |
| | <i>Open Clusters as Laboratories for Stellar Spin-down and Magnetic Activity Decay</i> | |
| | Seminar, Gemini Observatory Headquarters | 2017 |
| | Seminar, Carnegie Institution: Dept. of Terrestrial Magnetism | 2017 |
| | Seminar, Massachusetts Institute for Technology | 2016 |
| | Seminar, Center for Astrophysics Harvard & Smithsonian | 2016 |
| Other recent Conference Presentations | <i>Constraining Stellar Rotation at the Zero-Age Main Sequence</i> | 2022 |
| | Poster; AAS 241 | |
| | Poster; Cool Stars 21 | |
| | <i>The impact of companions on stellar rotational evolution</i> | 2021 |
| | Virtual poster; AAS 237 | |
| | <i>Constraining Stellar Rotation at the ZAMS.</i> | 2021 |
| | Virtual poster; TESS Science Conference 2 | |
| | <i>New spectroscopic orbits for binaries in the Kepler open cluster NGC 6811</i> | 2019 |
| | Poster; AAS 233 | |
| | <i>Constraining magnetic variability in Praesepe with simultaneous K2 and spectroscopic observations</i> | 2018 |
| | Poster; Cool Stars 20 | |
| Other Products | <i>Using Stellar Rotation to Identify Tidally Stripped Members of the Praesepe Open Cluster.</i> | |
| | McDivitt [†] , Douglas , Curtis, Popinchalk, Nùñez 2022, <i>RNAAS</i> , 6, 116 | |
| | <i>PHEW: PytHon Equivalent Widths v2.0</i> | |
| | Nùñez, Douglas , Alam, DeLaurentis 2022, 10.5281/zenodo.6422571 | |
| | <i>lightkurve/lightkurve: Lightkurve v2.0.9.</i> | |
| | Barentsen (+29 authors including Douglas), 2021, 10.5281/zenodo.1181928 | |
| | <i>Leave no low-mass star behind: Results from extended surveys of H emission from stars in Praesepe and the Hyades.</i> | |
| | Chu, DeLaurentiis, Nùñez, Agüeros, Curtis, Douglas , Rampalli, 2021, <i>RNAAS</i> , 5, 50 | |
| | <i>The Role of Gender in Asking Questions at Cool Stars 18 and 19.</i> | |
| | Schmidt, Douglas , Gosnell, Muirhead, Booth, Davenport, Mace, 2016, <i>Proceedings of the 19th Cambridge Workshop on Cool Stars, Stellar Systems, and the Sun.</i> | |

An inquiry-based programming lesson. **Douglas**, Rice, Derdzinski, 2016, *Proceedings of Python in Astronomy 2016*

† Lafayette College Student

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| Telescope Time Awarded | <i>Gemini-S (DSSI/Zorro)</i> 8 nights (NSF's NOIRLab) | 2019, 2022 |
| | <i>Keck II (NIRC2-LGS)</i> 2.5 nights (NASA) | 2017–2018 |
| | <i>Magellan (M2FS)</i> 7.5 nights | 2018-2019 |
| | <i>MMT (Hectochelle)</i> 13.5 nights | 2017-2019 |
| | <i>FLWO 1.5m (TRES)</i> 27.5 nights | 2018-2019 |
| | <i>WIYN 3.5m (Hydra)</i> 4 nights (NN-EXPLORE) | 2016–2019 |
| | Co-I: 14.5 nights | |
| | <i>Kepler/K2</i> | 2014, 2016–2017 |
| | Co-I/Science PI: >1400 long-cadence targets | |
| | <i>MDM 2.4m (ModSpec)</i> 73 nights | 2014–2017 |
| Outreach | Media | |
| | <i>International Space Station flyover</i> (PBS39) | 2021 |
| | <i>Lunar Eclipse</i> (WLVR/NPR) | 2021 |
| | Cambridge Explores the Universe at CfA | |
| | Volunteer and Q&A panel member | 2018, 2019 |
| | Prospect Hill Academy in Cambridge, MA | |
| | Two-day exoplanet transit lesson with eighth graders | 2018 |
| | Columbia University Public Astronomy | |
| | Lecture facilitator and stargazing volunteer | 2012-2017 |
| | Astronomy on Tap | |
| <i>Flares, Fields, and Finding Life</i> (ATX) | 2019 | |
| <i>Europa Report: Diving Into Life on Icy Worlds</i> (NYC) | 2017 | |
| <i>How to Reboot a Telescope (Kepler & K2)</i> (NYC) | 2015 | |
| <i>Mind the Gap (Between Stars and Planets)</i> (NYC) | 2014 | |
| Service to Profession | Referee: AAS Journals, Astronomy & Astrophysics, Monthly Notices of the Royal Astronomical Society | |
| | Grant review panelist: NSF, NASA | |
| | Conference session chair: AAS233, AAS237, TSC2 | |
| | Conference session organizer and chair: Cool Stars 21 (July 2022) | |
| Service to Institution | Curriculum and Educational Policy Committee | 2021-present |
| | Women and Inclusion in the Sciences (WITS) | 2020-present |

Faculty mentor; organized sessions on applying to graduate school and racism in the academy

Organized departmental discussion on racism in physics 2020