

AMBER A. MEDINA

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EDUCATION

2018–Present Ph.D Candidate in Astronomy and Astrophysics, *Harvard University*
2015–2018 M.A. in Astronomy and Astrophysics, *Harvard University*
2010–2014 B.A. in Physics, *New Mexico State University*

FELLOWSHIPS & AWARDS

2019 Certificate of Distinction in Teaching, Harvard University
2018 Certificate of Distinction in Teaching, Harvard University
2017–Present National Science Foundation Graduate Research Fellowship
2014 Outstanding Undergraduate for the College of Arts and Sciences, New Mexico State University

RESEARCH INTEREST

I aim to characterize the various magnetic phenomena occurring on fully convective M-dwarfs to place constraints on the radiation environment of the most spectroscopically accessible terrestrial exoplanets.

PUBLICATIONS

- "Variability Timescales of $H\alpha$ on Active Mid-to-Late M Dwarfs," **Medina, A.**, Charbonneau, D., J., Irwin, Winters, J., Mink, J., *Submitted to AAS Journals*, 2020
- "Flare Rates, Rotation Periods, and Spectroscopic Activity Indicators of a Volume-Complete Sample of Mid-to-Late M dwarfs within 15 Parsecs," **Medina, A.**, Winters, J., Irwin, J., Charbonneau, D., *Accepted for Publication in ApJ*, 2020
- "TOI 540 b: A Terrestrial Planet Smaller than Earth Orbiting a Nearby Rapidly Rotating Low-mass Star," Ment, K., Irwin, J., Charbonneau, D., Winters, J., **Medina, A.**, et al., *Accepted for Publication in ApJ*, 2020
- "Spectroscopic Orbits of 11 Nearby, Mid-to-late M-dwarf Binaries," Winters, J., Irwin, J., Charbonneau, D., Latham, D., **Medina, A.**, et al., *AJ*, 159, 290, 2020
- "Three Red Suns in the Sky: A Transiting, Terrestrial Planet in a Triple M-dwarf System at 6.9 pc," Winters, J., **Medina, A.**, Irwin, J., Charbonneau, D., Astudillo-Defru, N., et al., *AJ*, 158, 152, 2019
- "Techniques for Finding Close-in, Low-mass Planets around Evolved Intermediate-mass Stars," **Medina, A.**, Johnson, J., Eastman, J., Cargile, P., *ApJ*, 867, 32, 2018
- "Electron-Ion Equilibrium and Shock Precursors in the Northeast Limb of the Cygnus Loop," **Medina, A.**, Raymond, J., Edgar, R., Caldwell, N., Fesen, R., Milisavljevic, D., *ApJ*, 791, 30, 2014

ACCEPTED OBSERVING PROPOSALS

2020 "Simultaneous TRES and TESS Observations to Characterize the Effect of Stellar Flares on Spectroscopic Activity Indicators," *Fred Lawrence Whipple Observatory 2020C* semester, 8 nights, PI: **Medina, A.**
2020 "Legacy Light Curves of a Volume-Complete Sample of the Nearby Mid-to-Late M Dwarfs with TESS," *TESS-Gl Program, Cycle 3*, CO-I: **Medina, A.**
2020 "Simultaneous Flare Observations and $H\alpha$ Emission of Rapidly Rotating Mid-to-Late M Dwarfs with TESS and TRES," *Fred Lawrence Whipple Observatory 2020A* semester, 5 nights, PI: **Medina, A.**
2019 "Legacy Light Curves of a Volume-Complete Sample of the Nearby Mid-to-Late M Dwarfs with TESS," *TESS-Gl Program, Cycle 2*, CO-I: **Medina, A.**
2017 "Characterizing $H\alpha$ Variability as a Function of Rotation Period and Mass for Mid-to-Late M Dwarfs," *Fred Lawrence Whipple Observatory 2017C* semester, 5 nights, PI: **Medina, A.**

TALKS AND POSTERS

2020 Invited Talk: "The Relationship between Flares, Rotation, and Chromospheric Activity on Mid-to-Late M Dwarfs," Department of Physics and Astronomy, Dartmouth College
2020 Contributed Talk: "Flare Statistics and High Resolution Spectroscopy of a Volume Complete Sample of Mid-to-Late M dwarfs within 15 Parsecs," Exoplanets III, Heidelberg Germany
2020 Contributed Talk: "Flare Statistics and High Resolution Spectroscopy of a Volume Complete Sample of Mid-to-Late M dwarfs within 15 Parsecs," AAS 235th Meeting, Honolulu, HI
2019 Contributed Talk: "Flare Statistics and High Resolution Spectroscopy of a Volume Complete Sample of Mid-to-Late M dwarfs within 15 Parsecs," Extreme Solar Systems IV, Reykjavik, Iceland

2019 Contributed Talk: "Flare Statistics and High Resolution Spectroscopy of a Volume Complete Sample of Mid-to-Late M dwarfs within 15 Parsecs," TESS Science Conference I, Cambridge MA
2019 Poster: "Characterizing Magnetic Activity as a Function of Mass and Rotation Period of Fully Convective M-dwarfs," IAU Solar and Stellar Magnetic Fields: Origins and Manifestations, Copiapo, Chile
2019 Contributed Talk: "Characterizing Magnetic Activity as a Function of Mass and Rotation Period of Fully Convective M-dwarfs," AAS 233rd Meeting, Seattle, WA
2018 Poster: "Techniques for Finding Close-in, Low-mass Planets around Evolved Intermediate Mass Stars," Sagan Workshop, Pasadena, CA
2018 Poster: "Optimal Observing Strategy for Finding Low-mass, Close-in Planets around Subgiant Stars," Cool Stars 20, Boston, MA
2018 Contributed Talk: "Constraining the Population of Small Close-in Planets Around Evolved Intermediate Mass Stars," AAS 231st Meeting National Harbor, MD
2017 Poster: "Techniques for Finding Close-in, Low-mass Planets around Evolved Intermediate Mass Stars," AAS 229th Meeting, Grapevine, TX
2015 Poster: "Identification of Young Ultracool Dwarf Candidates from the BOSS Ultracool Dwarf (BUD) Sample," AAS 225th Meeting, Seattle, WA
2014 Poster: "Electron-Ion Equilibrium and Shock Precursors in the Northeast Limb of the Cygnus Loop," AAS 223rd Meeting, National Harbor, MD

TEACHING AND OUTREACH

2020 Panelist, Tips for Applying to Fellowships, NSF Astronomy and Solar REU and Banneker Institute, Center for Astrophysics | Harvard and Smithsonian
2019-2020 Peer Mentor, Harvard Astronomy Department Peer Mentoring Program
2019-2020 Graduate Mentor, Women in STEM, Harvard University
2019 Graduate Mentor and Course Instructor, Banneker Institute, Harvard University
2019 Panelist, The Graduate Student Experience, National Autonomous University of Mexico, Center for Astrophysics | Harvard and Smithsonian
2019 Girl Scouts Observing Night
2019 Graduate Mentor, NSF REU, Center for Astrophysics | Harvard and Smithsonian
2019 Cambridge Explores the Universe - Ask an Astronomer, Center for Astrophysics | Harvard and Smithsonian
2019 Teaching Fellow, *SPU-22: From the Big Bang to the Brontosaurus*, Harvard University
2018 Graduate Mentor and Course Instructor, Banneker Institute, Harvard University
2018 Panelist, Tips for Applying to Graduate School, Smithsonian Latino Initiative, Center for Astrophysics | Harvard and Smithsonian
2018 Cambridge Explores the Universe - Ask an Astronomer, Center for Astrophysics | Harvard and Smithsonian
2018 Teaching Fellow, *SPU-30: From the Big Bang to the Brontosaurus*, Harvard University
2018 Harvard Observing Project, Harvard University
2017-2018 Peer Mentor, Harvard Astronomy Department Peer Mentoring Program
2017 Teaching Fellow, *ASTRON S-35: Fundamentals of Contemporary Astronomy: Frontiers of Current Research*, Harvard University
2017 Panelist, Tips for Applying to Fellowships, NSF Astronomy and Solar REU and Banneker Institute, Center for Astrophysics | Harvard and Smithsonian
2017 Cambridge Explores the Universe - Ask an Astronomer, Center for Astrophysics | Harvard and Smithsonian
2017 Teaching Fellow, *SPU-22: Life as a Planetary Phenomenon*, Harvard University
2017 Graduate Mentor and Course Instructor, Banneker Institute, Harvard University
2016 Graduate Mentor and Course Instructor, Banneker Institute, Harvard University
2016 Panelist, Tips for Applying to Graduate School, NSF Astronomy and Solar REU, Center for Astrophysics | Harvard and Smithsonian
2016 Teaching Fellow, *ASTRON S-35: Fundamentals of Contemporary Astronomy: Frontiers of Current Research*, Harvard University
2015 Teaching Fellow, *ASTRON 110: Introduction to Astronomy*, New Mexico State University

SERVICE

2018-2020 Graduate Student Representative on the Committee for Academic Studies, Harvard University