

# MARTA L. BRYAN

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## APPOINTMENTS

51 Pegasi b Postdoctoral Fellow, UC Berkeley Astronomy Department 2018 - present  
Postdoctoral Scholar, Caltech summer 2018

## EDUCATION

**PhD in Astrophysics, California Institute of Technology** May 2018  
Advisor: Prof. Heather Knutson  
Thesis: *Lurking in the Shadows: Wide-Separation Gas Giants as Tracers of Planet Formation*

**MS in Astrophysics, California Institute of Technology** June 2014

**BA *cum laude* with High Honors in Astrophysics, Harvard University** June 2012  
Undergraduate Thesis Advisor: Prof. David Latham  
Thesis: *Characterizing Qatar-2b: A Hot Jupiter Orbiting a K Dwarf*

## RESEARCH INTERESTS

Exploring the formation, evolution, and architectures of planetary systems  
Characterizing exoplanet rotation rates and atmospheres using high-resolution spectroscopy  
High-contrast AO imaging of exoplanets and brown dwarfs  
Constraining the frequencies of gas giants in systems hosting different populations of terrestrial and ice giant planets  
Bridging the gap between radial velocity and direct imaging survey sensitivities to planets using radial velocity trends

## AWARDS AND HONORS

51 Pegasi b Postdoctoral Fellowship 2018  
NASA Hubble Fellowship Program Sagan Fellowship (declined) 2018  
David and Barbara Groce Grant to attend the Exoplanets I meeting in Davos 2016  
Switzerland, California Institute of Technology

AAS 2015 International Travel Grant 2015  
National Science Foundation Graduate Research Fellowship Honorable Mention 2014, 2013  
Chambliss Astronomy Achievement Student Award Honorable Mention, AAS 2014  
Moffet Fellowship, California Institute of Technology 2012-2013  
Origins of Life Research Grant, Harvard University 2011-2012  
Leo Goldberg Prize for outstanding undergraduate thesis work, Harvard University 2011  
U.S. Patent Application published 2008

## PUBLICATIONS (7 first author, 15 total)

(\*\* denotes student papers supervised by M.L.B.)

**Bryan, M. L.**, Chiang, E., Bowler, B. P. et al 2019, *Obliquity Constraints on an Extrasolar Planetary-Mass Companion*, AJ, accepted.

**Bryan, M. L.**, Knutson, H. A., Lee, E. et al 2019, *An Excess of Jupiter Analogs in Super-Earth Systems*, AJ, 157, 2

- Bryan, M. L.**, Benneke, B., Knutson, H. A. et al 2018, *Constraints on the Spin Evolution of Young Planetary Mass Companions*, Nature Astronomy, 2, 138-144.
- Bryan, M. L.**, Bowler, B. P., Knutson, H. A. et al. 2016, *Searching for Scatterers: High-Contrast Imaging of Young Stars Hosting Wide-Separation Planetary-Mass Companions*, ApJ, 827, 100
- Bryan, M. L.**, Knutson, H. A., Howard, A. W. et al. 2016, *Statistics of Long Period Gas Giant Planets in Known Planetary Systems*, ApJ, 821, 89
- Bryan, M. L.**, Alsubai, K. A., Latham, D. W. et al. 2012, *Qatar-2: A K Dwarf Orbiting by a Transiting Hot Jupiter and a More Massive Companion in an Outer Orbit*, ApJ, 750, 84.
- Bryan, M. L.**, Chapman, G., Hall, D. N. B. et al., 2012, *Investigation of linear-mode photon-counting HgCdTe APDs for astronomical observations*, SPIE Proceedings, 8453, 84532F
- \*\*Xuan, J., **Bryan, M. L.**, Knutson, H. A. et al 2019, *A Rotation Rate for the Planetary–Mass Companion DH Tau b*, AJ, 159, 97.
- Meshkat, T., Mawet, D., **Bryan, M. L.** et al 2017, *A Direct Imaging Survey of Spitzer Detected Debris Disks: Occurrence of Giant Planets in Dusty Systems*, ApJ, 154, 245.
- Bowler, B., Kraus, A., **Bryan, M. L.** et al 2017, *The Young Substellar Companion ROXs 12 B: Near-Infrared Spectrum, System Architecture, and Spin-Orbit Misalignment*, AJ, 154, 165.
- Ngo, H., Knutson, H. A., **Bryan, M. L.** et al 2017, *No Difference in Orbital Parameters of RV-detected Giant Planets between 0.1 and 5 au in Single versus Multi-stellar Systems*, AJ, 153, 242
- Becker, J. C., Vanderburg, A., Adams, F. C. & 2 coauthors including **Bryan, M. L.** 2017, *Exterior Companions to Hot Jupiters Orbiting Cool Stars Are Coplanar*, AJ, 154, 230.
- Mawet, D., Hirsch, L., Lee, E. J. & 27 coauthors including **Bryan, M. L.** 2019, *Deep Exploration of epsilon Eridani with Keck Ms-band vortex coronagraphy and radial velocities: mass and orbital parameters of the giant exoplanet*, AJ, 157, 33.
- Piskorz, D., Benneke, B., Crockett, N.R., & 10 coauthors including **Bryan, M. L.**, 2016, *Evidence for the Direct Detection of the Thermal Spectrum of the Non-Transiting Hot Gas Giant HD 88133 b*, ApJ, 832, 131
- Ngo, H., Knutson, H. A., Hinkley, S., & 11 coauthors including **Bryan, M. L.**, 2016, *Friends of Hot Jupiters IV Stellar Companions Beyond 50 AU Might Facilitate Giant Planet Formation, but Most are Unlikely to Cause Kozai-Lidov Migration*, ApJ, 827, 8

## OBSERVING TIME AWARDED

Keck 10m Telescopes (NIRSPEC/NIRC2)	20.5 nights
Gemini South (IGRINS)	22.1 hours

## INVITED SEMINARS/COLLOQUIA

University of Maryland Colloquium, College Park, MD, April 8 2020  
 UT Austin Colloquium, Austin, TX, March 31 2020  
 SFSU Colloquium, San Francisco, CA, November 4 2019  
 UCSC GAFD Seminar, Santa Cruz, CA, May 9 2019  
 UChicago Special Seminar, Chicago, IL, February 26 2019  
 UCB CIPS Seminar, Berkeley, CA, October 3 2018  
 UCSC FLASH Seminar, Santa Cruz, CA, September 29 2017  
 UCB CIPS Seminar, Berkeley, CA, September 27 2017  
 University of Arizona Origins Seminar, Tucson, AZ, September 18 2017  
 UCLA iPLEX Lunch Seminar, LA, CA, May 12 2017  
 IPAC Lunch Seminar, Pasadena, CA, March 15 2017  
 JPL Astrophysics Luncheon Seminar, Pasadena, CA, March 6 2017  
 Cal State LA Physics Colloquium, LA, CA, September 1 2016  
 BU Astronomy Lunch Seminar, Boston, MA, April 26 2016

## CONFERENCE TALKS

High-Resolution Infrared Spectroscopy for Exoplanet Characterization Hackathon (invited speaker), Pasadena, CA, February 4 2020  
235th AAS Meeting, Honolulu, HI, January 6 2020  
ExoPAG 21, Honolulu, HI, January 3 2020  
Extreme Solar Systems IV, Reykjavik, Iceland, August 20 2019  
Kavli Foundation Futures of Exoplanets Symposium (invited speaker), Boston, MA, August 2 2019  
51 Pegasi b Summit, Sausalito, CA, July 2019  
233rd AAS Meeting, Seattle, WA, January 7 2019  
Bay Area Exoplanet Meeting, NASA Ames, CA, September 7 2018  
51 Pegasi b Summit, Sausalito, CA, August 15 2018  
Combining high-resolution spectroscopy and high-contrast imaging for exoplanet characterization (invited speaker), Pasadena, CA, June 18 2018  
231st AAS Meeting, dissertation talk, National Harbor, MD, January 9 2018  
Keck Science Meeting, Santa Cruz, CA, September 14 2017  
Inner Solar Systems (invited speaker), 230th AAS Meeting, Austin, TX, June 7 2017  
229th AAS Meeting, Grapevine, TX, January 6 2017  
ExSoCal, Pasadena, CA, September 22 2016  
Exoplanets I, Davos, Switzerland, July 8 2016  
Extreme Solar Systems III, Waikoloa, Hawaii, November 30 2015  
From Super-Earths to Brown Dwarfs: Who's Who, Paris, France, July 2 2015

## STUDENT MENTORING

Wenhao Xuan (Caltech SURF program, Pomona College undergraduate) 2018-present  
Senior Thesis: *Probing the Spin of DH Tau b as a Tracer for Giant Planet Formation*  
Publication: Xuan, W., Bryan, M. L., et al 2020, *A Rotation Rate for the Planetary-Mass Companion DH Tau b*, accepted to AJ.

## TEACHING, OUTREACH, AND SERVICE

UCB Center for Integrative Planetary Science (CIPS) Seminar co-organizer 2019-present  
NASA Review Panel 2019  
UC APF Time Allocation Committee 2019  
AAS Chambliss Judge 2019  
Guest lecture for C249: Planetary Astrophysics at UC Berkeley 2018  
Referee for A&A, ApJ, Icarus 2018-present  
UCB Climate Advisor 2018-present  
Mentor, Caltech Women Mentoring Women Program 2012 - 2018  
Junior/Full Member, AAS 2012 - present  
SpacePod Interview April 16, 2017  
Harvard University Alumni Interviewer 2016-2017, 2018-present  
SOC member for ExSoCal 2016 2016  
Teaching Assistant, AY 123: Structure and Evolution of Stars Fall 2013  
AY 126: Interstellar and Intergalactic Medium Winter 2014  
AY 21: Galaxies and Cosmology Spring 2014