

# Jessie Christiansen — Curriculum Vitae

NASA Exoplanet Science Institute, California Institute of Technology  
Mail Code 100-22, 770 South Wilson Avenue, Pasadena, CA, USA 91125  
Phone: +1 626 395 1277 Email: jessie.christiansen@caltech.edu

## Employment

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**2020—: Associate Research Scientist, NASA Exoplanet Archive Project Scientist**

NASA Exoplanet Science Institute/California Institute of Technology, Pasadena, CA, USA

**2013—2018, 2018—2020: Assistant Staff Scientist, Assistant Research Scientist**

NASA Exoplanet Science Institute/California Institute of Technology, Pasadena, CA, USA

**2010—2013: Staff Scientist, Kepler Science Office**

NASA Ames Research Center/SETI Institute, Moffett Field, CA, USA

**2008—2010: Postdoctoral Research Fellow**

Harvard-Smithsonian Center for Astrophysics, Boston, MA, USA

**2004—2007: Postgraduate Teaching Assistant**

University of New South Wales, Sydney, NSW, Australia

## Education

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2007: PhD (Astronomy), University of New South Wales, Sydney, Australia

2003: BSc Hons (Astronomy, First Class), Australian National University, Australia

2002: BSc (Advanced Studies), Griffith University, Brisbane, Australia

## Selected Awards and Achievements

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2019: NASA JPL Voyager Award

2018: NASA Exceptional Engineering Achievement Medal

2018: Outstanding Young Alumnus, Griffith University

2018: University of Southern Queensland Research Giant

2013–2017: Kepler Participating Scientist

2010: NASA Group Achievement Award to the Kepler Science Team

2009: NASA Group Achievement Award to the EPOXI Flight and Science Teams

2007: Best Student Talk, Astronomical Society of Australia

2006: Best Student Poster, Astronomical Society of Australia

2003: Honours Scholarship, Australian National University

2002: Science Medal (highest achieving science graduate), Griffith University

2002: Joe Segal Prize (highest achieving graduate from the Bachelor of Science with Advanced Studies), Griffith University

2000, 2001, 2002: Awards for Academic Excellence, Griffith University

## Selected Refereed Publications

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Zink, J. K., Hardegree-Ullman, K. K., **Christiansen, J. L.** et al. accepted, *AJ*, *Scaling K2. IV. A Uniform Planet Sample for Campaigns 1-8 and 10-18*

Hardegree-Ullman, K. K., **Christiansen, J. L.**, Ciardi, D. R. et al. 2021, *AJ*, 161, 219, *K2-138 g: Spitzer Spots a Sixth Planet for the Citizen Science System*

**Christiansen, J. L.**, Clarke, B. D., Burke, C. J. et al. 2020, *AJ*, 160, 4, *Measuring Transit Signal Recovery in the Kepler Pipeline IV: Completeness of the DR25 Planet Candidate catalog*

Zink, J. K., Hardegree-Ullman, K. K., **Christiansen, J. L.** et al. 2020, *AJ*, 160, 94, *Scaling K2. II. Assembly of a Fully Automated C5 Planet Candidate Catalog Using EDI-Vetter*

Hardegree-Ullman, K. K., Zink, J. K., **Christiansen, J. L.** et al. 2020, *ApJS*, 247, 28, *Scaling K2. I. Revised Parameters for 222,088 K2 Stars and a K2 Planet Radius Valley at 1.9  $R_{\oplus}$*

Zink, J. K., **Christiansen, J. L.** & Hansen, B. M. S. 2019, MNRAS, 483, 4, *Accounting for incompleteness due to transit multiplicity in Kepler planet occurrence rates*

**Christiansen, J. L.**, Crossfield, I. J. M., Barentsen, G., et al. 2018, AJ, 155, 57, *The K2-138 System: A Near-resonant Chain of Five Sub-Neptune Planets Discovered by Citizen Scientists*

**Christiansen, J. L.**, Vanderburg, A., Burt, J., et al. 2017, AJ, 154, 122, *Three's Company: An Additional Non-transiting Super-Earth in the Bright HD 3167 System, and Masses for All Three Planets*

**Christiansen, J. L.**, Clarke, B. D., Burke, C. J., et al. 2016, ApJ, 828, 99, *Measuring Transit Signal Recovery in the Kepler Pipeline. III. Completeness of the Q1-Q17 DR24 Planet Candidate Catalogue with Important Caveats for Occurrence Rate Calculations*

**Christiansen, J. L.**, Clarke, B. D., Burke, C. J., et al. 2015, ApJ, 810, 95, *Measuring Transit Signal Recovery in the Kepler Pipeline II: Detection Efficiency as Calculated in One Year of Data*

Burke, C. J., **Christiansen, J. L.**, Mullally, F., et al. 2015, ApJ, 809, 8, *Terrestrial Planet Occurrence Rates for the Kepler GK Dwarf Sample*

**Christiansen, J. L.**, Clarke, B. D., Burke, C. J. et al. 2013, ApJS, 207, 35, *Measuring Transit Signal Recovery in the Kepler Pipeline I: Individual Events*

Hopkins, P. F. & **Christiansen, J. L.** 2013, ApJ, 776, 48, *Turbulent Disks are Never Stable: Fragmentation and Turbulence-promoted Planet Formation*

**Christiansen, J. L.**, Jenkins, J. M., Barclay, T. S. et al. 2012, PASP, 124, 1279, *The Derivation, Parameters and Value of Kepler's Combined Differential Photometric Precision*

**Christiansen, J. L.**, Ballard, S., Charbonneau, D., et al. 2011, ApJ, 710, 97, *Studying the atmosphere of the exoplanet HAT-P-7b via secondary eclipse measurements with EPOXI, Spitzer and Kepler*

Ballard, S., **Christiansen, J. L.**, Charbonneau, D. et al. 2011, ApJ, 732, 41, *A Search for Additional Planets in Five of the Exoplanetary Systems Studied by the NASA EPOXI Mission*

**Christiansen, J. L.**, Ballard, S., Charbonneau, D. et al. 2011, ApJ, 726, 94, *System Parameters, Transit Times, and Secondary Eclipse Constraints of the Exoplanet Systems HAT-P-4, TrES-2, TrES-3, and WASP-3 from the NASA EPOXI Mission of Opportunity*

Ballard, S., **Christiansen, J. L.**, Charbonneau, D. et al. 2010, ApJ, 716, 1047, *A Search for Additional Planets in the NASA EPOXI Observations of the Exoplanet System GJ 436*

**Christiansen, J. L.**, Drekas, A., Kiss, L. L., et al. 2008, MNRAS, 385, 1749, *The University of New South Wales Extrasolar Planet Search: a catalogue of variable stars from fields observed between 2004 and 2007*

**Christiansen, J. L.**, Drekas, A., Ashley, M. C. B., et al. 2007, MNRAS, 382, 239, *The first high-amplitude  $\delta$  Scuti star in an eclipsing binary system*

## Other Selected Publications

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Gaudi, B. S., **Christiansen, J. L.** & Meyer, M. R. 2020, The Demographics of Exoplanets, chapter in *ExoFrontiers: Big Questions in Exoplanetary Science*, ed. N. Madhusudhan

**Christiansen, J. L.** et al. 2019, *Astro2020: Decadal Survey White Papers*, BAAS, 51, 408, *Understanding Exoplanet Atmospheres with UV Observations I: NUV and Blue/Optical*

Lopez, E., Airapetian, V., **Christiansen, J. L.** et al. 2019, *Astro2020: Decadal Survey White Papers*, BAAS, 51, 522, *Understanding Exoplanet Atmospheres with UV Observations II: The Far UV and Atmospheric Escape*

**Christiansen, J. L.** et al. 2019, *Astro2020: Decadal Survey White Papers*, BAAS, 51, 312, *Mapping out the time evolution of exoplanet processes*

**Christiansen, J. L.** 2018, *Exoplanet Catalogs* chapter in *Handbook of Exoplanets*, eds. H. J. Deeg and J. A. Belmonte

## Selected Recent Colloquia and Invited Talks

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### 2021

Seminar, Princeton University, Princeton NJ

Seminar, Warsaw University Astronomical Observatory, Poland

Invited speaker, CSST-Euclid-Roman Online Workshop

Colloquium, NASA's Jet Propulsion Laboratory, Pasadena CA

Invited talk, Space Telescope Science Institute Exoplanet Symposium, Baltimore MD

Colloquium, The Ohio State University, Columbus OH

Colloquium, Case-Western University, Cleveland OH

### 2020

Colloquium, NOIRLab/Steward Observatory, Tucson AZ, USA

Invited talk, Earth 2.0 Workshop I, Shanghai, China

Colloquium, University of Oxford, England, UK

Colloquium, Instituto de Astronomia, UNAM, Mexico

Colloquium, Astronomical Society of Ireland, Ireland

Guest lecturer, Monash University, Melbourne, Australia

Colloquium, University of New Mexico, Albuquerque NM, USA

Colloquium, University of Washington, Seattle WA, USA

Invited talk, NExSS seminar, Pasadena CA, USA

Invited talk, National Academy of Sciences Astronomy Decadal Survey Panel, DC, USA

### 2019

Keynote talk, 3rd Annual RTSRE Conference, Melbourne, Australia

Colloquium, NASA Goddard Space Flight Center, Greenbelt MD, USA

Keynote talk, dotAstronomy Conference, Toronto, Canada

Invited talk, Kavli Future of Exoplanet Research Symposium, Boston MA, USA

Invited talk, Moonshots and Earthshots, Green Bank WV, USA

Colloquium, Fermilab, Chicago IL, USA

Colloquium, Pomona College, Claremont CA, USA

Invited talk, Exoplanet Science Initiative Symposium, Pasadena CA, USA

Invited talk, Kepler & K2 Science Conference V, Glendale CA, USA

Invited talk, NASA Jet Propulsion Laboratory, Pasadena CA, USA

Invited talk, TESS Data Workshop, Baltimore MD, USA

**2018** Colloquium, California Institute of Technology, Pasadena CA, USA

Keynote talk, 107th Annual Meeting of the AAVSO, Flagstaff AZ, USA

Colloquium, NRC Herzberg, UBC (Vancouver) and University of Victoria, Canada

Invited talk, ExSoCal 2018, Pasadena CA, USA  
Invited talk, Sagan Exoplanet Summer Workshop, Pasadena CA, USA  
Invited talk, Space on the Hill: Tools for Hunting Exoplanets, Washington DC, USA  
Invited talk, NASA Social TESS Mission Overview, Cape Canaveral FL, USA  
Olowin Physics and Astronomy Lecturer, St Mary's College of California, Moraga CA, USA  
Invited talk, American Association for the Advancement of Science, Austin TX, USA  
Press panelist, American Astronomical Society, National Harbor MD, USA

## 2017

Invited talk, Franco-Australian Astrobiology & Exoplanet Workshop, ACT, Australia  
Seminar, University of Toledo, Ohio, USA  
Colloquium, Carnegie Observatories, CA, USA  
Invited talk, Exoclipse: Exploring New Worlds in the Shade, ID, USA  
Invited talk, Innovation Speaker Series, CA, USA  
Invited talk, Society of Astronomical Sciences Annual Symposium, CA, USA  
Invited talk, Greater IPAC Science Symposium, CA, USA  
Seminar, Earth, Planetary & Space Sciences, UCLA, CA, USA  
Seminar, NASA Goddard Space Flight Center, MD, USA  
Invited talk, K2/TESS Special Session, AAS 229, TX, USA

## Successful Recent Proposals as PI

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2021B: Palomar 200-inch (3 nights), *Reconnaissance of new K2 planet candidates*  
2021: TESS Cycle 4, *Characterizing the resonant exoplanet system K2-138*  
2021A: Palomar 200-inch (3 nights), *Reconnaissance of new K2 planet candidates*  
2019A: Palomar 200-inch (2.5 nights), *Characterizing the Benchmark Exoplanet System K2-138: A Pilot Study*  
2018–2021: Astrophysics Data Analysis Program (\$640k), *Towards a Comprehensive Understanding of Planet Occurrence Rates: Extending the Kepler Legacy Across a Wide Stellar Parameter Space with K2* (17-ADAP17-0263)  
2018: NASA Spitzer Director's Discretionary Time (12 hours), *Extending and Characterizing an Exoplanet System in a Pristine Chain of Resonances*  
2018A: Palomar 200-inch (5 nights), *The Elephant in the Room: Correcting Kepler Occurrence Rates for Stellar Multiplicity*  
2013–2017: Kepler Participating Scientists Cycle 3 Program (\$193k), *Towards eta-Earth: Characterizing the detection rate of small planets in the Kepler pipeline* (12-KPS12-0026)  
2014B: Palomar 200-inch (1 night), *The First Characterisation of a Binary System with Planets Detected Around Both Stars*

## Community Service

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SOC member, PLATO Mission Conference 2021, October 2021, Granada, Spain  
ExoExplorers Steering Committee member, 2020–present  
Roman Science Interest Group member, 2020–present  
DPS Committee member, 2020–present  
SOC Chair, NExSci Exoplanet Demographics Conference, November 2020, CA, USA  
SOC Co-chair, TESS Science Conference I, July 2019, MA, USA  
NExSS steering committee member, 2018–present  
Exoplanet Program Analysis Group (ExoPAG) Executive Committee member, 2018–2020  
ExoPAG Science Interest Group #2 Co-chair, 2018–present  
SOC member; Sagan Summer Workshop, July 2018, CA, USA  
TESS Follow-up Observing Program steering committee member, 2017–present  
Caltech Women in Physics, Maths and Astronomy (WiPMA) faculty advisor, 2017–present

LOC member; Know Thy Star, Know Thy Planet, October 2017, CA, USA  
Caltech Women Mentoring Women group leader, 2017–2019  
SOC member; Kepler/K2 Science Conference IV, June 2017, CA, USA  
SOC member; Sagan Summer Workshop, July 2016, CA, USA  
SOC chair; ExSoCal 2016 and ExSoCal 2015, CA, USA  
IPAC seminar series organiser, 2014–2018  
NASA XRP review panelist (2014, 2017)  
NASA ADAP review panelist (2020), panel monitor (2021)  
NASA Postdoctoral Program Review (2014)  
NASA Spitzer review panelist (2016), Director's Discretionary Time reviewer (2018, 2019)  
HST review panelist (2016, 2019)  
Kepler Guest Observer Office technical reviewer (2012)  
Referee for Nature Astronomy, MNRAS, ApJ, AJ, A&A, and Astronomy & Computing