

Contact

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Education

- 2017 **Pennsylvania State University**, State College, PA
Dual PhD, Astronomy and Astrophysics and Astrobiology
“A Synergistic Approach to Interpreting Planetary Atmospheres”
Supervised by James F. Kasting, Steinn Sigurdsson
- 2013 **Cornell University**, Ithaca, NY
B.A., Physics
University of New South Wales, Sydney, Australia
Abroad Honors Thesis, Physics and Astronomy

Appointments

- 2018 **University of California Santa Cruz**, Santa Cruz, CA
UC President’s Postdoctoral Fellowship
- 2017 **Space Telescope Science Institute**, Baltimore, MD
Postdoctoral Fellow in Science Mission Office
- 2013 **Space Telescope Science Institute**, Baltimore, MD
Space Astronomy Summer Program
- 2011 **Goddard Space Flight Center**, Greenbelt, MD
Undergraduate Research Associates in Astrobiology
- 2009-2013 **Spacecraft Planetary Imaging Facility**, Ithaca, NY
Assistant Manager

Awards and Fellowships

- 2018 University of California President’s Postdoctoral Fellowship
- 2017 Ford Foundation Fellowship, Honorable Mention
- 2016-2017 Alfred P. Sloan Foundation’s Minority Graduate Scholarship
- 2016 Kavli Student Fellow
- 2015 NAI Early Career Collaboration Award
- 2015 Stephen B. Brumbach Graduate Fellowship in Astrophysics
- 2014-2017 National Science Foundation Graduate Research Fellowship
- 2013 STEM Scholar Graduate Fellow
- 2012 Douglas and Dorothy K. Wood Scholarship
- 2011 NASA/NY Space Grant Consortium

1st-3rd Author Publications

- 2018 **Batalha, N.E.**, Smith, A., Lewis, N.K., Marley, M., Fortney, J. *Color Classification of Extrasolar Giant Planets: Prospects and Cautions*, AJ <https://arxiv.org/abs/1807.08453>
- Moran, S.E., Horst, S.M., **Batalha, N.E.**, et al. *Limits on Clouds and Hazes for TRAPPIST-1 Planets*, AJ, <https://arxiv.org/abs/1810.05210>

- Batalha, N.E.**, Lewis, N.K., Line, M.R. et al. *Strategies for Constraining the Atmospheres of Temperate Terrestrial Planets with JWST*, ApJL <https://arxiv.org/abs/1803.07983>
- Batalha, N.E.**, et al., *Reply to Shaw*. EPSL, 484, 415-417
- 2017 **Batalha, N.E.**, et al., *PandExo: A Community Tool for Exoplanet Science with the JWST and HST*. PASP, 129, 976 <https://arxiv.org/abs/1702.01820>
- Batalha, N.E.**, Kempton, E., & Mbarek, R., *Challenges in Constraining Exoplanet Masses via Transmission Spectroscopy*, 2017, ApJL, 836, L5, <https://arxiv.org/abs/1701.00012>
- Batalha, N.E.**, & Line, M.R., *Information Content Analysis for Selection of Optimal JWST Observing Modes for Transiting Exoplanet Atmospheres*. ApJ, 153, 4, <https://arxiv.org/abs/1612.02085>
- 2016 **Batalha, N.E.**, et al., *Climate Cycling on Early Mars Caused by the Carbonate-Silicate Cycle*. EPSL, 455, 7-13 <https://arxiv.org/abs/1609.00602>
- Haqq-Misra, J., Kopparapu, R., **Batalha, N.E.**, et al. *Limit Cycles Can Reduce the Width of the Habitable Zone*, ApJ, <https://arxiv.org/abs/1605.07130>
- 2015 **Batalha, N.E.**, et al., *Testing the Early Mars H₂-CO₂ Greenhouse Hypothesis with a 1-D Photochemical Model*. Icarus, 258, 337-349 <https://arxiv.org/abs/1507.02569>
- 2014 **Batalha, N.E.**, et al. *Transiting Exoplanet Simulations with the James Webb Space Telescope*. JWST White Paper, <https://arxiv.org/abs/1507.02655>

Co-authored Publications

- 2018 Wakeford, H.W., 6 others, **Batalha, N.E.**, et al. *Disentangling the Planet from the Star in Late-Type M Dwarfs: A Case Study of TRAPPIST-1g*, AJ, <https://arxiv.org/abs/1811.04877>
- Kempton, Eliza M.R., 13 others, **Batalha, N.E.** et al. *A Framework for Prioritizing the TESS Planetary Candidates Most Amenable to Atmospheric Characterization*, PASP, <https://arxiv.org/abs/1805.03671>
- Bean, Jacob, 13 others, **Batalha, N.E.** et al., *The Transiting Exoplanet Community Early Release Science Program for JWST*. PASP, <https://arxiv.org/abs/1803.04985>
- Blumenthal, S., Mandell, A., Herbrard, E., **Batalha, N.E.**, et al. *Comparison of Simulated JWST Observations Derived from Equilibrium and Non-Equilibrium Chemistry Models of Giant Exoplanets*, ApJ <https://arxiv.org/abs/1712.01121>
- 2017 Kopparapu, R., Wolf, E., Arney, G., **Batalha, N.E.**, et al., *Habitable Moist Atmospheres on Terrestrial Planets Near the Inner Edge of the Habitable Zone around M-Dwarfs*. ApJ, <https://arxiv.org/abs/1705.10362>
- Christiansen, J., 27 others, **Batalha, N.E.**, et al., *Three's Company: An Additional Non-Transiting Super-Earth in the Bright HD 3167 System, and Masses for All Three Planets*, AJ, <https://arxiv.org/abs/1706.01892>
- 2015 Cowan, N.B, Greene, T., Angerhausen, D., **Batalha, N.E.** et al. *Characterizing Transiting Planet Atmospheres Through 2025*. PASP, 127, 949 <https://arxiv.org/abs/1502.00004>
- 2011 Agueros, M., Covey, K., 3 others, **Batalha, N.E.** et al., *The Factory and the Beehive. I. Rotation Periods of Low-Mass Stars in Praesepe* Apj, 740, 110

Funded Proposals

2017 Co-Investigator, HST-GO-14918 (10 orbits) *Definitive Measurement of WASP-17b's Water Abundance in Preparation of JWST*, PI: Wakeford

Teaching & Mentoring

2018 Guest Lecturer, Undergraduate Level Planetary Atmospheres, John Hopkins Univ.
 2017 K-12 Instructor at Project Favela Rocinha, Rio de Janeiro, Brazil
 2013-2017 Mentored students from underserved backgrounds through Learn to Be Foundation 501(c)(3) nonprofit

Education and Public Outreach

Involvement in Media and Online Content

2017 AAAS Catalyzing Advocacy in Science and Engineering
<https://www.aaas.org/page/about-0e>
 2014-2016 Astrobites Writer & Editor
<http://astrobites.com/author/nbatalha>
 2014-2015 NASA FameLab Science Communication
<https://www.youtube.com/watch?v=ioNSVINsW9I>
https://www.youtube.com/watch?v=T_7wlmzbLCs
<https://www.youtube.com/watch?v=dLrjPr6SFtA>
 2014-2015 New York Film Academy Science Animation Advisor

Involvement with Groups Underrepresented in STEM

2014-2017 Instructor for Centre County Prison Society Education Program
 2013-2017 Director of Programs, Learn to Be Foundation 501(c)(3) nonprofit
 2014-2015 Graduate Women in Science Girl Scout Co-Chair
 2014 McNair Scholar Graduate Student Panelist

Education & Outreach Talks

Feb 2018 George Mason University Observatory, Fairfax, VA
 July 2015 High School and Middle School Teacher Workshop, State College, PA

Presentations

Invited Talks, Seminar, Panels & Colloquia

Dec. 2018 Department of Astrobiology, University of Washington, Colloquium
Interpreting Terrestrial Exo-Atmospheres with JWST: Insights from Solar System Science
 Nov. 2018 Department of Space Sciences, Cornell University, Planetary Lunch Seminar
Interpreting Terrestrial Exo-Atmospheres with JWST: Insights from Solar System Science
 Nov. 2018 Harvard's Center for Astrophysics, Stars and Planets Seminar Series
Interpreting Terrestrial Exo-Atmospheres with JWST: Insights from Solar System Science
 Oct. 2018 Department of Astronomy & Astrophysics, UCSC, Colloquium
Interpreting Terrestrial Exo-Atmospheres with JWST: Insights from Solar System Science

- Oct. 2018 Department of Physics, University of California Merced, Colloquium
Interpreting Exoplanetary Atmospheres with the Next Generation Space-Based Telescope
- Jun. 2018 Emerging Researchers in Exoplanets Symposium, Panelist
Future of Exoplanet Research Panel
- Jun. 2018 Planetary Exploration Group, JHU Applied Physics Lab, Laurel, MD
Exoplanets in the Era of JWST and WFIRST
- Jul. 2017 Enabling Transiting Exoplanet Observations with JWST, STScI, Talk
Introduction to PandExo
- Feb. 2017 School of Earth and Space Exploration, Arizona State University, Seminar
Transiting Exoplanet Science with the James Webb Space Telescope
- Aug. 2016 Planetary Systems: A Synergistic View, Quy Nhon, Vietnam, Talk
Transiting Exoplanet Science with the James Webb Space Telescope
- Apr. 2016 Department of Terrestrial Magnetism, Carnegie Institute, Seminar
Transiting Exoplanet Science with the James Webb Space Telescope
- Mar. 2016 Goddard Space Flight Center, Greenbelt, MD, Seminar
A Community Tool for Exoplanet Science with JWST
- Mar. 2016 Center for Exoplanets and Habitable Worlds, Penn State, Seminar
A Community Tool for Exoplanet Science with JWST
- Feb. 2016 Jet Propulsion Laboratory, Seminar
Transiting Exoplanet Science with the James Webb Space Telescope
- May 2015 Penn State Board of Visitors, University Park, PA, Talk
How to search for life when we don't know what we are looking for
- May 2015 Penn State Dean of Eberly College of Science Advisory Committee, Talk
How to search for life when we don't know what we are looking for
- Mar. 2015 Center for Exoplanets and Habitable Worlds, Penn State University, Seminar
Testing the Early Mars H₂-CO₂ Greenhouse Hypothesis
- Oct. 2012 Cornell Planet Lunch Series, Ithaca, NY, Seminar
Characterizing Transiting Exoplanet GJ1214b with KECK II

Contributed Talks

- Sept. 2018 Bay Area Exoplanet Meeting, NASA Ames, CA
Color Classification of Extrasolar Giant Planets
- Jul. 2018 Exoplanets II, Cambridge, UK
Color Classification of Extrasolar Giant Planets
- May. 2018 Chesapeake Bay Area Exoplanet Meeting, Carnegie DTM, MD
Color Classification of Extrasolar Giant Planets
- Jan. 2018 Winter AAS Conference, Washington DC
Optimal Strategies for Probing Terrestrial Atmospheres with JWST
- Jan. 2017 Winter AAS Conference, Grapevine, Texas
Key Exoplanets in the JWST Era
- Oct. 2016 Division of Planetary Sciences Conference, Pasadena, CA
Climate Cycling on Early Mars via the Carbonate Silicate Cycle

Jan. 2014 Winter AAS Conference, Washington, DC
Transiting Exoplanet Simulations with JWST

Aug. 2013 Space Telescope Science Institute
Using NIRISS and NIRSpec for Transiting Exoplanet Science

Contributed Posters

Mar. 2016 Linking Disks and Exoplanet Compositions Workshop, Baltimore, MD
A Community Tool for Exoplanet Characterization with JWST

Mar. 2014 Exoplanet, Biosignatures & Instrumentation, Tucson, AZ
Warming Early Mars with H_2 and CO_2

Mar. 2014 Exoplanet, Biosignatures & Instrumentation, Tucson, AZ
Characterizing Exoplanets with JWST

Service

2017-present Referee, ApJ, ApJL
2014 ExoPAG: Science Analysis Group 10: Characterizing Exoplanets through 2025
2014 Emerging Researchers in Exoplanets Science Symposium Organizing Committee
2014 Astrobiology Graduate Conference Organizing Committee