

Brianna I. Lacy - Curriculum Vitae

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POSITIONS HELD

51 Pegasi b Post-doctoral Fellow <i>University of Texas at Austin</i>	Austin, TX September 2021 – Present
Graduate Research Assistant <i>Princeton University</i>	Princeton, NJ September 2016 – August 2021
Member of Roman-CGI Science Investigation Team <i>Princeton University</i>	Princeton, NJ July 2017 – Present
Post-Baccalaureate Research Assistant <i>University of Washington</i>	Seattle, WA August 2015 – August 2016
NASA Intern <i>Goddard Spaceflight Center</i>	Greenbelt, MD June 2015 – August 2015
Undergraduate Research Assistant <i>University of Washington</i>	Seattle, WA January 2013 – June 2015
NASA Intern <i>Marshall Spaceflight Center</i>	Huntsville, AL September 2014 – December 2014

EDUCATION

Princeton University <i>Ph.D. in Astrophysical Sciences</i>	Princeton, NJ September 2016 – August 2021
University of Washington <i>Bachelor of Science in Physics and Astronomy</i>	Seattle, WA September 2011 – May 2015

TEACHING EXPERIENCE

Prison Teaching Initiative Instructor <i>Princeton University</i>	Princeton, NJ September 2018 – March 2020
Assistant Instructor <i>Princeton University</i>	Princeton, NJ February 2017 – May 2017

PEER-REVIEWED PUBLICATIONS

- Lacy, B.** & Burrows, A., *JWST Transit Spectra II: Constraining Aerosol Species, Particle-size Distributions, Temperature, and Metallicity for Cloudy Exoplanets*, The Astrophysical Journal, Volume 904, Issue 1, id.25, 43 pp. (2020) arXiv:2007.00109
- Lacy, B.** & Burrows, A., *JWST Transit Spectra I: Exploring Potential Biases and Opportunities in Retrievals of Tidally-locked Hot Jupiters with Clouds and Hazes*, The Astrophysical Journal, Volume 905, Issue 2, id.131, 38 pp., (2020) arXiv:2006.06899
- Lacy, B.** & Burrows, A., *Prospects for Directly Imaging Young Giant Planets at Optical Wavelengths*, Astrophysical Journal, Volume 892, Issue 2, article id. 151, 20pp. (2020) arXiv:1911.10585
- Lacy, B.**; Shlivko, D.; Burrows, A., *Characterization of Exoplanet Atmospheres with the Optical Coronagraph on WFIRST*, The Astronomical Journal, Volume 157, article id. 132, 132 pp. (2019) arXiv:1801.08964
- Wallerstein, G.; Anderson, R. I.; Farrell, E. M.; Guinan, E.; Albright, M.; **Lacy, B.**; et al., *The Behavior of the Paschen and Calcium Triplet Lines in Cepheid Variables II: The 16-day Variable X Cygni*, Publications of the Astronomical Society of the Pacific, Volume 131, Issue 1003, pp. 094203 (2019) — Assembled intermediate tables and figures, measured radial velocity shifts of diagnostic spectral lines

2. Hughes, J.; **Lacy, B.**; Sakari, C.; Wallerstein, G.; Davis, C.E.; et al., *A Multiwavelength Study of the Segue 3 Cluster*, *The Astronomical Journal*, Volume 154, Number 2, article id. 57, 18 pp. (2017) arXiv:1706.01961 — Completed all data reduction and photometry
1. Agol, E.; Jansen, T.; **Lacy, B.**; Robinson, T.; Meadows, V.; *The Center of Light: Spectroastrometric Detection of Exomoons*, *Astrophysical Journal*, Volume 812, Issue 1, article id. 5, 16 pp. (2015) arXiv:1509.01615 — Contributed to methods, results, discussion and conclusion sections, working in equal partnership with fellow undergraduate Tiffany Jansen while under the advice of Prof. Eric Agol

CONFERENCE PUBLICATIONS

1. Douglas, E. S.; Ashcraft, J. N.; Belikov, R.; Debes, J.; Kasdin, J.; Krist, J.; **Lacy, B.**; et al., *A Review of Simulation and Performance Modeling Tools for the Roman Coronagraph Instrument*, *Proceedings of the SPIE*, Volume 11443, id. 1144338 11 pp. (2020) — Contributed figure and paragraphs describing exoplanet spectral models

SELECTED RESEARCH PRESENTATIONS

Directly Imaging Young Giant Planets with Roman-CGI, Roman-CGI SIT Student Symposium, Palo Alto, CA, 2020, (talk given via zoom)

Retrievals of Tidally-locked Hot Jupiters with Clouds and Hazes, JPL Exoplanet Journal Club, Pasadena, CA, 2020 (talk given via zoom)

Prospects for Directly Imaging Young Giant Planets in the Optical, Winter OWL Meeting, Honolulu, HI, 2020

Combined Effects of Aerosols and Day-Night Temperature Gradients on Transit Spectra, AAS, Honolulu, HI, 2020

Characterizing Exoplanets with WFIRST-CGI, Cornell Planet Seminar, Ithaca, NY, 2019

Prospects for Directly Imaging Young Giant Planets in the Optical, Brown Dwarf Exoplanet Connections III, Wilmington, DE, 2019

Prospects for Directly Imaging Young Giant Planets in the Optical, Extreme Solar Systems IV, Reykjavik, Iceland, 2019

Combined Effects of Aerosols and Day-Night Temperature Gradients on Transit Spectra, ExoClimes V, Oxford, UK, 2019

OUTREACH TALKS

Tracking New Exoplanet Populations with WFIRST - NASA Hyperwall Talk at AAS—Honolulu, 2020

Exploring Exomoons - presentation at University of Washington Public Observing Night—Seattle, 2015

The Expanding Universe - Planetarium Show at University of Washington—Seattle, 2015

COMMUNITY SERVICE

Referee: Astronomy & Astrophysics, *Journal of Astronomical Telescopes, Instruments, and Systems*

Mentorship: Peer mentor for Princeton post-baccalaureate student and mentor for two students through a partnership between Princeton's Women in Physics and Undergraduate Women in Physics

Leadership: Department representative to Princeton's Graduate Student Government, co-organizer of Graduate Student Mental Health Awareness Month

Trainings: Cultivating Culturally Competent Leaders workshop, How to be an Effective Ally workshop, Princeton Distress Awareness & Response training

Recurring Outreach Roles: Host for Princeton public observing nights, astro-news coordinator for Astronomy on Tap Trenton

One-time or Annual Outreach Events: Princeton Plasma Physics Laboratory's Young Women's Conference, Dia de la Ciencia, Girl Scout Space Science Badge Day, Trenton Young Scholars Institute