

Jack Lubin

Curriculum Vitae

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Jack Lubin
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EDUCATION

<i>Ph.D. Physics</i> University of California, Irvine	Expected ~2023
<i>Masters of Science, Physics</i> University of California, Irvine	2020
<i>Bachelors of Arts, Physics and Applied Mathematics</i> Vanderbilt University	2016

APPOINTMENTS

Teaching Assistant University of California, Irvine	September 2018 - Present
Associate Data Engineer Capital One Financial	June 2016 - September 2017
Physics Tutor Vanderbilt, Athletics Department	September 2015 - June 2016
Research Experience for Undergraduates (REU) Hosted at Vanderbilt University	Summer 2015

TEACHING EXPERIENCE

Teaching Assistant

September 2018 - Present

Department of Physics and Astronomy, UCI

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| • Phys 213A, Graduate Electricity & Magnetism | Winter 2022 |
| • Phys 20A, Introduction to Astronomy (3rd time) | Winter 2022 |
| • Phys 139, Observational Astronomy Lab | Fall 2021 |
| • Phys 52C, Experimental Physics Lab, Statistics (online) | Spring 2021 |
| • Phys 138, Galactic Astrophysics (online, 2nd time) | Winter 2021 |
| • Phys 20A, Introduction to Astronomy (online, 2nd time) | Winter 2021 |
| • Phys 7C, Classical Physics: Kinematics/Energy/Gravity (online) | Spring 2020 |
| • Phys 138, Galactic Astrophysics | Winter 2020 |
| • Phys 18, How Things Work | Winter 2020 |
| • Phys 20A, Introduction to Astronomy | Fall 2019 |
| • Phys 51A, Modern Physics | Spring 2019 |
| • Phys 7D, Classical Physics: Electricity and Magnetism | Winter 2019 |
| • Phys 52A, Experimental Physics Lab, Wave Theory | Fall 2018 |

HONORS, AWARDS & FELLOWSHIPS

National Osterbrock Leadership Program (NOLP) Fellow – The Physics and Astronomy Community Excellence (PACE) is a program founded at UCI by physics grad students to better facilitate new students as acclimate to grad school. We provide mentoring services and workshops. As a co-leader of the program, I help design and lead workshops as well as facilitate our peer mentorship program. The PACE recently joined NOLP, a new program designed to empower rising leaders in the astronomy. "The Osterbrock Leadership Program provides unique training opportunities to the UCSC [and now UCI too] Astronomy graduate community through a variety of educational activities, mentorships with outstanding leaders, and leadership experiences conceived and executed by the students themselves." <https://aas.org/education/national-osterbrock-leadership-program> 2021

Highest Honors in Astronomy – For successful defense of undergrad honors thesis 2016

Larry Ross Cathey Award – For best undergrad honors thesis in astronomy 2016

Sigma Pi Sigma – Member 2016

COMMUNITY SERVICE AND OUTREACH

Physics & Astronomy Community Excellence (PACE), Co-Leader. A UCI graduate student led organization providing a peer-mentoring program and career-building workshops for graduate students. Helped organize and run workshops. Academic year 2020-2022.

Physics Graduate Caucus (PGC), Treasurer. The student-run government representing graduate student interests to the department. Served for 3 academic years, 2019-2022.

Intro2Astro Summer Course, Grad student mentor. A 10 week free introduction to astronomy research for aspiring students/researchers/enthusiasts. Helped organize and run weekly seminars, recorded to YouTube, as well as lead two lessons per year. Summers 2021 and 2022

Osterbrock Sierra Conference Campus Leader. Helped plan, organize, and implement the annual camping conference/retreat for astro grad students across the UC system. Summer 2020 (entirely planned, but then cancelled due to Covid) and Summer 2021 (entirely planned, but then cancelled due to wildfires).

Science Olympiad Test Writer, Orange County Regional. Authored, proctored, and scored the *Astronomy B* and *Astronomy C* tests for local 5th and 6th graders. Hosted at UCI, February 15, 2020.

Referee for AAS Journals, I have been asked, and accepted, the role of referee for an academic paper in review. The paper was ultimately accepted for publication in The Astrophysical Journal. **Count: 1.**

PRESENTATIONS

“Stellar Activity Manifesting at a One Year Alias Explains Barnard b as a False Positive”, AAS 240, Talk, Pasadena, June 14, 2022.

“Stellar Activity Manifesting at a One Year Alias Explains Barnard b as a False Positive”, Exoplanets IV, Talk, Las Vegas, May 5, 2022.

Cal-Bridge Graduate Student Workshop, Cal-Bridge Program, Panel Member. In-person, April 24, 2022.

“Trends and Biases in the Now 5000 Strong Exoplanet Population”, UCI Undergraduate Astronomy Club, Talk. In-person, April 13, 2022.

“TKS IX: HD 191939 Hosts a Multi-Planet System”, Keck Science Meeting. Poster, Virtual. Sepember 9, 2021

“The Lives and Deaths of Barnard b”, Astronomy on Tap, Penn State University. Public Talk, Virtual. June 21, 2021 <https://www.youtube.com/watch?v=D7-3lwf4D7E>

“TKS IX: HD 191939 Hosts a Multi-Planet System”, Emerging Researchers in Exoplanet Science (ERES) 2021, Talk. Virtual, May 24, 2021.

“My Research in Exoplanets”, UCI Undergraduate Astronomy Club, Talk. Virtual, February 3, 2021.

“TKS V: HD 191939 Hosts a 5 Planet System”, American Astronomical Society (AAS) 237th Meeting Oral Session 117, Talk. Virtual, January 11, 2021.

Teaching Assistant Professional Development Training, Panel Member. Virtual, November 5, 2020

The Search for M-M Eclipsing Binaries, Vanderbilt University Science Fair, Poster. September 17, 2015.

Professional Development

CodeAstro, An astronomy-focused workshop teaching best coding practices for software development, testing, and publishing. June 21-24, 2022

PRESS COVERAGE

“Planet Around Barnard’s Star Probably Doesn’t Exist At All”, Scientias.nl (Dutch language science news website), May 26, 2021
<https://www.scientias.nl/planeet-rond-ster-van-barnard-bestaat-waarschijnlijk-toch-niet/>

“Astronomers Challenge Claim of Planet Around Barnard’s Star”, Sky & Telescope, May 21, 2021
<https://skyandtelescope.org/astronomy-news/astronomers-challenge-claim-of-planet-around-barnards-star/>

“Astronomers Nix Idea Of Super-Earth Around Barnard’s Star”, Forbes, May 18, 2021
<https://www.forbes.com/sites/brucedorminey/2021/05/18/astronomers-nix-idea-of-super-earth-around-barnards-star/?sh=7f57afca842a>

“A very stealthy alias: the impostor planet of Barnard’s star”, HPF Blog, May 17, 2021
<https://hpf.psu.edu/2021/05/17/barnard/>

“Astronomers use new technology developed with help from UC Irvine professor to look for habitable planets”, LA Times, March 11, 2019

<https://www.latimes.com/socal/daily-pilot/news/tn-dpt-me-hpfuci-20190311-story.html>

PUBLICATIONS

First Author

TESS-Keck Survey IX: Masses of Three Sub-Neptunes Orbiting HD 191939 and the Discovery of a Warm Jovian Plus a Distant Sub-Stellar Companion <https://arxiv.org/abs/2108.02208>. August 5, 2021.

Stellar Activity Manifesting at a One Year Alias Explains Barnard b as a False Positive <https://arxiv.org/abs/2105.07005>. May 18, 2021.

A Bright Short Period M-M Eclipsing Binary from the KELT Survey: Magnetic Activity and the Mass-Radius Relationship for M-dwarfs <https://arxiv.org/abs/1706.02401>. June 7, 2017.

N Author

The TESS Grand Unified Hot Jupiter Survey. I. Ten TESS Planets <https://arxiv.org/abs/2205.09728> May 20, 2022

The TESS-Keck Survey. XI. Mass Measurements for Four Transiting sub-Neptunes orbiting K dwarf TOI-1246 <https://arxiv.org/abs/2204.11895> April 26, 2022

TOI-1696 and TOI-2136: Constraining the Masses of Two Mini-Neptunes with HPF <https://arxiv.org/abs/2204.09063> April 21, 2022

A close-in puffy Neptune with hidden friends: The enigma of TOI 620 <https://arxiv.org/abs/2204.03108> April 7, 2022

Rotational modulation of spectroscopic Zeeman signatures in low-mass stars <https://arxiv.org/abs/2201.11288> January 27, 2022

TESS Giants Transiting Giants II: The hottest Jupiters orbiting evolved stars <https://arxiv.org/abs/2201.04140> January 13, 2022

The TESS-Keck Survey. VIII. Confirmation of a Transiting Giant Planet on an Eccentric 261 day Orbit with the Automated Planet Finder Telescope

<https://arxiv.org/abs/2201.04146> January 13, 2022

TOI 560 : Two Transiting Planets Orbiting a K Dwarf Validated with iSHELL, PFS and HIRES RVs

<https://arxiv.org/abs/2112.13448> December 27, 2021

An eccentric Brown Dwarf eclipsing an M dwarf

<https://arxiv.org/abs/2112.03959> December 7, 2021

SOLES II: The Aligned Orbit of WASP-148b, the Only Known Hot Jupiter with a Nearby Warm Jupiter Companion, from NEID and HIRES

<https://arxiv.org/abs/2110.08832> October 17, 2021

HD207897 b: A dense sub-Neptune transiting a nearby and bright K-type star

<https://arxiv.org/abs/2110.08597> October 16, 2021

TKS V. Twin sub-Neptunes Transiting the Nearby G Star HD 63935

<https://arxiv.org/abs/2110.0688> October 1, 2021

The TESS-Keck Survey. VI. Two Eccentric sub-Neptunes Orbiting HIP-97166

<https://arxiv.org/abs/2110.05628> October 13, 2021

Constraining the Orbit and Mass of ϵ Eridani b with Radial Velocities, Hipparcos IAD-Gaia DR2 Astrometry, and Multi-epoch Vortex Coronagraphy Upper Limits

<https://arxiv.org/abs/2108.02305> August 5, 2021

A Second Planet Transiting LTT 1445A and a Determination of the Masses of Both Worlds

<https://arxiv.org/abs/2107.14737> August 2, 2021

TOI-532b: The Habitable-zone Planet Finder confirms a Large Super Neptune in the Neptune Desert orbiting a metal-rich M dwarf host

<https://arxiv.org/abs/2107.13670> July 28, 2021

The TESS-Keck Survey: Science Goals and Target Selection

<https://arxiv.org/abs/2106.06156> June 11, 2021

TKS X: Confirmation of TOI-1444b and a Comparative Analysis of the Ultra-short-period Planets with Hot Neptunes

<https://arxiv.org/abs/2105.08844> May 20, 2021

The TESS-Keck Survey IV: A Retrograde, Polar Orbit for the Ultra-Low-Density, Hot Super-Neptune WASP-107b

<https://arxiv.org/abs/2101.09371> January 22, 2021

The TESS-Keck Survey II: An Ultra-Short Period Rocky Planet and its Siblings Transiting the Galactic Thick-Disk Star TOI-561

<https://arxiv.org/abs/2009.03071> September 7, 2020

TKS III: A Stellar Obliquity Measurement of TOI-1726 c

<https://arxiv.org/abs/2008.12397> August 27, 2020

A warm Jupiter transiting an M dwarf: A TESS single transit event confirmed with the Habitable-zone Planet Finder

<https://arxiv.org/abs/2007.07098> June 14, 2020

Persistent starspot signals on M dwarfs: multi-wavelength Doppler observations with the Habitable-zone Planet Finder and Keck/HIRES

<https://arxiv.org/abs/2005.09657> May 19, 2020

The multi-planet system TOI-421 – A warm Neptune and a super puffy mini-Neptune transiting a G9 V star in a visual binary

<https://arxiv.org/abs/2004.10095> April 21, 2020

TOI-1235 b: a keystone super-Earth for testing radius valley emergence models around early M dwarfs

<https://arxiv.org/abs/2004.06682> April 14, 2020

The TESS-Keck Survey I: A Warm Sub-Saturn-mass Planet and a Caution about Stray Light in TESS Cameras

<https://arxiv.org/abs/2003.10451> March 23, 2020