

Curriculum Vitae
CALEB K. HARADA

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Education

Ph.D. in Astrophysics, University of California, Berkeley	May 2025 (expected)
M.A. in Astrophysics, University of California, Berkeley	May 2022
B.S. in Astronomy, University of Maryland, College Park <i>Magna Cum Laude</i> Honors Thesis: “Signatures of Clouds in Hot Jupiter Atmospheres: Modeled High-Resolution Emission Spectra from 3D General Circulation Models” (advisor: Eliza Kempton)	May 2020
B.S. in Physics, University of Maryland, College Park <i>Magna Cum Laude</i>	May 2020

Research Appointments

NSF Graduate Research Fellow, Dept. of Astronomy, UC Berkeley	2020 – 2025
Undergraduate Researcher, Dept. of Astronomy, UMD College Park	2017 – 2020
NSF REU Fellow, Harvard-Smithsonian Center for Astrophysics	Summer 2019
Undergraduate Researcher, Dept. of Astronomy, University of Michigan	Summer 2018
Undergraduate Researcher, Dept. of Astronomy, University of Chicago	Summer 2017

Awards & Fellowships

UC Berkeley Outstanding Graduate Student Instructor Award (\$1k)	2022
National Science Foundation Graduate Research Fellowship (\$34k/yr, 3 years)	2020
Maryland Space Grant Scholarship (\$2k)	2019, 2020
UMD Physics Angelo Bardasis Memorial Scholarship (\$1k)	2018, 2019, 2020
National Science Foundation Research Experience for Undergraduates (\$6k)	2019
UMD Monroe Martin Undergraduate Research Award	2018, 2019
UMD University Honors Certificate	2019
University of Maryland President’s Scholarship (\$5k/yr, 4 years)	2016

Refereed Publications

First Author

1. **Harada, C. K.**, Dressing, C. D., Alam, M. K., Kirk, J., López-Morales, M., Ohno, K., Akinsanmi, B., Barros, S. C. C., Buchhave, L. A., Collier Cameron, A., Crossfield, I. J. M., Dai, F., Gao, P., Giacalone, S., Grouffal, S., Lillo-Box, J., Mayo, A. W., Mortier, A., Santerne, A., Santos, N. C., Sousa, S. G., Turtelboom, E. V., Vanderburg, A., & Wheatley, P. J., “Stability and Detectability of Exomoons Orbiting HIP 41378 f, a Temperate Jovian Planet with an Anomalously Low Apparent Density,” 2023, [Submitted to *AJ*, under review](#)
2. **Harada, C. K.**, M.-R. Kempton, E., Rauscher, E., Roman, M., Malsky, I., Brinjikji, M., & diTomasso, V., “Signatures of Clouds in Hot Jupiter Atmospheres: Modeled High-Resolution Emission Spectra from 3D General Circulation Models,” 2021, [ApJ, 909, 85](#)

Contributing Author

1. Turtelboom, E. V., et al. (78 co-authors, including **Harada, C. K.**), “The TESS-Keck Survey. XI. Mass Measurements for Four Transiting Sub-Neptunes Orbiting K-dwarf TOI 1246,” 2022, [AJ, 163, 293](#)
2. Malsky, I., Rauscher, E., M.-R. Kempton, E., Roman, M., Long, D., & **Harada, C. K.**, “Modeling the High-Resolution Emission Spectra of Clear and Cloudy Nontransiting Hot Jupiters,” 2021, [ApJ, 923, 62](#)
3. Duck, A., **Harada, C. K.**, Harrell, J., Morris, R. A., Williams, E., Crossfield, I., Werner, M., & Deming, D., “K2, Spitzer, and TESS Transits of Four Sub-Neptune Exoplanets” 2021, [AJ, 162, 136](#)
4. Roman, M. T., M.-R. Kempton, E., Rauscher, E., **Harada, C. K.**, Bean, J. L., & Stevenson, K. B., “Clouds in Three-Dimensional Models of Hot Jupiters Over a Wide Range of Temperatures I: Thermal Structures and Broadband Phase Curve Predictions,” 2021, [ApJ, 908, 101](#)
5. Vissapragada, S., Knutson, H. A., Jovanovic, N., **Harada, C. K.**, Oklopčić, A., Eriksen, J., Mawet, D., Millar-Blanchaer, M. A., Tinianont, S., & Vasisht, G., “Constraints on Metastable Helium in the Atmospheres of WASP-69b and WASP-52b with Ultra-Narrowband Photometry,” 2020, [AJ, 159, 278](#)
6. Collins, K., et al. (110 co-authors, including **Harada, C. K.**), “The KELT Follow-Up Network and Transit False Positive Catalog: Pre-vetted False Positives for TESS,” 2018, [AJ, 156, 234](#)

Funded Proposals

NASA *James Webb Space Telescope* Cycle 1 (co-investigator) 2021
“Transmission Spectroscopy of the Super-Neptune WASP-166b” (PI: Andrew Mayo)

Observing Experience

3.0-meter Shane Telescope (ShARCS), Lick Observatory: *1 night*

7-inch Astrophysics Refractor (SBIG CCD), UMD Campus Observatory: *9 nights*

Selected Talks

Invited Talks

UC Santa Cruz Planetary Lunch Talk Seminar Series 2022
“Two Tales from the Crypt: Signatures of Clouds in Hot Jupiter Ahhh!-tmospheres + Dynamical Stability of ExomoOoOons,” Santa Cruz, CA, 31 October

Contributed Talks

Code/Astro Summer Workshop 2023
“LTEpy: an open source Python tool for simple LTE calculations,” Evanston, IL, 14 July

UC Berkeley Astronomy Lunch Talks 2022
“Stability of exomoons orbiting HIP 41378 f, a temperate super-puff in a multi-planet system,” Berkeley, CA, 20 October

Bay Area Exoplanet Meeting #36 2021
“Cloudy Hot Jupiters: Predictions of High-resolution Thermal Emission Spectra,” Virtual, 5 March

UMD Astronomy Honors Thesis Talks 2020
“Signatures of Clouds in Hot Jupiter Atmospheres: Modeled High-Resolution Emission Spectra from 3D General Circulation Models,” Virtual, 17 April

UMD Joint Exoplanet Group Meeting 2019
“Atmospheric Escape in Exoplanets: Simulated 10830 Å Helium Line Absorption,” College Park, MD, 2 October

SAO/Harvard-Smithsonian Center for Astrophysics REU Symposium 2019
“Atmospheric Escape in Exoplanets: Simulated 10830 Å Helium Line Absorption,” Cambridge, MA, 8 August

UMD Astronomy Summer Research Talks 2018
“Simulated Emission Spectra of Hot Jupiters with Cloudy Atmospheres,” College Park, MD, 14 September

UChicago Astronomy Summer Research Talks 2017
“Photometry of M-Dwarf Binaries in Young Moving Groups,” Chicago, IL, 18 August

Public Talks

UMD Observatory Open House 2017
“Exploring the Cepheid Period-Apparent-Magnitude Relation in M31 with iPTF,” College Park, MD, 5 December

Selected Posters

American Astronomical Society Meeting #241 2023
Hellum Bye, C., Eiden, K., Gardiner, E., **Harada, C. K.**, Isaacson, H., & Sandford, N., “Organizing in Astronomy and Academia: Tales from UCB Astronomy” ([iPoster](#))
Seattle, WA, 9 January

American Astronomical Society Meeting #235 2020
Harada, C. K., & Oklopčić, A., “New Insights into the Escaping Atmospheres of HAT-P-11b and WASP-69b: Simulated 10830 Å Helium Line Transmission Spectra” ([ADS abstract](#))
Honolulu, HI, 6 January

Chesapeake Bay Area Exoplanet Meeting 2019
Harada, C. K., M.-R. Kempton, E., Rauscher, E., & Roman, M., “Simulated Emission Spectra of Hot Jupiters with Active Clouds from 3D GCMs”
College Park, MD, 15 February

American Astronomical Society Meeting #233 2019
Harada, C. K., M.-R. Kempton, E., Rauscher, E., & Roman, M., “Simulated Emission Spectra of Hot Jupiters with Active Clouds from 3D GCMs” ([ADS abstract](#))
 Seattle, WA, 8 January

American Astronomical Society Meeting #233 2019
 Duck, A. E., **Harada, C. K.**, Harrell, J., Williams, E., Morris, R. A., Deming, D., Werner, M., & Crossfield, I., “K2 and Spitzer Joint Analysis of 4 Transiting Exoplanets” ([ADS abstract](#))
 Seattle, WA, 8 January

UMD Undergraduate Research Day 2018
Harada, C. K., & Warner, E., “KELT-FUN: Hunting for Hot Exoplanets at the UMD Observatory”
 College Park, MD, 25 April

Teaching Experience

*** Indicates head GSI*

The Planets (ASTRON C12), UC Berkeley
 Graduate Student Instructor** Spring 2023
Weekly office hours (“TALC”) + one 1-hour discussion section (~20 enrolled students)
Lead weekly GSI meetings, delegate GSI tasks, manage communications between course staff

Atmospheric Physics and Dynamics (EPS C181), UC Berkeley
 Course Reader Fall 2022
Weekly office hours + grading assignments and exams (~15 enrolled students)

Introduction to Astrophysics (ASTRON 7A), UC Berkeley
 Guest Lecturer, 18 October Fall 2022
1.5-hour lecture with ~100 enrolled students
 Graduate Student Instructor Fall 2021
Weekly office hours (“TALC”) + two 1-hour discussion sections (~25 enrolled students each)

Introductory Astrophysics II (ASTRO 121), UMD College Park
 Lab Teaching Assistant Spring 2020
Weekly office hours + 2-hour lab (~20 enrolled students)
 Course Tutor Spring 2018
Weekly 1-hour tutoring sessions

Observational Astronomy (ASTRO 310), UMD College Park
 Lab Teaching Assistant Fall 2018, Fall 2019
Weekly office hours + 2-hour lab (~20 enrolled students)

Academic Service

Graduate Student Representative, UC Berkeley Astronomy Climate Advisors Committee 2021, 2022

Rank-and-file Organizer, SRU/UAW-2865 Astronomy Organizing Committee (Fall) 2022

Discussion Facilitator, UC Berkeley Queer Grads in Astronomy Info Session (17 March) 2022

Panel Chair, Berkeley Astronomy Prospective Grad Visit Q&A Panel (18 March) 2021

Committee Member, Berkeley Astronomy Prospective Grad Visit Planning Committee (Spring) 2021

Visiting Member, University of Michigan Astronomy DEI Committee (Summer) 2018

Outreach & Mentoring

POWER Bay Area Organizing Committee, Mentor Coordinator <i>Recruiting and matching UC Berkeley grad student mentors with undergraduate students from local community colleges</i>	2022 – 2023
Society of Women in the Physical Sciences at UC Berkeley, Grad Student Mentor <i>Monthly meetings with 3 undergraduate mentees</i>	2022
UMD Astronomy Peer Mentoring Program, Undergraduate Mentor <i>Monthly meetings with 1-2 new astronomy majors</i>	2018 – 2020
University of Maryland Campus Observatory, Open House Volunteer <i>Led biweekly public observing on 7-inch, 8-inch, and 14-inch telescopes</i>	2016 – 2020
University of Maryland “Maryland Day”, Outreach Volunteer <i>Led public solar observing, & UMD Astronomy Department info booth</i>	2017, 2018, 2019
University of Maryland “Physics is Fun”, Outreach Volunteer <i>Led public physics demo for UMD Physics Department event</i>	2016

Conferences & Workshops Attended

<i>Workshop.</i> Code/Astro Workshop at NU-CIERA, Evanston, IL, 10–14 July	2023
<i>Conference.</i> Bay Area Exoplanet Meeting #41, Santa Cruz, CA, 15 July	2022
<i>Workshop.</i> Other Worlds Laboratory Summer Program, Santa Cruz, CA, 12–13 July	2022
<i>Workshop.</i> TRAIL: SVSH Prevention & Response Training, Berkeley, CA, 16 November	2021
<i>Workshop.</i> UCO/Lick Observational Astronomy Workshop, Mt. Hamilton, CA, 26–28 August	2021
<i>Conference.</i> Exoplanet CloudNineCon, Virtual, 11 August	2021
<i>Conference.</i> TESS Science Conference II, Virtual, 2–6 August	2021
<i>Conference.</i> Bay Area Exoplanet Meeting #37, Virtual, 11 June	2021
<i>Conference.</i> Bay Area Exoplanet Meeting #36, Virtual, 5 March	2021
<i>Conference.</i> Bay Area Exoplanet Meeting #35, Virtual, 18 December	2020
<i>Workshop.</i> UCO/Lick Observational Astronomy Workshop, Virtual, 9–11 October	2020
<i>Conference.</i> Bay Area Exoplanet Meeting #34, Virtual, 4 September	2020
<i>Conference.</i> American Astronomical Society Meeting #235, Honolulu, HI, 4–8 January	2020
<i>Conference.</i> TESS Science Conference I, Cambridge, MA, 29 July–2 August	2019
<i>Conference.</i> Chesapeake Bay Area Exoplanet Meeting, College Park, MD, 15 February	2019
<i>Conference.</i> American Astronomical Society Meeting #233, Seattle, WA, 6–10 January	2019

Selected Coursework

Astronomy Data Science Lab (grad), UC Berkeley
Astrophysical Fluid Dynamics (grad), UC Berkeley
Astrophysics of Exoplanets (upper-div undergrad), UMD College Park
Atmospheric Physics and Dynamics (upper-div undergrad), UC Berkeley
Computational Astrophysics (upper-div undergrad), UMD College Park
Cosmology and Extragalactic Astronomy (grad; audit), UC Berkeley
Galactic Structure and Stellar Dynamics (grad), UC Berkeley
High Energy Astrophysics (upper-div undergrad), UMD College Park
Pedagogy in Astronomy (grad), UC Berkeley
Planetary Astrophysics (grad; audit), UC Berkeley
Radiative Processes in Astrophysics (grad), UC Berkeley
Stellar Structure and Evolution (grad), UC Berkeley

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