

Curriculum Vitae
CALEB K. HARADA

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Education

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|---|-----------------|
| Ph.D. in Astrophysics, University of California, Berkeley | 2026 (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

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| 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

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| National Science Foundation Graduate Research Fellowship (\$34k/yr, 3 years) | 2020 – 2025 |
| Climatebase Fellowship, Cohort 4 (<i>deferred</i>) | 2023 |
| UC Berkeley Outstanding Graduate Student Instructor Award (\$1k) | 2022 |
| 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

2. **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, [AJ](#), **166**, 208
1. **Harada, C. K.**, M.-R. Kempton, E., Rauscher, E., Roman, M., Malsky, I., Brinjkij, 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

7. Desai, A., Turtelboom, E. V., **Harada, C. K.**, Dressing, C. D., Rice, D. R., Brinkman, C. L., Crossfield, I. J. M., Dai, F., Hill, M. L., Fetherolf, T., Giacalone, S., Howard, A. W., Huber, D., Isaacson, H., Kane, S. R., Lubin, J., MacDodd, M. G., Mayo, A. W., Močnik, T., Akana Murphy J. M., Polanski, A. S., Rice, M., Robertson, P., Rubenzahl, R. A., Van Zandt, J., Weiss, L. M., Bieryla, A., Buchhave, L. A., Jenkins, J. M., Kostov, V. B., Levine, A. M., Lillo-Box, J., Paegert, M., Rabus, M., Seager, S., Stassun, K. G., Ting, E. B., Watanabe, D., & Winn, J. N. “The TESS-Keck Survey. XVIII. A Sub-Neptune and Spurious Long-period Signal in the TOI-1751 System,” 2023, Submitted to *AJ*, *under review*
6. 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
5. 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
4. 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
3. 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
2. 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
1. 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

(CoI) NASA *James Webb Space Telescope*, Cycle 1 GO Program ID 2062 (PI: Mayo) 2021
“Transmission Spectroscopy of the Super-Neptune WASP-166b”

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

- NExSci Sagan Summer Workshop 2023
Mayo, A., **Harada, C. K.**, & Dressing, C. D., “Enriching Our View of Multiplanet Systems with High-Cadence Observations of 914 TESS Targets” ([Online version](#))
Pasadena, CA, 25 July
- 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*

Introduction to Astrophysics (ASTRON 7A), UC Berkeley
 Guest Lecturer, 5 September Fall 2023
 Guest Lecturer, 18 October Fall 2022
1.5-hour lectures (~100 enrolled students)
 Graduate Student Instructor Fall 2021
Weekly office hours (“TALC”) + two 1-hour discussion sections (~25 enrolled students each)

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)

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

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| 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

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| 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

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| <i>Workshop.</i> NExSci Sagan Summer Workshop, Pasadena, CA, 24–28 July | 2023 |
| <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 |

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| <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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