

# CLAIRE LAMMAN

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## INTERESTS

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I bridge the fields of cosmology and galactic astrophysics by finding novel correlations between objects in the non-linear regime of galaxy dynamics, such as galaxies and galaxy groups, and the large-scale structure of the Universe. I am interested in refining ways to quantify these correlations and exploring the additional cosmological information they reveal in large spectroscopic surveys like [DESI](#). I am also passionate about outreach and strive to make our research accessible to broad audiences through creative mediums.

## EDUCATION

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<b>Harvard University</b>	2019 - 2025
Advisor: Daniel Eisenstein	
<b>Ph.D.</b> , Astronomy and Astrophysics	May 2025
<b>M.S.</b> Astrophysics	May 2022
<b>University of Colorado Boulder</b>	2015 - 2019
Astrophysical and Planetary Sciences, <i>Summa Cum Laude</i>	
<b>B.A.</b> Astronomy	May 2019
<b>B.A.</b> Physics	May 2019

## PREVIOUS POSITIONS

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<b>Independent Research</b> University of Colorado, Boulder	2017 - 2019
<i>M-dwarf multiplicity survey, awarded \$3k grant by Boettcher Foundation to support research.</i>	
<i>Advisor: Zachory Berta-Thompson</i>	
<b>REU Student</b> University of Hawai'i	2017
<i>Analyzing <a href="#">Robo-AO</a> observations. Advisor: Christoph Baranec</i>	
<b>Undergraduate Research Assistant</b> University of Colorado, Boulder	2017
<i>CMB Observations with South Pole Telescope. Advisor: Nils Halverson</i>	

## SELECTED AWARDS

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<b>NSF Astronomy and Astrophysics Postdoctoral Fellow</b>	2025
<b>National Academies Eric and Wendy Schmidt Award for Excellence in Science Communications</b>	2024
<i>Graduate student winner, \$20k prize.</i>	
<i>Citation: "Claire Lamman makes complex topics accessible with creativity and innovation. Her use of unique and diverse mediums, including cartoon annotations of scientific papers, to communicate cosmology demonstrates her ingenuity and potential to reach wider audiences and highlights her ability to communicate science through diverse and engaging mediums."</i>	
<b>Harvard Horizons Scholar</b>	2024
<i>Selected by faculty as one of eight students to represent extraordinary PhD research at Harvard.</i>	
<b>NSF Graduate Research Fellow</b>	2019 - 2023

**Certificate of Distinction in Teaching** 2020, 2021, 2022  
*Awarded by Harvard's Bok Center to teaching fellows with an overall student evaluation of 4.5 / 5.0 or higher.*

**University of Colorado Outstanding Undergraduate** 2019  
*Top honor for CU Boulder's College of Arts and Sciences Fall 2019 graduating class.*

**Chambliss Astronomy Achievement Award (231st AAS Meeting)** 2018

**Jacob Van Ek Scholar** 2018  
*"One of the highest honors in CU's College of Arts & Sciences" recognizing superior academic achievement.*

**Boettcher Scholar** 2015 - 2019  
*Merit-based, full-ride scholarship to any Colorado university*

## OUTREACH

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I create many outreach materials, including accessible paper summaries (as featured in [Physics Today](#)), [artwork](#), [comics](#), and even [cakes](#)! Here are my formal outreach roles; public talks are listed below.

**DESI Press & Visualizations** 2024  
*Create graphics for and help construct DESI's press releases, including our [Y1 results](#).  
Featured in over 500 unique articles, including the [New York Times](#), [NPR](#), and [The Guardian](#).*

**Planetarium Film: "5000 Eyes: Exploring the Universe with DESI"** Premiered 2023  
*In Collaboration with DESI and Fiske Planetarium*

- Conceived, secured \$73k, wrote, and directed
- Film translated into 8 languages and downloaded by over 250 theaters in 41 countries.

**DESI's Education and Outreach Committee** 2021 - present  
**Co-chair as of 2023.** *Making DESI's science and data accessible to broad audiences through [DESI's website](#), events, press, and coordinating efforts within the 700-member collaboration.*

**ComSciCon Leadership Team** 2019 - 2023

- Organizer of Flagship Workshops '20, '21, '22
- Co-chair of Flagship Local Organizing Committee '21, '22
- Chair of Flagship Application Committee, '21, '22

**Fiske Planetarium (CU Boulder)** 2015 - 2019  
*Presented over 300 astronomy shows to the public and school groups, worked with lecturers to develop shows, trained student employees, operated theater, led outreach trips, laserist.*

**NASA Film Grant** 2017 - 2019  
*Helped create a series of short planetarium films with Fiske Planetarium.  
Conceived and wrote scripts for [Parker Solar Probe](#) and [Transiting Exoplanet Survey Satellite](#)*

**CU STARs** 2015 - 2019  
*University group for astronomy and STEM inclusivity, outreach to under-privileged Colorado high schools*

**Imiloa Astronomy Center** 2017  
*Volunteer at planetarium and Hawai'ian cultural center*

## COLLABORATION MEMBERSHIPS

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Dark Energy Spectroscopic Instrument ([DESI](#))

**Builder**

*Eligible for continuing participation at non-DESI institutions*

July 2019 - Present

February 2025 - Present

## SERVICE

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**DESI Intrinsic Alignment meeting organizer**

2023 - present

**Reviewer**

2024, 2025

*Open Journal of Astrophysics, The Journal of Open Source Software (JOSS), The Astrophysical Journal*

**Lead organizer of [LILAC Workshop](#)**

2024

Including instigating and raising \$6.9k to fund the workshop.

**Faculty Hiring Student Representative (Harvard University)**

2023

*Elected to gather and report student sentiment to faculty hiring committee*

**White Paper Contributions**

2023

- CfA white paper, co-lead author “ComSciCon”
- CfA white paper, coauthor “A Harvard Planetarium: Opportunity for Growth and Outreach”
- Harvard Science Center white paper, coauthor “A Harvard Planetarium and Science Center Expansion”

## SCIENTIFIC PUBLICATIONS

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*I have six first-author publications and have contributed to 23 total as of May 9, 2025.*

*[Click here for a complete list \(ADS Library\).](#)*

### Lead Author

**C. Lamman**, J. Blazek, D. Eisenstein, *Optimal intrinsic alignment estimators in the presence of redshift-space distortions*, [May 2025](#) | [accessible summary](#)

**C. Lamman**, D. Eisenstein et al., *Detection of the large-scale tidal field with galaxy multiplet alignment in the DESI Y1 spectroscopic survey*, [MNRAS October 2024](#) | [accessible summary](#)

**C. Lamman**, D. Eisenstein et al., *Redshift-dependent RSD bias from Intrinsic Alignment with DESI Year 1 Spectra*, [MNRAS March 2024](#), Volume 528, Issue 4, Pages 6559–6567 | [accessible summary](#)

**C. Lamman**, E. Tsaprazi, J. Shi, N. Sarcevic, S. Pyne, E. Legnani, T. Ferrira, *The IA Guide: A Breakdown of Intrinsic Alignment Formalisms*, [Open Journal of Astrophysics February 2024](#)

**C. Lamman**, D. Eisenstein et al., *Intrinsic Alignment as an RSD Contaminant in the DESI Survey*, [MNRAS April 2023](#), Volume 522, Issue 1, Pages 117–129 | [accessible summary](#)

**C. Lamman**, C. Baranec, Z. K. Berta-Thompson, N. M. Law, J. Schonhut-Stasik, C. Ziegler, M. Salama, R. Jensen-Clem, D. A. Duev, R. Riddle, S. R. Kulkarni, J. G. Winters, J. M. Irwin, *Robo-AO M Dwarf Multiplicity Survey: Catalog*, [The Astronomical Journal March 2020](#), Volume 159 Number 4

## Selected DESI Publications

My main contributions to DESI survey include: testing fiber assignment algorithm, 30 nights of observing from commissioning through the main survey, and creating visualizations for papers and press releases.

DESI Collaboration et al., *DESI DR2 Results II: Measurements of Baryon Acoustic Oscillations and Cosmological Constraints*, [March 2025](#)

DESI Collaboration et al., *Data Release 1 of the Dark Energy Spectroscopic Instrument*, [March 2025](#)

DESI Collaboration et al., *The Dark Energy Spectroscopic Instrument: Early Data Release*, [The Astronomical Journal July 2024](#), Volume 168 Number 58

DESI Collaboration et al., *Validation of the Scientific Program for the Dark Energy Spectroscopic Instrument*, [The Astronomical Journal January 2024](#), Volume 168 Number 58

DESI Collaboration et al., *Overview of the Instrumentation for the Dark Energy Spectroscopic Instrument*, [The Astronomical Journal October 2022](#), Volume 164 Number 207

## Selected Other Publications

K. Barkaoui et al., *Three short-period Earth-sized planets around M dwarfs discovered by TESS: TOI-5720 b, TOI-6008 b, and TOI-6086 b*, [A&A July 2024](#), Volume 687 A264

My contributions: produced plots of Robo-AO contrast curves and observation descriptions

G. Tianjun et al., *TESS discovery of a sub-Neptune orbiting a mid-M dwarf TOI-2136*, [MNRAS May 2022](#), Volume 514, Issue 3, Pages 4120–4139

My contributions: provided Robo-AO contrast curve, observation descriptions, and interpretations

J. Schonhut-Stasik, D. Huber, C. Baranec, **C. Lamman**, M. Salama, R. Jensen-Clem, D. A. Duev, R. Riddle, S. R. Kulkarni, N. M. Law, *Robo-AO Kepler Asteroseismic Survey. II. Do Stellar Companions Inhibit Stellar Oscillations?* [ApJ January 2020](#), Volume 888 Number 34

My contributions: visually inspected observations with my pipeline and identified additional stellar companions

## ADVISING & MENTORING

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**Primary advisor: Annika Kumwembe** May 2024 - present  
[REU](#) Student (Center for Astrophysics) & Undergraduate Thesis (St Mary's College of Maryland)  
*Supplementing DESI multiplet measurements with imaging data.*

**Co-advisor: Miguel Perdomo** May 2024 - present  
Undergraduate Thesis (Universidad de los Andes)  
*Exploring multiplet alignment in DESI's bright galaxy survey. Primary advisor: Jaime Forero-Romero.*

**Mentor for [SAO-UMass Latino Initiative Program](#)** 2023

**Mentor for CfA Peer-Mentoring Program** 2021, 2022, 2023

## TEACHING

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<b>Astronomy Teaching Fellow</b>	Fall '20, '21, and '22
<i>Harvard University, AY 17: Galaxies and Cosmology taught by Daniel Eisenstein</i>	
<b>Observing Class Assistant</b>	Spring '23
<i>Harvard University, department observing class consisting of lectures and tours of Arizona facilities</i>	
<b>Learning Assistant</b>	Fall '16
<i>CU Boulder, Stars and Galaxies for Non-Majors taught by Doug Duncan</i>	

## INVITED TALKS

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*I have been invited to give 23 colloquium and seminar talks and given over 40 research talks.*

Astronomy Seminar <i>Perimeter Institute</i>	Jan. 2025
DESI Plenary Talk <i>DESI Collaboration Meeting</i>	Dec. 2024
Astro-Cosmology Seminar <i>Donostia International Physics Center</i>	Nov. 2024
Lunch Seminar <i>Carnegie Observatories</i>	Nov. 2024
Research Progress Meetings <i>Lawrence Berkeley National Laboratory</i>	Nov. 2024
KIPAC Tea <i>Stanford University</i>	Nov. 2024
Astro Seminar <i>New York University</i>	Oct. 2024
Cosmology Meeting <i>Flatiron Institute</i>	Oct. 2024
Cosmology Seminar <i>Princeton University</i>	Sept. 2024
Astronomy Colloquium <i>University of Wyoming</i>	April 2024
Midwest Cosmology Seminar <i>virtual</i>	March 2024
Astronomy Seminary <i>University of Massachusetts Lowell</i>	March 2024
<b>Cosmo Talks</b> <i>virtual</i>	Feb. 2024
Lawrence Berkeley National Laboratory, DESI Lunch Seminar	March 2023
Astronomy Lunch Seminar, <i>University of Colorado Boulder</i>	March 2023
Astrophysics Speaker Series, <i>University of Montreal CIELA Institute</i>	March 2023
Astronomy Seminar <i>Northeastern University</i>	Nov. 2022
LSST-DESC Intrinsic Alignment Meeting <i>virtual</i>	Oct. 2022
CCAPP Seminar, <i>Ohio State University</i>	Oct. 2022
Astro Seminar <i>Tufts University</i>	Sept. 2022
Ralf Bender's Group Seminar, <i>Max Planck Institute, virtual</i>	Sept. 2022
Seminar, <i>Kavli Institute for the Physics and Mathematics of the Universe</i>	Aug. 2022

## CONTRIBUTED & LOCAL TALKS

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Students and Faculty Forum <i>Harvard Center for Astrophysics</i>	Nov. 2024
<b>ITC Lunch Talk</b> <i>Harvard Center for Astrophysics</i>	Oct. 2024
Galaxy Groups in the era of eROSITA and Euclid <i>Sesto Italy</i>	July 2024
<b>ITC Lunch Talk</b> <i>Harvard Center for Astrophysics</i>	Oct. 2023
Lars Hernquist Group Meeting <i>Harvard Center for Astrophysics</i>	July 2023
Students and Faculty Forum <i>Harvard Center for Astrophysics</i>	March 2023

Hol-IA: A holistic approach to galaxy intrinsic alignments <i>Lorentz Center</i>	March 2023
Cosmology on the Beach <i>Cancún Mexico</i>	Dec. 2022
From galaxies to cosmology with deep spectroscopic surveys <i>Marseille France</i>	July 2022
Cosmology Journal Club, <i>Harvard Physics Department</i>	April 2022
Department Research Forum, <i>Harvard Center for Astrophysics</i>	April 2022
232 American Astronomical Society Meeting <i>Denver CO</i>	June 2018

## OUTREACH & PUBLIC TALKS

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<b>Astro on Tap: Tensions in the Dark Sector</b> <i>Aeronaut Brewing, Cambridge</i>	May 2025
<b>Harvard Horizons: Untangling the Cosmic Web</b>	<b>April 2024</b>
CYW Fair STEM Interview <i>online</i>	May 2024
Women in Cosmology Guest Lecture <i>Tufts ExCollege</i>	April 2023
“5000 Eyes” Premiere Public Talk <i>Fiske Planetarium</i>	March 2023
“5000 Eyes” Premiere, Panelist <i>Chabot Planetarium</i>	March 2023
North Shore Astronomy Club	Nov. 2021, Nov. 2023
Skype a Scientist	Oct. 2020, Feb. 2021, Jan. 2021
YouthAstroNet Astro Chat	April 2020
CU Boulder Astrophysics and Planetary Sciences Commencement Speaker	May 2019
CU Boulder College of Arts and Sciences - Honors Graduate Address	May 2019