

CLAIRE LAMMAN

ClaireLamman.com

claire.lamman@cfa.harvard.edu

Last Updated: 05/29/23

EDUCATION

Harvard University

Aug 2019 - Present

Advisor: Daniel Eisenstein

M.S Astrophysics

2022

PhD program, Astronomy and Astrophysics

in progress

University of Colorado Boulder

2015 - 2019

Astrophysical and Planetary Sciences Department

B.A. Astronomy, Summa Cum Laude

Cumulative GPA: 3.87/4.0

B.A. Physics

Department GPA: 3.85/4.0

SELECTED AWARDS

NSF GRFP 2019 - 2023

National Science Foundation Graduate Research Fellowship Program

University of Colorado Outstanding Undergraduate

Top honor for CU Boulder's College of Arts and Sciences Fall 2019 graduating class

Chambliss Astronomy Achievement Award

For undergraduate poster at 231st American Astronomical Society Meeting

Boettcher Scholar 2015 - 2019

Merit-based, four-year, full-ride scholarship to any Colorado university

Jacob Van Ek Scholar 2018

"One of the highest honors in CU's College of Arts & Sciences" recognizing superior academic achievement and outstanding contributions to the university

RESEARCH EXPERIENCE

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

Aug 2019 - Present

A global collaboration creating a spectroscopic map of 40 million galaxies

- Tested fiber assignment algorithm
- Modeled a survey bias due to galaxy orientations
- Studied the intrinsic alignment of Luminous Red Galaxies

Large M Dwarf Multiplicity Study

Aug 2017 - Aug 2019

Independent Research Project under the guidance of Zachory Berta-Thompson

- Analyzed data resulting from 2017 REU project

- Compared and combined results to previous multiplicity surveys and Gaia DR2
- Created catalog of nearby M dwarfs multiples

REU at the University of Hawai'i

May 2017 - Aug 2017

Worked with Christoph Baranec at the Institute for Astronomy

- Conceived, created, and used a Graphical User Interface to perform a series of visual checks on over 7,000 observations of M dwarfs taken by the Robo-AO system on Kitt Peak
- Successfully tested above program on the Robo-AO Kepler Astero seismic Survey
- Selected and obtained further imaging of 11 targets using NIRC2 on the KECK II telescope

Fine Scale CMB Anisotropy Measurements

Jan 2017 - May 2017

At University of Colorado, Boulder with Nils Halverson

- Analyzed data from the 10m mm-wave South Pole Telescope
- Investigated a series of unexplained gaps in the detector readout

Kilodegree Extremely Little Telescope (KELT) Follow-up

Dec 2015 - May 2017

As part of the CU KELT team led by Erica Ellingson and Zachory Berta-Thompson

- Became part of a global exoplanet follow-up network
- Observed and analyzed potential exoplanet transits using the university's 18" telescope

Searching for Supernovae

Aug 2016 - Dec 2016

Independent study with Erica Ellingson

- Processed galaxy images from Las Cumbres Observatory
- Helped assess an experimental Python pipeline

PUBLICATIONS

DESI Collaboration et al., "The Dark Energy Spectroscopic Instrument: Early Data Release", *in prep.* arXiv: -

DESI Collaboration et al., "Validation of the Scientific Program for the Dark Energy Spectroscopic Instrument", *in prep.* arXiv: -

C. Lamman et al., "Intrinsic Alignment as an RSD Contaminant in the DESI Survey", *Published in MNRAS April 2023.* arXiv: 2209.03949

DESI Collaboration et al., "Overview of the Instrumentation for the Dark Energy Spectroscopic Instrument", *Published in AJ May 2022.* arXiv: 2205.10939

Tianjun et al., "TESS discovery of a sub-Neptune orbiting a mid-M dwarf TOI-2136", *Published in MNRAS August, 2022.* arXiv: 2202.10024

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", *Published in AJ April 2020.* arXiv: 2001.05988

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?”, *Published in ApJ January 2020*. arXiv: 1910.03803

OUTREACH

Created Planetarium Film

“5000 Eyes: Exploring the Universe with DESI”

Premiered March 2023

In Collaboration with DESI and Fiske Planetarium

- Granted \$73,000 from DESI’s discretionary funding to create 25-minute planetarium film
- Conceived, wrote, directed
- Film translated into 5+ languages
- Downloaded by over 100 theaters around the world

ComSciCon, Leadership Team

Fall ‘19 - Present

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

DESI’s Education and Outreach Committee

Sept 2021 - Present

- Write [blog posts](#)
- Create [comics and other artwork](#)
- Edit material, including video scripts and museum exhibits

Fiske Planetarium

Sept 2015 - Aug 2019

At University of Colorado, Boulder

- Presented over 300 astronomy shows to the public and school groups
- Work with guest lecturers and professors to develop theater shows
- Train and evaluate other student employees
- Additional Roles: theater operator, outreach trip leader, laserist

NASA Film Grant

Jan 2017 - Aug 2019

To develop and disseminate a series of short planetarium films

- Conceived and wrote scripts about [Parker Solar Probe](#) and [Transiting Exoplanet Survey Satellite](#)
- Help design and conduct research on public interest/knowledge about NASA and space topics

CU STARs

Aug 2015 - Aug 2019

University group for astronomy outreach and STEM inclusivity

- Visit under-privileged Colorado high schools to teach astronomy lessons
- Operate telescopes and interact with the public for observatory open houses
- On-campus outreach, such as eclipse viewings and setting up solar telescope/IR camera around campus

Imiloa Astronomy Center

June 2017 - Aug 2017

Planetarium and Hawai'ian cultural center

- Volunteered while in Hilo, Hawaii during REU program
- Co-presented public show
- Made two short videos about my current research for future student visitors

TEACHING

Astronomy Teaching Fellow

Fall '20, '21, and '22

Harvard University, AY 17: Galaxies and Cosmology taught by Daniel Eisenstein

- Help develop material, lead weekly sessions, hold office hours, grade, occasionally lecture main class
- Awarded Certificate of Student Recognition of Teaching all 3 years

Observing Class Assistant

Spring '23

Harvard University

- Assistant for intensive week-long department observing class consisting of lectures and tours of Arizona facilities

Learning Assistant

Fall '16

CU Boulder, Stars and Galaxies for Non-Majors taught by Doug Duncan

- Independently led two recitations a week
- Worked with students in office hours and one-on-one sessions
- Graded recitation activities, homework, and exams

FORMAL MENTORING

SAO-UMass Latino Initiative Program

Summer '23

CfA Peer-Mentoring Program

Fall '21 - Spring '23

- Peer Mentor for two first year graduate students

Fiske Planetarium Mentoring Program

'18- Fall '19

- Mentored four incoming undergraduate planetarium presenters

SELECTED SERVICE

Faculty Hiring Student Representative

Spring '23

Harvard Center for Astrophysics

- One of two elected graduate student representatives; gathered and reported student sentiment to faculty hiring committee

Eisenstein Group Meeting Organizer

Fall '21 - Present

- Organize schedule and speakers

White Paper Contributions

May '23

- 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"

Grad Student Social Hour Organizer

Fall '19 - Spring '21

- weekly social gathering for department graduate students

INVITED RESEARCH TALKS

DESI Lunch Seminar, Lawrence Berkeley National Laboratory March 2023

Lunch Seminar, Astrophysics and Planetary Sciences at CU Boulder March 2023

Astromerique Speaker Series, University of Montreal CIELA Institute March 2023

Center For Astrophysics Department Research Forum March 2023

Johnathan Blazek's Group Meeting, Northeastern University November 2022

LSST-DESC Intrinsic Alignment Meeting, Virtual October 2022

CCAPP Seminar, Ohio State University October 2022

Tufts Astro Seminar September 2022

Ralf Bender's Group Seminar, MPE September 2022

Kavli Institute for the Physics and Mathematics of the Universe Aug 2022

Center For Astrophysics Department Research Forum April 2022

CONTRIBUTED TALKS

Hol-IA: A holistic approach to galaxy intrinsic alignments March 2023

- *Workshop Talk, The Lorentz Center*

Cosmology on the Beach December 2022

- *Conference Talk, Cancún Mexico*

From galaxies to cosmology with deep spectroscopic surveys July 2022

- *Conference Talk, Marseille France*

Robo-AO M Dwarf Multiplicity Survey June 2018
Conference Talk

- C. Lamman, C. Baranec, N. M. Law, Z. K. Berta-Thompson, C. Ziegler, J. Schonhut-Stasik, “Robo-AO M Dwarf Multiplicity Survey”, 2018, in American Astronomical Society Meeting Abstracts #232, Vol. 232, 306.01

Robo-AO M Dwarf Multiplicity Survey Jan 2018
Conference Poster

- C. Lamman, C. Baranec, N. M. Law, Z. K. Berta-Thompson, C. Ziegler, J. Schonhut-Stasik, in American Astronomical Society Meeting Abstracts #231, Vol. 231, 306.01

SELECTED OUTREACH PRESENTATIONS

Women in Cosmology Guest Lecture April 2023

- *Invited Lecture* - Tufts ExCollege: The Universe Illuminated by Women

“5000 Eyes” Premiere Director Talk March 2023

- *Public Talk* - Fiske Planetarium, CU Boulder

“5000 Eyes” Premiere DESI Panel March 2023

- *Invited Panelist* - Chabot Planetarium, Lawrence Berkeley National Laboratory

Creating a Planetarium Film June 2022

- *Conference Talk* - DESI Collaboration Meeting

North Shore Astronomy Club Nov 2021

REU Program: Grad Student Life July 2021

- *Invited Panelist* - Harvard University

Skype a Scientist Oct ‘20, Feb ‘21, Jan ‘21

- Presentation and chat with grades: 5, 3, and 9

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

Admitted Students Day: Session on Undergraduate Research April 2018

- *Invited Panelist* - University of Colorado Boulder