

CHRISTOPHER LINDSAY

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EDUCATION

Yale University

Astronomy PhD Candidate. (M.S., M.Phil. in Astronomy, 2022)

August 2020 - Present

New Haven, CT

University of Southern California (USC)

B.S. Astronomy; B.A. Environmental Studies; Jazz Studies Minor

August 2016 - May 2020

Los Angeles, CA

RESEARCH EXPERIENCE

Graduate Research in Stellar Astrophysics

Advisor: Professor Sarbani Basu

August 2020 - present

Yale University

- Using asteroseismic data and modelling techniques to investigate interior mixing and angular momentum transport processes in evolved solar-type oscillating stars.
- Investigating stellar flares and solar flare in *TESS*, *Kepler*, and Solar Dynamics Observatory (SDO) data with machine learning. Advising Yale University Senior Daniel Chang.

Undergraduate/Graduate Research in Helioseismology

Advisor: Professor Edward Rhodes

August 2016 - August 2020

University of Southern California

- Processed solar oscillation data from the Solar Dynamics Observatory and Solar and Heliospheric Observatory satellites in order to examine solar atmospheric properties across multiple solar cycles.
- Supported NASA's JUNO mission and took heliosismic data at the Mount Wilson Observatory.

PUBLICATIONS

[[Listed Here in a Public ADS Library](#)]

First Author Papers

- **Christopher Lindsay**, Joel Ong, and Sarbani Basu. 2024 (*ApJ*, [965:171](#)) *Fossil Signatures of Main-sequence Convective Core Overshoot Estimated through Asteroseismic Analyses*
- **Christopher Lindsay**, Joel Ong, and Sarbani Basu. 2023 (*ApJ*, [950:19](#)) *Near-Core Acoustic Glitches are Not Oscillatory: Consequences for Asteroseismic Probes of Convective Boundary Mixing*
- **Christopher Lindsay**, Joel Ong, and Sarbani Basu. 2022 (*ApJ*, [931:116](#)) *Mixed Mode Asteroseismology of Red Giant Stars Through the Luminosity Bump*

Selected Co-author Papers

- Daniel Chang*, **Christopher Lindsay**, and Sarbani Basu 2024 (*in prep*) *Using Convolutional Neural Networks to Detect Solar Flares using Sun-as-a-star Observations*. *Supervised Student
- Hans Deeg, et.al. (incl. **C. Lindsay**) 2021 (*in press*, *JAAVSO*) *Maintaining the Ephemeris of 20 CoRoT Planets: Transit Minimum Times and Potential Transit Timing Variations*
- J. Cabrera, et.al. (incl. **C. Lindsay**) 2015 (*in press*, *A&A*) *Transiting exoplanets from the CoRoT space mission XXVII. CoRoT-28b, a planet orbiting an evolved star, and CoRoT-29b, a planet showing an asymmetric transit*

Non-Refereed Papers

- Asali, Y, Gerbig, K., Ghosh, A., **Lindsay, C.**, Shen, Z., & Geha, M. 2022 (*in press*, *Bulletin of the AAS*, [54\(1\)](#)) *A Standardized Framework for Collecting Graduate Student Input in Faculty Searches*

INVITED TALKS

Astro Seminar Talk at the American Museum of Natural History <i>Probing the Evolution and Internal Structures of Stars With Asteroseismology</i>	November 14th, 2023 New York City, USA
IfA Astrocoffee Talk at the University of Hawai'i <i>Prospects for Probing the Evolution and Internal Structures of Stars With Asteroseismology</i>	January 13th, 2023 Honolulu, USA
TEDx Talk at the University of Southern California <i>Exoplanet Astronomy and the Nobel Prize Hidden in Plain Sight</i>	March 25th, 2022 Los Angeles, USA

CONTRIBUTED CONFERENCE POSTERS AND TALKS

Third workshop on Artificial Intelligence for Space-Science Research <i>Detecting Solar Flares in Sun-as-a-Star Observations with Conv. Neural Networks</i>	May 2024 Melbourne, Australia
TASC7/KASC14: Contributed Talk and Served on the LOC <i>Fossil Signatures of Main-Sequence Convective Cores</i>	July 2023 Honolulu, Hawai'i
TASC6/KASC13: Poster and Pitch Talk <i>Red Giant Seismology: Seismic Signatures of Convective Overshoot</i>	July 2022 Leuven, Belgium
Cool Stars 21: Poster <i>Mixed Mode Asteroseismology of Red Giants Through the Luminosity Bump</i>	July 2022 Toulouse, France
AAS 240: Contributed Talk <i>Red Giant Seismology: Seismic Signatures of Convective Overshoot</i>	June 15th 2022 Pasadena, CA
TESS Science Conference 2: ePoster <i>Red Giant Seismology: Seismic Signatures of Convective Overshoot</i>	August 2021 Online and Cambridge, MA

ADDITIONAL CONFERENCE AND WORKSHOPS ATTENDED

Life and Death: From Stars to Compact Objects <i>Attended workshop as a student</i>	August-September 2022 Asiago, Italy
MESA Summer School 2022 <i>Attended workshop as a student</i>	August 2022 Santa Barbara, CA
Fifty Years of the Skumanich Relations <i>Attended</i>	February 2022 Boulder, CO

TEACHING FELLOW EXPERIENCE

ASTR 550: Stellar Astrophysics <i>Instructor: Professor Sarbani Basu</i>	August 2023 - December 2023 Yale University
ASTR 120: Galaxies and the Universe <i>Instructor: Michael Faison</i>	January 2022 - May 2022 Yale University
PHYS 401: Advanced Classical Physics <i>Instructor: Professor Nikhil Padmanabhan</i>	September 2021 - December 2021 Yale University
ASTR 120: Galaxies & the Universe <i>Instructor: Professor Robert Zinn</i>	July 2021 - August 2021 Yale University
ASTR 135: Archaeoastronomy <i>Instructor: Michael Faison</i>	January 2021 - May 2021 Yale University

ADDITIONAL WORK & SERVICE EXPERIENCE

Graduate Student Affiliate, Benjamin Franklin College*Benjamin Franklin College*

October 2022 - Present

Yale University

- Promoting interactions between undergraduates and graduate students and working with the Head of College, college staff, and undergraduate students to organize social and educational activities throughout the year.

Chair and Representative, Yale Graduate Student Assembly*Yale Graduate School of Arts & Sciences*

May 2021 - May 2024

Yale University

- Serving as the Astronomy department representative and Chair of the Yale Graduate School of Arts & Sciences' [Graduate Student Assembly](#).
- Leading the Assembly from May 2023 through May 2024, managing meetings 100+ graduate student representatives and steering our advocacy work in collaboration with the Yale administration.

Local Organizing Committee Member*Various Conferences*

2023

Yale University, University of Hawaii

- Helped to plan and execute the TASC7/KASC14 asteroseismology workshop at the University of Hawaii in July, 2023.
- Planned and served as emcee during the Ivy+ Summit of student government leaders at Yale University in October, 2023.

FUNDING HISTORY

Co-I, TESS General Investigator Program (PI: Joel Ong)*Magnetic Activity on Rapidly-Rotating Red Giants with 200-Second TESS FFIS*

August 2023

*\$70,000***Co-I, Yale TAC (PI: W. Garrett Levine)***Exoplanet Aeronomy with Keck and Palomar*

April 2024

*1 Night on Keck/NIRSPEC; 1 Night on Palomar/WIRC***AWARDS, FELLOWSHIPS, AND HONORS**

Yale Gruber Science Fellow

"Awarded to the most highly ranked applicants to Yale PhD programs in the life sciences, cosmology, and astrophysics. This Fellowship is the most prestigious award offered by Yale's Graduate School of Arts and Sciences to incoming science students in recognition of their outstanding accomplishments and exceptional promise." Includes Stipend and Tuition for the first two years of study and an additional \$9,500 award.

August 2020 - Present

USC Order of the Laurel and the Palm

"The highest honor accorded to undergraduates completing their programs of study. Less than one percent of undergraduates earning their degrees are selected as members of the Order of the Laurel and the Palm."

May 2020

Yale Conference Travel Fund

June 2021

USC Provost Research Fellowships

May 2019 - May 2020

USC Summer Undergraduate Research Fund (SURF)

Summers 2017 & 2018

USC Student Opportunities for Academic Research (SOAR)

August 2016 - May 2018

USC Warren Bennis Scholars Leadership Program

August 2018 - May 2020

USC Trustee Scholar (Full Tuition Remission)

August 2016 - May 2020

USC University Scholarships	August 2016 - May 2020
USC Resident Honors Program	August 2016 - May 2020
USC Thematic Option Honors Program	August 2016 - May 2020
Regeneron Science Talent Search (STS) Scholar	2017
Davidson Fellows Laureate (\$50,000 award)	2016