

LYNN BUCHELE

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EDUCATION

Heidelberg University

PhD in Astronomy and Astrophysics, IMPRS-HD Fellow

October 2021 - Present

Wichita State University

M.S. in Physics

May 2021

Wichita State University

B.S. in Physics, Mathematics Minor, Emory Lindquist Honors Scholar, *Summa Cum Laude*

May 2019

PRESENTATIONS

Oral Presentations

Probing the internal structure of low-mass main-sequence stars using structure inversions July 2024

8th TESS/15th Kepler Asteroseismic Science Consortium Workshop

Porto, Portugal

Structure inversions for sound speed differences in solar-like stars

11th Applied Inverse Problems Conference

September 2023

Göttingen, Germany

Sound speed inversions of an ensemble of low-mass main-sequence stars

PLATO Stellar Science Conference 2023

June 2023

Milazzo, Italy

928 Days Staring at 16Cyg: What can we learn?

HITS Lab Meeting

May 2022

Heidelberg, Germany

Stellar Modeling with On-the-Fly Opacities

Eddy and April Lucas Physics Seminar Series

October 2020

Wichita, USA

Methane and the Opacity of Low-mass Stars

Eddy and April Lucas Physics Seminar Series

October 2019

Wichita, USA

Poster Presentations

Sound Speed Inversions of Main Sequence Stars

TASC6/KASC13 Workshop

July 2022

Leuven, Belgium

RESEARCH EXPERIENCE

Doctoral Thesis

Structural Inversions of Solar-like Oscillators

October 2021–Present

Heidelberg University

- Increase the number and type of stars that can be studied with asteroseismic structure inversions

Visiting Assistant in Research

April–May 2024

Yale University

- Test the applicability of asteroseismic structure inversions to subgiant stars

Master's Thesis

Stellar Modeling with Low Temperature On-the-fly Opacity

May 2019–May 2021

Wichita State University

- Explored the effect of calculating low-temperature opacity data on-the-fly during the evolutionary modeling of a star

PAPERS

Submitted

- **Lynn Buchele**; Earl P. Bellinger; Saskia Hekker; Sarbani Basu *Asteroseismic Structure Inversions of Main-Sequence Solar-like Oscillators with Convective Cores*

Published

- **Lynn Buchele**; Earl P. Bellinger; Saskia Hekker; Sarbani Basu, Warrick Ball; Jørgen Christensen-Dalsgaard *Asteroseismic Inversions for Internal Sound Speed Profiles of Main-sequence Stars with Radiative Cores*
- A Solomey, N.; Folkerts, J.; Meyer, H.; Gimar, C.; Novak, J.; Doty, B.; English, T.; **Buchele, L.**; Nelsen, A.; McTaggart, R.; Christl, M. 2023, NIMRA, 1049, 168064: *Concept for a space-based near-solar neutrino detector*

WORKSHOPS

MESA Down Under , Organizer, Teaching Assistant	June 2024
MESA Summer School , Teaching Assistant	August 2023
MESA Summer School , Participant	August 2022
AGL Mentor Training Workshop , Participant	February 2022

TEACHING

Introduction to Astronomy and Astrophysics	Winter 2023-2024 & Winter 2022-2023
Heidelberg University, Teaching Assistant	
Leadership in Self and Society	Aug 2019 - Aug 2021
Wichita State University, Teaching Team	
Introductory Astronomy	Spring 2021
Wichita State University, Primary Instructor	
Introductory Physics Labs	Fall 2019 - Fall 2020
Wichita State University, Teaching Assistant	

AWARDS

Isabel Rojas Travel Award	January 2024
HITS Award	December 2022
E. Shall Summer Research Fellowship	Summer 2020, Summer 2019
Wichita State University 3 Minute Thesis, Winner	Fall 2019
Cohen Honors College Outstanding Senior	Spring 2019