LYNN BUCHELE

lynn.buchele@h-its.org

EDUCATION

Heidelberg University *October 2021 - Present*
PhD in Astronomy and Astrophysics, IMPRS-HD Fellow

Wichita State University *May 2021*
M.S. in Physics

Wichita State University *May 2019*
B.S. in Physics, Mathematics Minor, Emory Lindquist Honors Scholar, *Summa Cum Laude*

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 September 2023
11th Applied Inverse Problems Conference Göttingen, Germany

Sound speed inversions of an ensemble of low-mass main-sequence stars June 2023
PLATO Stellar Science Conference 2023 Milazzo, Italy

928 Days Staring at 16Cyg: What can we learn? May 2022
HITS Lab Meeting Heidelberg, Germany

Stellar Modeling with On-the-Fly Opacities October 2020
Eddy and April Lucas Physics Seminar Series Wichita, USA

Methane and the Opacity of Low-mass Stars October 2019
Eddy and April Lucas Physics Seminar Series Wichita, USA

Poster Presentations

Sound Speed Inversions of Main Sequence Stars July 2022
TASC6/KASC13 Workshop Leuven, Belgium

RESEARCH EXPERIENCE

Doctoral Thesis October 2021–Present
Structural Inversions of Solar-like Oscillators *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 May 2019–May 2021
Stellar Modeling with Low Temperature On-the-fly Opacity *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, NIMPRA, 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	
Introductory Astronomy	Spring 2021
Wichita State University, Primary Instructor	
Introductory Physics Labs	Fall 2018 - Fall 2019
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