

Loren Robinson

P.H.D. CANDIDATE · HE/HIM/HIS

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Education

University of Madison - Wisconsin

Ph.D. IN ASTRONOMY

Madison, WI

Expected May 2028

University of Madison - Wisconsin

M.S. IN ASTRONOMY

Madison, WI

May 2025

The Ohio State University

B.S. IN ASTRONOMY AND ASTROPHYSICS, PHYSICS

Columbus, OH

May 2023

Publications

The SDSS-V Black Hole Mapper Reverberation Mapping Project: Investigating

Coordinated Variability in BAL Quasars

ROBINSON, L., GRIER, C., AND THE SDSS-V BHM-RM TEAM

In prep

The Connection Between PAH and MIR Emission Features and Physical Processes in Ultra

Luminous Infrared Galaxies

APJ

ROBINSON, L., FARAH, D. ET AL.

Submitted February 2025

Technical Skills

Programming

Machine Learning, Data Analysis, Python (Pandas, Numpy, Scipy, Scikit-learn & more), SQL, HTML, GitHub/git, Linux, Bash, LaTeX, C++, Mathematica

Languages

English, American Sign Language

Systems

CERN's LXPLUS, Ohio Supercomputer Center (OSC), The University of Utah Center for High Performance Computing (CHPC)

Research

SDSS Collaboration

Madison, WI

RESEARCH ASSISTANT

August 2023 - Present

- Advisor: Dr. Catherine Grier; University of Wisconsin-Madison

- Build data analysis pipeline to investigate coordinated variability in broad absorption (BAL) quasars.

University of Hawai'i

Honolulu, HI

NATIONAL SCIENCE FOUNDATION REU RECIPIENT

May 2022 - July 2022

- Advisor: Dr. Duncan Farrah; University of Hawai'i's Institute for Astronomy

- Studying Polycyclic Aromatic Hydrocarbon (PAH) emission features in Ultra-Luminous Infrared Galaxies (ULIRGs)

- Additional participation in remote observing and semi-weekly professional development seminars.

ATLAS Group

Columbus, OH

RESEARCH ASSISTANT

August 2021 - December 2022

- Advisors: Dr. K.K. Gan and Zachary Pollock; The Ohio State University

- Assisting the ATLAS group at Ohio State University with analysis of optical shifts during VCSEL (vertical-cavity surface-emitting laser) production.

- Writing and manipulating code in C++ and Python.

Instructional Experience

Astronomy 140- Earth 2.0: Exoplanet Revolution

Madison, Wisconsin

TEACHING ASSISTANT

Jan. 2026 - May 2026

Astronomy 103- The Evolving Universe: Stars, Galaxies, and Cosmology

Madison, Wisconsin

TEACHING ASSISTANT

Aug. 2025 - Dec. 2025

Astronomy 103- The Evolving Universe: Stars, Galaxies, and Cosmology

Madison, Wisconsin

GRADER

Jan. 2024 - May 2024

Astronomy 1101- From Planets to the Cosmos

Columbus, OH

INSTRUCTIONAL ASSISTANT

Aug. 2022 - May 2023

Astronomy 1221- Astronomy Data Analysis

Columbus, OH

INSTRUCTIONAL ASSISTANT

Jan. 2022 - May 2022

Presentations & Posters

The SDSS-V Black Hole Mapper Reverberation Mapping Project: Spectral Analysis To Investigate Coordinated Variability in Broad Absorption Line Quasars

ROBINSON, L., GRIER, K., SDSS-RM BHM COLLABORATION | HIGHLY ACCRETING SUPERMASSIVE BLACK HOLES ACROSS ALL COSMIC TIMES: FROM THE LOCAL UNIVERSE TO COSMIC DAWN

Remote

December 2025

The SDSS-V Black Hole Mapper Reverberation Mapping Project: Spectral Analysis To Investigate Coordinated Variability in Broad Absorption Line Quasars

ROBINSON, L., GRIER, K., SDSS-RM BHM COLLABORATION | 246TH AMERICAN ASTRONOMICAL SOCIETY MEETING

June 2025

The SDSS-V Black Hole Mapper Reverberation Mapping Project: Spectral Analysis To Investigate Coordinated Variability in Broad Absorption Line Quasars

ROBINSON, L., GRIER, K., SDSS-RM BHM COLLABORATION | 244TH AMERICAN ASTRONOMICAL SOCIETY MEETING

June 2024

Examining the Connection Between Polycyclic Aromatic Hydrocarbon Emissions and Physical Processes in Ultra Luminous Infrared Galaxies

ROBINSON, L., FARRAH, D. ET AL. | 241ST AMERICAN ASTRONOMICAL SOCIETY MEETING

January 2023

Examining the Connection Between Polycyclic Aromatic Hydrocarbon Emissions and Physical Processes in Ultra Luminous Infrared Galaxies

ROBINSON, L., FARRAH, D. ET AL. | OHIO STATE SECOND-YEAR TRANSFORMATIONAL EXPERIENCE PROGRAM EXPO

Seattle, WA

Examining the Connection Between Polycyclic Aromatic Hydrocarbon Emissions and Physical Processes in Ultra Luminous Infrared Galaxies

ROBINSON, L., FARRAH, D. ET AL. | UNIVERSITY OF HAWAII SUMMER UNDERGRADUATE RESEARCH EXPERIENCE SYMPOSIUM

Columbus, Ohio

Examining the Connection Between Polycyclic Aromatic Hydrocarbon Emissions and Physical Processes in Ultra Luminous Infrared Galaxies

ROBINSON, L., FARRAH, D. ET AL. | UNIVERSITY OF HAWAII RESEARCH EXPERIENCE FOR UNDERGRADUATES SYMPOSIUM

O'ahu, Hawai'i

Relevant Coursework

Data Science Programming II

University of Madison-Wisconsin

CS 320

Fall 2024

- Use object-oriented programming to create tree and graph data structures to represent hierarchical data and implement algorithms for efficiently searching these structures.

Introduction to Artificial Intelligence

University of Madison-Wisconsin

CS 540

Fall 2023

- Applied the foundational tools in Machine Learning and Artificial Intelligence. Understand core techniques in Natural Language Processing.
- Consider how Artificial Intelligence and Machine Learning problems are applied in Real - World settings and the Ethics of Artificial Intelligence.

Big Data Analytics

PHYSICS 5680

Fall 2022

- Introduction to machine learning and advanced algorithms, with an emphasis on practical physics-based applications.

Honors & Awards

Wisconsin Space Grant Consortium Graduate & Professional Research Fellowship

Madison, WI

2025

L. Earl Slusher Scholarship

Columbus, OH

2023

Finalist in Seventh Annual American Statistical Association DataFest Competition

Columbus, OH

2023

Second-Year Transformational Experience Program Fellowship Recipient

Columbus, OH

2021

Helen Cowan Book Award winner

Columbus, OH

2020

8x Ohio State University Dean's List

Columbus, OH

2019-2023

Provost Scholarship

Columbus, OH

2019-2023

Jillian Schrader-Towne Memorial Math Scholarship

Medina, OH

2019-2023

Public Outreach

Universe in the Park

Madison, WI

PRESENTER

May 2024 - Present

- Travel to state parks throughout Wisconsin during the summer camping season, giving talks, answering questions, and leading the general public in an observing session.

Workshops

August 2025 **CodeAstro**, 40-hour course in Python-based software development for astronomers, covering software development paradigms & environments, version tracking, testing, documentation, packaging, & profiling.

Evanston, IL

June 2024 **AAS Software Carpentry Workshop**, Workshop focused on technical development skills.

Madison, WI