

Loren Robinson

PH.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

ROBINSON, L., FARRAH, D. ET AL.

APJ

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

RESEARCH ASSISTANT

Madison, WI

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

NATIONAL SCIENCE FOUNDATION REU RECIPIENT

Honolulu, HI

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

RESEARCH ASSISTANT

Columbus, OH

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

TEACHING ASSISTANT

Madison, Wisconsin

Jan. 2026 - May 2026

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

TEACHING ASSISTANT

Madison, Wisconsin

Aug. 2025 - Dec. 2025

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

GRADER

Madison, Wisconsin

Jan. 2024 - May 2024

Astronomy 1101- From Planets to the Cosmos

INSTRUCTIONAL ASSISTANT

Columbus, OH

Aug. 2022 - May 2023

Astronomy 1221- Astronomy Data Analysis

INSTRUCTIONAL ASSISTANT

Columbus, OH

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	<i>Remote</i> 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	<i>Anchorage, Alaska</i> 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	<i>Madison, Wisconsin</i> 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	<i>Seattle, WA</i> 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	<i>Columbus, Ohio</i> Nov. 2022
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	<i>O'ahu, Hawai'i</i> July 2022
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	<i>O'ahu, Hawai'i</i> July 2022

Relevant Coursework

Data Science Programming II CS 320 • Use object-oriented programming to create tree and graph data structures to represent hierarchical data and implement algorithms for efficiently searching these structures.	<i>University of Madison-Wisconsin</i> Fall 2024
Introduction to Artificial Intelligence CS 540 • 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.	<i>University of Madison-Wisconsin</i> Fall 2023
Big Data Analytics PHYSICS 5680 • Introduction to machine learning and advanced algorithms, with an emphasis on practical physics-based applications.	<i>The Ohio State University</i> Fall 2022

Honors & Awards

Wisconsin Space Grant Consortium Graduate & Professional Research Fellowship	<i>Madison, WI</i> 2025
L. Earl Slusher Scholarship	<i>Columbus, OH</i> 2023
Finalist in Seventh Annual American Statistical Association DataFest Competition	<i>Columbus, OH</i> 2023
Second-Year Transformational Experience Program Fellowship Recipient	<i>Columbus, OH</i> 2021
Helen Cowan Book Award winner	<i>Columbus, OH</i> 2020
8x Ohio State University Dean’s List	<i>Columbus, OH</i> 2019-2023
Provost Scholarship	<i>Columbus, OH</i> 2019-2023
Jillian Schrader-Towne Memorial Math Scholarship	<i>Medina, OH</i> 2019-2023

Public Outreach

Universe in the Park PRESENTER • Travel to state parks throughout Wisconsin during the summer camping season, giving talks, answering questions, and leading the general public in an observing session.	<i>Madison, WI</i> May 2024 - Present
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Workshops

August **CodeAstro**, 40-hour course in Python-based software development for astronomers, covering software
2025 development paradigms & environments, version tracking, testing, documentation, packaging, & profiling.
June 2024 **AAS Software Carpentry Workshop**, Workshop focused on technical development skills.

Evanston, IL

Madison, WI