

John “Jack” D. Roberts

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EDUCATION

2020 - present Ph.D. in Astronomy at **The Ohio State University** (Anticipated)
Dissertation Advisors: Marc Pinsonneault and Jennifer Johnson
College and University Teaching Graduate Certificate (Anticipated)
2016 - 2020 B.S. in Physics at **The University of Tennessee, Knoxville**

MENTORSHIP EXPERIENCE

Adam Ballas (Ohio State Univeristy) May 2025 - Present
Project: Identifying mono-mass populations with spectroscopic abundances

TEACHING EXPERIENCE

Course Designer and Instructor August 2023 - May 2025
Designed two elective astronomy courses, creating all course materials from scratch and getting the course approved by the OSU course committee. Taught them for 2 years, and currently supporting a transition to new graduate student teachers taking over the courses.

Graduate Teaching Assistant August 2021 - May 2025
Served as a teaching assistant to a variety of undergraduate astronomy courses offered at The Ohio State University, serving different roles for different courses.

- Astronomy 1101: From Planets to Cosmos — Administered labs, facilitated student discussions, and offered assistance on coursework in office hours.
- Astronomy 2141: Life in the Universe — Supported the professor by setting up LMS pages, administering exams, creating study guides, and running review sessions.
- Astronomy 2143: Cosmology — Supported the professor by setting up LMS pages, administering exams, creating study guides, and running review sessions.
- Astronomy 1102 (Virtual Course): From Planets to Cosmos — Organized course LMS page and offered assistance to students through remote office hours and email.

Undergraduate Physics Tutor August 2019 - May 2020
Served as a physics tutor for non-major undergraduates in the University of Tennessee, Knoxville physics tutoring center.

HONORS AND AWARDS

2020 **Ohio State University Fellowship**

PUBLICATION LIBRARIES

1st Author	ADS Library
Contributing Author	ADS Library

PRESENTATIONS

Contributed Talk	Sloan Digital Sky Survey Collaboration Meeting “Galactic Archaeology with [C/N] and Red Giants”	2025
Contributed Talk	Sloan Digital Sky Survey Collaboration Meeting “Calibrating [C/N] as an age diagnostic with APOKASC3”	2024
Contributed Talk	Sloan Digital Sky Survey Collaboration Meeting “Everything you need to know about the First Dredge-Up”	2023

FULL PUBLICATION LIST

1st Author Publications (Reverse Chronological Order)

[1] John D. Roberts et al. “[C/N] Ages for Red Giants and their Implications for Galactic Archaeology”. In: *arXiv e-prints*, arXiv:2509.25321 (Sept. 2025), arXiv:2509.25321. arXiv: [2509.25321 \[astro-ph.SR\]](#).

[2] John D. Roberts et al. “Nature versus nurture: distinguishing effects from stellar processing and chemical evolution on carbon and nitrogen in red giant stars”. In: *MNRAS* 530.1 (May 2024), pp. 149–166. DOI: [10.1093/mnras/stae820](#). arXiv: [2403.03249 \[astro-ph.SR\]](#).

Contributing Author Publications (Reverse Chronological Order)

[1] Liam O. Dubay et al. “Challenges to the Two-Infall Scenario by Large Stellar Age Catalogs”. In: *arXiv e-prints*, arXiv:2508.00988 (Aug. 2025), arXiv:2508.00988. DOI: [10.48550/arXiv.2508.00988](#). arXiv: [2508.00988 \[astro-ph.GA\]](#).

[2] Yuxi Lu et al. “Anchoring Stellar Age Indicators: A Cross-Calibration of [C/N] and Gyrochronology Ages via the Age-Velocity-Dispersion Relation”. In: *arXiv e-prints*, arXiv:2506.24010 (June 2025), arXiv:2506.24010. DOI: [10.48550/arXiv.2506.24010](#). arXiv: [2506.24010 \[astro-ph.SR\]](#).