JARED KOLECKI

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EDUCATION

Fall 2022 - Present | University of Notre Dame | South Bend, Indiana
Ph.D in Physics
- Research focus in Astrophysics

Fall 2017 - Fall 2020 | The Ohio State University | Columbus, Ohio
B.S. in Astronomy & Astrophysics
- Minor in Computational and Informational Sciences
- Graduated w/ Research Distinction

AWARDS AND HONORS

- The Ohio State University
  - Name and Seal Scholarship: 2020-2021
  - Maximus Scholarship: 2017-2018, 2018-2019

SKILLS

- Python, C++, C, LaTeX, Powerpoint, Excel

RESEARCH EXPERIENCE

Jan 2023 - Present | University of Notre Dame Dept. Of Physics & Astronomy | South Bend, Indiana
Research Assistant (Advisor: Dr. Lauren Weiss)
- Expand on previously developed pipelines to develop a custom abundance analysis routine
- Analyze trends in exoplanet system architecture with respect to their composition

Aug 2019 - Jul 2022 | The Ohio State University Dept. of Astronomy | Columbus, Ohio
Research Assistant (Advisor: Dr. Ji Wang)
- Analyzed stellar spectra for the characterization of known and potential exoplanetary systems
- Developed automated Python frameworks to make analyses faster and more accurate

May - Jul 2020 | The Ohio State University Dept. of Astronomy | Columbus, Ohio
Summer Undergraduate Research Program
- Selected competitively out of a pool of students
- Attended two-week Python bootcamp
- Presented a slideshow about research project at the conclusion of the program

TEACHING EXPERIENCE

August 2022 - May 2023 | University of Notre Dame | South Bend, Indiana
Graduate Teaching Assistant
- Perform office hours, online help for undergraduate-level physics courses
- Grade exams, homework, and lab reports

Apr 2021 - May 2022 | Huntington Learning Center | Lewis Center, Ohio

Tutor

- Teach ACT and SAT math and science concepts and test-taking strategies
- Provide homework and conceptual help for students in high-school level math courses

Aug - Dec 2020 The Ohio State University Department of Astronomy Columbus, Ohio
Instructional Assistant

- Assisted students in weekly online labs, facilitating discussion and answering questions
- Graded student assignments

INVITED TALKS

Nov 20, 2025 Café IREx Montreal, Quebec
Seminar "Compositional Analysis of Planet Hosting Stars"

Oct 18, 2022 Ohio State Univsersity: Astronomy 2895 Columbus, Ohio
Guest Lecture "Graduate School: A Guide for First-Year Undergraduates"

CONFERENCE PRESENTATIONS

Nov 6-7, 2025 Great Lakes Exoplanet Area Meeting Madison, Wisconsin
Poster "Building a Homogeneous Chemical Abundance Catalog of Planet-Hosting Stars"

Feb 3-7, 2025 Know Thy Star, Know Thy Planet 2 Pasadena, California
Poster "Connecting Stellar Compositions and Planetary System Architectures"

Mar 16-21, 2024 Extreme Solar Systems V Christchurch, New Zealand
Poster "Connecting Stellar Compositions and Planetary System Architectures"

July 28, 2020 Ohio State SURP Symposium Virtual
Talk "Measuring Elemental Abundances in Metal-Poor Stars"

REFEREED PUBLICATIONS (h-index = 7)

[1] Brinkman, C., et al., "The Compositions of Rocky Planets in Close-in Orbits Tend to Be Earth-like", *The Astronomical Journal*, vol. 170, no. 2, 2025. doi:10.3847/1538-3881/ade677.

[2] Rodríguez Martínez, R., et al., "A Reanalysis of the Composition of K2-106b: An Ultra-short-period Super-Mercury Candidate", *The Astronomical Journal*, vol. 165, no. 3, 2023. doi:10.3847/1538-3881/acb04b.

[3] Xuan, J. W., et al., "A Clear View of a Cloudy Brown Dwarf Companion from High-resolution Spectroscopy", *The Astrophysical Journal*, vol. 937, no. 2, 2022. doi:10.3847/1538-4357/ac8673.

[4] **Kolecki, J. R.** and Wang, J., "Measuring Elemental Abundances of JWST Target Stars for Exoplanet Characterization. I. FGK Stars", *The Astronomical Journal*, vol. 164, no. 3, 2022. doi:10.3847/1538-3881/ac7de3.

[5] Wang, J., et al., "Retrieving the C and O Abundances of HR 7672 AB: A Solar-type Primary

Star with a Benchmark Brown Dwarf", *The Astronomical Journal*, vol. 163, no. 4, 2022. doi:10.3847/1538-3881/ac56e2.

[6] Ishikawa, H. T., et al., "Elemental Abundances of nearby M Dwarfs Based on High-resolution Near-infrared Spectra Obtained by the Subaru/IRD Survey: Proof of Concept", *The Astronomical Journal*, vol. 163, no. 2, 2022. doi:10.3847/1538-3881/ac3ee0.

[7] **Kolecki, J. R.**, Wang, J., Johnson, J. A., Zinn, J. C., Ilyin, I., and Strassmeier, K. G., "Searching For Transiting Planets Around Halo Stars. I. Sample Selection and Validation", *The Astronomical Journal*, vol. 162, no. 4, 2021. doi:10.3847/1538-3881/ac14bc.