

Maria Pudoka

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Research Interests

My research interests include analyzing the environments of high redshift quasars ranging from their direct interaction with their host galaxies out to their large scale environments in galaxy clusters.

Education

Steward Observatory, University of Arizona	Tucson, AZ
Ph.D. Astronomy and Astrophysics	Expected: May 2025
M.S. Astronomy and Astrophysics	Expected: August 2023
Advisor: Xiaohui Fan	
The Ohio State University (OSU): GPA – 3.9	Columbus, OH
B.S. Astronomy and Astrophysics	May 2021
Advisor: Donald Terndrup	
Minor in Spanish	
Green High School	Green, OH
Diploma with High Honors	May 2017

Research Experience

Graduate Research Assistant – University of Arizona, Steward Observatory	August 2021 – Present
• Searching for large scale galaxy overdensities around high redshift quasars.	
• Advisor: Xiaohui Fan	
Observation Run at Las Campanas Observatory – Baade Telescope	March 2023
Undergraduate Research Assistant – OSU, Department of Astronomy	August 2020 – May 2021
• Determining the ages of field stars with gyrochronology.	
• Advisor: Donald Terndrup	
Summer Undergraduate Research Program – OSU	May 2020 – August 2020
• Advisor: Donald Terndrup	
Observation Run at MDM Observatory – 2.4-meter Hiltner Telescope	September 2019
Modeling Stellar Galactic Orbits in Spiral Galaxies - OSU	May 2019
• Creating an animated model of stellar galactic orbits of the Milky Way using Python along with developing a lesson plan for an introductory astronomy course using our key findings.	
Deriving Stellar Radii from Photometric Observations of Main-Sequence Stars	December 2019

Honors and Awards

Undergraduate Research Scholarship of \$6750 – The Ohio State University	SP 2021
STEP Grant for Observation Run \$1225 – The Ohio State University	

Dean's List – The Ohio State University	AU17, SP18, AU18, SP19, AU19, SP20, AU 20
Ann Slusher Tuttle Scholarship – The Ohio State University	2020
Trustees Scholarship – The Ohio State University	2017 – 2021

Publications and Presentations

Articles Submitted to Refereed Journals

Wang, F. et al. + **M. Pudoka** 2023 “A Spectroscopic Survey of Biased Halos in the Reionization Era (ASPIRE): JWST Reveals a Filamentary Structure around a $z=6.61$ Quasar”

Non-Refereed Contributions

American Astronomical Society Meeting January 2021

- Poster presentation: **M. Pudoka***, D. Terndrup, D. An “Evaluating Stellar Ages from Single-Epoch High-Resolution Spectroscopy”

Summer Undergraduate Research Program Symposium July 2020

- **Pudoka, M***, Terndrup D. “Rotation and Youth in G- and K-type Field Dwarfs”

Technical and Language Skills

Computation and Software

- Python, R, Mathematica, LaTeX, Office Suite

Database Extracting

- NASA/ADS Abstract Service, SIMBAD Astronomical Database, VizieR, NASA/IPAC Infrared Science Archive

Languages

- Native English, Intermediate writing and reading in Spanish

Employment

Teaching Assistant: Astro 3350 – OSU Department of Astronomy August 2020 – Present

Course Development Assistant: Astro 3350/Astro 1221 May 2020 – Present

- Co-authored an online textbook about Python and astronomy and composed course materials

Lab Instructional Assistant: Astro 1101 January 2020 – May 2020

Student Manager – Thyme and Change Food Truck August 2017- December 2018

- Supervised staff to ensure policies were followed and delegated tasks during pre-shift meetings

Leadership and Outreach

Polaris Mentorship Program – The Ohio State University August 2020 – Present

- Foster a one on one mentor-mentee relationship with an underrepresented student for two semesters.
- Develop and advise an astronomy research project for mentee resulting in poster presentation.

Mount Leadership Society Scholars Program – The Ohio State University 2017-2020

- Committee Leader: Collaborated with local businesses to establish fundraising event.
- Managed Anti-Cyberbullying Committee in a four-month project to develop an anti-bullying workshop
- Tutored and engaged with 25+ students weekly at the Boys and Girls Club during 90 volunteer hours