

GALINA BOUYER

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EDUCATION

The University of Texas at Austin, Austin, TX

May 2024

B.S. Physics, B.S. Astronomy

WORK EXPERIENCE

The University of Texas at Dallas, Richardson, TX

July 2024 – PRESENT

TEXAS Bridge Fellow

- Currently studying the lensing of both gravitational wave signals electromagnetic signals for potential LISA applications.
- Run and construct programs via Python, glafic, and PyCBC.

McDonald Observatory, Fort Davis, TX

May 2023 – August 2023

Summer Intern

- Ran various public programs (tours, programs, star parties) and operated telescope equipment.
- Directed, engaged with, and generally assisted guests.
- Prepared activities and assisted in running K-12 teacher workshops and kids' STEAM summer camp.

UT Austin Physics Demonstrations Office, Austin, TX

October 2022 – May 2024

Lab Technician

- Prepared, tested, and set up in-class experiments and activities for physics courses.
- Upgraded old and designed new experiments and procedures to convey high-level physics concepts.

Freshman Research Initiative, White Dwarfs Stream, Austin, TX

January 2022 – May 2024

Peer Mentor

- Taught coding and stellar astronomy to incoming students and provide feedback on their work.
- Supported students in astronomy learning and training for fellow mentors.

RESEARCH EXPERIENCE

Galaxy Evolution Vertically Integrated Projects Program

January 2022 – May 2024

- Conducted research on the UV-spectral slope of high-redshift galaxies with JWST data.
- Discussed progress and results at weekly meetings and local and national conference presentations.

Undergraduate Research Assistant – Center for Gravitational Physics

May 2021 – May 2024

- Used Python to solve a predictive formula and find all possible combinations of initial binaries that would result in the same final LIGO-observed black hole.
- Used PyCBC to examine and analyze waveforms for binary black hole collisions.
- Created data visualizations and databases to store and demonstrate results.
- Ran numerical relativity simulations on Texas Advanced Computing Center supercomputer.
- Attended relativity seminars and weekly research meetings.

Freshman Research Initiative, White Dwarfs Stream

January 2021 – December 2022

- Used Python to model light curves to identify binary star systems, cepheid variables, etc.
- Navigated large stellar databases and data releases (up to 1.5 billions objects), and retrieved and cross-validated data.
- Used Python and TOPCAT to analyze the chemical homogeneity of stellar strings.

PAPERS & PRESENTATIONS

Second MAYA Catalog of Binary Black Hole Numerical Relativity Waveforms

September 2023

- Ferguson et al. | doi: arXiv:2309.00262v1

Conference for Undergraduate Women in Physics

January 2023

- Poster presentation: *Multiple Paths to One Final Black Hole: Finding Initial Parameters for 16 Gravitational Wave Events.*

American Astronomical Society Winter Meeting

January 2024

- Poster presentation: *Investigating values of β for JWST galaxies $z=6-8$.*

LEADERSHIP & COMMUNITY INVOLVEMENT

UT Austin Junior Fellows

August 2023 – May 2024

- Spoke at biweekly meetings and promote research collaboration across disciplines.

UT Austin Gender Minorities in Physics

May 2021 – May 2024

Treasurer, President, Advisor

- Led an undergraduate organization dedicated to promoting diversity and inclusivity in physics.
- Organized and now participate in educational workshops, lectures, and panels for weekly meetings.
- Coordinate DEI efforts and outreach events within and outside of the UT physics department.

Destination Imagination

January 2021 – PRESENT

Volunteer

- Assist in organizing creativity competitions for teams ranging from Pre-K to University levels and promote STEAM learning, collaboration, and problem-solving skills at regional, state and global levels.
- Direct and support teams and their families during tournaments.

AWARDS & HONORS

William Arnold McMinn Endowed Presidential Scholarship in Physics

August 2023 – May 2024

Abel Family Scholarship in Physics

August 2022 – May 2023

Walter E. Millett Endowed Undergraduate Scholarship in Physics

August 2021 – May 2022

Second Year Excellence Award

Spring 2022

SKILLS

Coding Languages: Proficient in Python and Bash, Intermediate R, HTML and CSS, Mathematica, git, and MATLAB.

Software Skills: Proficient in Microsoft Office Suite, Overleaf/LaTeX, Adobe Acrobat, Photoshop, and In Design.

Languages: French (fluent)