

Joseph Alexander Guidry

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EDUCATION

THE UNIVERSITY OF TEXAS AT AUSTIN

B.S. IN ASTRONOMY (SEEKING HONORS)

B.S. IN PHYSICS

Austin, TX

Expected graduation date: May 2021

Cumulative GPA: 3.69/4.00

LINKS

Website:// astrojoeg.github.io

Github:// [astrojoeg](#)

LinkedIn:// [astrojoeg](#)

ORCID:// [0000-0001-9632-7347](#)

Twitter:// [@astrojoeg](#)

WORK EXPERIENCE

FRI WHITE DWARF STARS STREAM | PEER MENTOR

January 2019 – present | UT Austin

- Served as an upperclassman mentor to the students of the white dwarf FRI stream by assisting them with their weekly labs and advising them on their research projects. Student-lead inquiry is driven by employing Socratic methods.

DEPARTMENT OF ASTRONOMY | UNDERGRADUATE RESEARCHER

June 2018 – present | UT Austin

- Worked on research projects under the advising of Dr. Michael Montgomery. During summers 2018, 2020 worked full time on paid fellowships. During the school year worked part time unfunded.

PUBLICATIONS

REFEREED FIRST-AUTHORED PUBLICATIONS:

- Joseph A. Guidry, Zachary P. Vanderbosch, J. J. Hermes, et al. (submitted to ApJ, [arXiv:2012.00035](#)).
I Spy Transits and Pulsations: Empirical Variability in White Dwarfs Using Gaia and the Zwicky Transient Facility.

PRESENTATIONS

CONTRIBUTED TALKS

- American Astronomical Society 237th Meeting, *I Spy Transits and Pulsations: Empirical Variability in White Dwarfs Using Gaia and the Zwicky Transient Facility*, accepted for oral presentation in January 2021
- Gulf Coast Undergraduate Research Symposium (GCURS), *Trick or Transits! Detecting Variable White Dwarfs Using Gaia and Zwicky Transient Facility Photometry Variability Metrics*, Rice University, October 2020
- Undergraduate Research Symposium, *I Spy Variability: A New System of Variability Metrics from Gaia and Zwicky Transient Facility Photometry to Discover Variable White Dwarfs*, Department of Astronomy, UT Austin, August 2020

RESEARCH POSTERS

- Undergraduate Research Forum, *Searching for Color Changes During Outburst*, April 2020, Austin, TX
- Frank N. Bash Symposium, *Searching for Color Changes During Outburst*, October 2019, Austin, TX
- TASC5/KASC12, *Searching for Color Changes During Outburst*, July 2019, Cambridge, MA

OUTREACH TALKS

- Astronomy Students Association, *Trick or Transits! - Detecting Variable White Dwarfs Using Gaia and Zwicky Transient Facility Photometry Variability Metrics*, October 2020, Austin, TX
- Rapid-Fire Talk at Astronomy on Tap ATX #62, *What is the life cycle of a star?*, November 2019, Austin, TX
- Astronomy Students Association, *Searching for Color Changes During Outburst*, October 2019, Austin, TX

OBSERVING EXPERIENCE

Fifteen nights of observing experience on-site at McDonald 2.1-m, 0.9-m, 0.8-m. Eight nights spent remote observing on McDonald 0.8-m.

TIME AWARDED

- As Co-I: 2.53 hrs of Gemini North FT (GMOS-N), PI: Zachary Vanderbosch, October 2020
- As PI: 5.5 hrs on McDonald 0.8-m as student in AST 376, May 2020

AWARDS AND FELLOWSHIPS

2020	Outstanding Senior Award	Department of Astronomy, UT Austin
2020	Abel Family Scholarship in Physics	Department of Physics, UT Austin
2020	NSC Endowed Service Scholarship	Natural Sciences Council, UT Austin
2020	Summer Undergraduate Research Fellowship	J. W. Cox Endowment for the Advanced Studies in Astronomy
2019	Melvin J. Rieger Scholarship Fund in Physics	Department of Physics, UT Austin
2019	C. M. & J. C. Thompson Scholarship in Physics	Department of Physics, UT Austin
2019	CNS Second Year Excellence Award	College of Natural Sciences, UT Austin
2018	Dr. H. Franklyn Alexander Endowed Scholarship	College of Natural Sciences, UT Austin
2018	TIDES FRI Summer Research Fellowship	Texas Institute for Discovery Education in Science, UT Austin

LEADERSHIP AND SERVICE

APPOINTED AND ELECTED POSITIONS

- Appointed to the 2019 - 2020 College of Natural Sciences College Tuition and Budget Advisory Committee (CTBAC), November 2019
- Elected Co-President for the Astronomy Students Association, May 2019 - present
- Appointed Undergraduate Representative for the Department of Astronomy, May 2018 - present
- Elected Webmaster for the Astronomy Students Association, May 2018 – May 2019

VOLUNTEER BASIS

- Space Cadet for Astronomy on Tap ATX, August 2019 - February 2020 (due to COVID-19)
- Physics Math & Astronomy Board for Student Advocacy Co-founder and Officer for Undergraduate Peer Advising, May 2019 – present
- Co-founder of People for PMA, **the grassroots movement responsible for the renaming of Robert Lee Moore Hall to the Physics, Mathematics, and Astronomy Building in July 2020**, November 2017 – July 2020

STUDENT ORGANIZATION INVOLVEMENT

Prior to the COVID-19 crisis, I committed over 10 hours each semester to community outreach through the following student organizations.

- Sigma Pi Sigma Physics Honor Society, May 2019 – present
- Gender Minorities in Physics, August 2018 – present
- Society of Physics Students, August 2017 – present
- Astronomy Students Association, August 2017 – present

GRANT WRITING

Co-investigator for NSF Fall 2020 Astronomy and Astrophysics Research Grant proposal: *Discovery and Characterization of Evolving Exo-planetary Debris around White Dwarf Stars* (PI: Mike Montgomery).

MENTORING EXPERIENCE

Fall 2020 – present	Mentoring an undergraduate through a Department of Physics program (PI: Prof. Vernita Gordon)
Fall 2019 – present	Mentoring an undergraduate through Graduate-Undergraduate Mentoring in AstronoMY (GUMMY)
Summer 2019	Informal Mentor for a scholar in the UT Austin NSF REU in Astronomy
Spring 2019 – present	Advised the research projects of numerous students as their Peer Mentor in the FRI White Dwarf Stars stream, resulting in two research posters

ADDITIONAL SKILLS

- Programming: proficient in Python, learning Julia, intermediate computational skills in Mathematica
- Proficient in using IRAF for astronomical data reduction, aperture photometry, and automated observing routines
- 5 hours of teaching field experience at Brentwood Elementary (AISD) while a student in UTS 101 (UTeach, UT Austin)

REFERENCES

Dr. Mike Montgomery	The University of Texas at Austin (mikemon@astro.as.utexas.edu)
Prof. Volker Bromm	The University of Texas at Austin (chair@astro.as.utexas.edu)
Prof. JJ Hermes	Boston University (jjhermes@bu.edu)
Prof. Steven Finkelstein	The University of Texas at Austin (stevenf@astro.as.utexas.edu)
Prof. Elena Caceres	The University of Texas at Austin (elenac@utexas.edu)