

Katelyn J. Wagner

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EDUCATION	Rochester Institute of Technology Ph.D. Astrophysical Sciences and Technology Anticipated 2025
	Roberts Wesleyan College B.S. Physics (GPA: 3.81/4.00) • Magna Cum Laude, Global Honors May 2020
	University of Rochester Cross-registered for courses in astronomy Fall 2017 - Spring 2019
	Rochester Institute of Technology Cross-registered for courses in mathematics Spring 2018
RESEARCH EXPERIENCE	Rochester Institute of Technology Advisor: Dr. John Whelan May 2019 - Current We explore the application of the lattice covering problem to template placement in the cross-correlation search for continuous gravitational waves from LMXB Scorpius X-1. By changing coordinate type, template placement method, and lattice structure, we improve overall template count by a factor of 3.4. This is significant for our tunable search over a four-dimensional parameter space as both sensitivity and computational cost scale with template number.
	University of Rochester Advisor: Dr. Alice Quillen May 2018 - January 2019 Worked with Dr. Quillen's modified version of Rebound to run N-body simulations of a single asteroid undergoing non-principal axis rotation with simulated homogeneous viscoelastic Kelvin-Voigt rheology to determine if our measurements for energy dissipation matched previous estimates using other models.
	Roberts Wesleyan College Advisor: Mr. Martin Pepe October 2017 - April 2018 Categorized LNAs to find pairs of detectors with similar signal-to-noise ratios to eventually be used in small radio interferometers.
PRESENTATIONS	RIT AST Graduate Research Jamboree - October 2020 <i>Improved Lattice and Coordinate Choices for a Search for Continuous Gravitational Waves from Sco X-1</i>
	LIGO-Virgo-KAGRA Collaboration Meeting - September 2020 <i>Improved Lattice and Coordinate Choices for Cross-Correlation Search for Sco X-1</i>
	LIGO Continuous Wave Group Telecon - September 2020 <i>Full O3 Scorpius X-1 CrossCorr Update</i>
	RIT Undergraduate Research Symposium - August 2019 <i>Template Placement for a Search for Continuous Gravitational Waves</i>
	UR Summer Research Symposium - August 2018 <i>Simulations of Precession Damping for a Homogeneous Viscoelastic Rotator</i>

PUBLICATIONS	Quillen, Alice C., Wagner, Katelyn J. , and Paul Sánchez (2019). “Simulations of wobble damping in viscoelastic rotators”. In: 485.1, pp. 725–738. DOI: 10.1093/mnras/stz422.
PROFESSIONAL AFFILIATIONS	LIGO Scientific Collaboration Sigma Pi Sigma
HONORS AND AWARDS	Benjamin Titus Roberts Scholarship (Full-tuition grant) Ensemble Scholarship (Violin) Dean’s List, High Honors Sigma Pi Sigma Honor Society (SPS) Chi Alpha Sigma Honor Society
COMPUTER SKILLS	Computer Programming and Data Analysis: <ul style="list-style-type: none"> • Python, Maple • UNIX shell scripting (Bash) Document Editing and Development Tools: <ul style="list-style-type: none"> • L^AT_EX • Git (GitHub, GitLab) - moderate experience • Microsoft Office Suite, Google Suite • Data Analysis: Matplotlib, Pandas Operating Systems: <ul style="list-style-type: none"> • Linux-Debian (primary), Windows, Unix (Mac OS X) Technical Skills: <ul style="list-style-type: none"> • Trained to operate the 24-inch computerized Cassegrain telescope at the University of Rochester's C.E.K. Mees Observatory
PROFESSIONAL DEVELOPMENT	Data Carpentry: Pilot Workshop for Astronomers - November 2020
TEACHING EXPERIENCE	Roberts Wesleyan College Teaching Assistant <ul style="list-style-type: none"> • AST 201: Descriptive Astronomy • PHY 101 LAB: Mechanics • PHY 102 LAB: Electricity • PHY 115: Physics of Music Tutoring (Certified CRLA Level 1) <ul style="list-style-type: none"> • Introductory Physics sequence (I, II, and III), Calculus sequence (I, II, and III), Descriptive Astronomy, Statistics, Linear Algebra
LEADERSHIP & SERVICE	C.E.K. Mees Observatory , Naples, NY Student Tour Guide Summer 2018 Present history of the observatory and general introductory astronomy information, as well operate 24-inch computerized Cassegrain telescope to show a variety of astronomical objects to the public tour. Roberts Wesleyan College President, <i>Society of Physics Students</i> 2018 Academic Year Organizing preview day for prospective students, fundraising, planning activities

Women's Varsity Soccer Team

Roberts Wesleyan College

NCAA Division II, starting defensive midfielder

Fall 2016 - Spring 2020