

Katelyn J. Wagner

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EDUCATION	Rochester Institute of Technology Ph.D. Astrophysical Sciences and Technology • GPA: 3.75/4.00 Roberts Wesleyan College B.S. Physics • GPA: 3.81/4.00 • Magna Cum Laude, Global Honors University of Rochester <i>Cross-registered for courses in astronomy</i> Rochester Institute of Technology <i>Cross-registered for courses in mathematics</i>	Anticipated 2025 May 2020 Fall 2017 - Spring 2019 Spring 2018
RESEARCH EXPERIENCE	Improved Lattice Template Placement for a Search for Continuous Gravitational Waves from Scorpius X-1 Rochester Institute of Technology <i>Advisor: Dr. John Whelan</i> - Explored the application of the lattice covering problem to template placement in the cross-correlation search for continuous gravitational waves from LMXB Scorpius X-1. This is significant for our tunable search over a four-dimensional parameter space as both sensitivity and computational cost scale with template number. Simulations of Precession Damping for Viscoelastic Rotators University of Rochester <i>Advisor: Dr. Alice Quillen</i> Categorizing LNAs to Maximize SNR Roberts Wesleyan College <i>Advisor: Prof. Martin Pepe (RIT)</i>	May 2019 - Current May 2018 - January 2019 October 2017 - April 2018
PUBLICATIONS	Wagner, K. J. , Whelan, J. T., Wofford, J. K., and Wette, K. (2021). Template lattices for a cross-correlation search for gravitational waves from Scorpius X-1. arXiv:2106.16142. Quillen, A. C., Wagner, K. J. , and Sánchez, P. (2019). Simulations of wobble damping in viscoelastic rotators. <i>Monthly Notices of the Royal Astronomical Society</i> , 485(1):725–738	
TALKS	RIT AST Graduate Research Jamboree - October 2021 <i>Template Lattices for a Cross-Correlation Search for Gravitational Waves from Scorpius X-1</i> 14th Edoardo Amaldi Conference on Gravitational Waves - July 2021 <i>Template Lattices for a Cross-Correlation Search for Gravitational Waves from Scorpius X-1</i> LIGO-Virgo-KAGRA Collaboration Meeting - March 2021 <i>Template Lattices for a Cross-Correlation Search for Sco X-1</i>	

	<p>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></p> <p>LIGO-Virgo-KAGRA Collaboration Meeting - September 2020 <i>Improved Lattice and Coordinate Choices for Cross-Correlation Search for Sco X-1</i></p> <p>LIGO Continuous Wave Group Telecon - September 2020 <i>Full O3 Scorpius X-1 CrossCorr Update</i></p> <p>RIT Undergraduate Research Symposium - August 2019 <i>Template Placement for a Search for Continuous Gravitational Waves</i></p> <p>UR Summer Research Symposium - August 2018 <i>Simulations of Precession Damping for a Homogeneous Viscoelastic Rotator</i></p>
OUTREACH	<p>Lecture: Big Data in Astronomy - January 2021 <i>Cicero-North Syracuse High School AP Computer Science Class</i></p> <p>Mentoring: Work-shopping code with students - Ongoing <i>Cicero-North Syracuse High School AP Computer Science Class</i></p>
PROFESSIONAL AFFILIATIONS	<p>LIGO Scientific Collaboration Sigma Pi Sigma</p>
PROFESSIONAL DEVELOPMENT	<p>Data Carpentry: Pilot Workshop for Astronomers - November 2020 Penn State Summer School in Statistics for Astronomers XVI - June 2021 Code/Astro - A Software Engineering Workshop for Astronomy - June 2021</p>
COMPUTER SKILLS	<p>Computer Programming and Data Analysis:</p> <ul style="list-style-type: none"> • Python, Maple • UNIX shell scripting (Bash) <p>Document Editing and Development Tools:</p> <ul style="list-style-type: none"> • \LaTeX (\LaTeX, \BibTeX) • Git (GitHub, GitLab) • Microsoft Office, Mac iWork Suite, Google Suite • Data Analysis: Matplotlib, Pandas <p>Operating Systems:</p> <ul style="list-style-type: none"> • Linux-Debian (primary), Mac OS, Windows <p>Technical Skills:</p> <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
HONORS AND AWARDS	<p>Sigma Pi Sigma Honor Society (SPS) Chi Alpha Sigma Honor Society Benjamin Titus Roberts Full-tuition Grant - <i>Roberts Wesleyan College</i> Ensemble Scholarship, Violin - <i>Roberts Wesleyan College</i> Dean's List, High Honors - <i>Roberts Wesleyan College</i></p>

TEACHING
EXPERIENCE

Roberts Wesleyan College Teaching Assistant

- AST 201: Descriptive Astronomy
- PHY 101 LAB: Mechanics
- PHY 102 LAB: Electricity
- PHY 115: Physics of Music

Tutoring (Certified CRLA Level 1)

- 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, *Society of Physics Students*

2018 Academic Year

Organizing preview day for prospective students, fundraising, planning activities

Women's Varsity Soccer Team

Roberts Wesleyan College

Fall 2016 - Spring 2020

NCAA Division II, starting defensive midfielder