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## KATIE CHAMBERLAIN she/her

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website: [katiechambe.github.io](https://katiechambe.github.io)

**EDUCATION**      *Ph.D., Astronomy and Astrophysics*      May 2023 (Expected)  
                     *M.S., Astronomy and Astrophysics*      May 2020 (Expected)  
                     Steward Observatory, University of Arizona, Tucson, AZ  
                     Advisor: Gurtina Besla

*B.S., Physics*      May 2018  
*Secondary Major: Mathematics*  
Montana State University, Bozeman, MT  
Advisor: Nicolas Yunes

**RESEARCH INTERESTS**      Dwarf Galaxies  
                                 - Frequency of isolated pairs and satellites  
                                 - Orbital and internal dynamics of interacting pairs  
                                 - Hydrodynamic and cosmological simulations

**PUBLICATIONS**      *Frequency-domain waveform approximants capturing Doppler shifts*  
                                 **K. Chamberlain**, C. Moore, D. Gerosa, N. Yunes  
                                 Phys. Rev. D **99**, 024025 (2019)  
  
                                 *Theoretical Physics Implications of Gravitational Wave Observation with Future Detectors*  
                                 **K. Chamberlain**, N. Yunes  
                                 Phys. Rev. D **96**, 084039 (2017)  
  
                                 *Theory-Agnostic Constraints on Black-Hole Dipole Radiation with Multi-Band Gravitational-Wave Astrophysics*  
                                 E. Barausse, N. Yunes, **K. Chamberlain**  
                                 Physical Review Letters **116**, 241104 (2016)

**RESEARCH EXPERIENCE**      *Graduate Research Assistant*  
                                 Steward Observatory, University of Arizona      2018 - Present  
                                 Advisor: Gurtina Besla

*LIGO Summer Undergraduate Research Fellowship (REU)*  
California Institute of Technology TAPIR Group      Summer 2017

*Undergraduate Research Assistant*  
Montana State University - eXtreme Gravity Institute      2015 - 2018  
Advisor: Nicolas Yunes

*Research Apprentice*  
Montana Space Grant Consortium      2016 - 2017

<b>COMPUTATIONAL SKILLS</b>	<i>Proficient:</i> Python, Mathematica, LaTeX, HPC, HTML, git, emacs. <i>Some experience:</i> Java, MATLAB, bash, vi.	
<b>HONORS, AWARDS &amp; GRANTS</b>	MONTANA STATE UNIVERSITY	
	<i>Undergraduate Scholars Program Grant</i>	2015 - 2018
	<i>Research Travel Grants</i>	2017, 2018
	<i>Montana University System Honors Scholarship</i>	2013 - 2017
	MONTANA STATE UNIVERSITY PHYSICS DEPARTMENT	
	<i>Outstanding Graduating Senior in Physics</i>	2018
	<i>Outstanding Undergraduate Physics Researcher Award</i>	2017 - 2018
	<i>Georgianne Caughlan Scholarship for Women in Physics</i>	2017 - 2018
	<i>John and Marilyn (Milburn) Asbridge Family Physics Scholarship</i>	2015 - 2017
	MONTANA STATE UNIVERSITY MATHEMATICS DEPARTMENT	
	<i>Outstanding Graduating Senior in Math</i>	2018
	<i>John L Margaret Mathematics and Science Scholarship</i>	2017 - 2018
	<i>Mathematics Department Scholarship for Excellence in Coursework</i>	2014 - 2015
	OTHER	
	<i>American Physical Society Division of Gravitation Travel Award</i>	2018
<b>TALKS<sup>†</sup> &amp; POSTERS<sup>*</sup></b>	<i>*Frequency of dwarf galaxy pairs throughout cosmic time.</i> Small Galaxies, Cosmic Questions Meeting. Durham, UK, July 2019  <sup>†</sup> <i>Towards a “Kicked” Frequency-Domain Waveform Approximant.</i> APS April Meeting. Columbus, Ohio, April 2018  <sup>†</sup> <i>Testing Modified Gravity with Future Gravitational Wave Detectors.</i> Pacific Coast Gravity Meeting. California Institute of Technology, March 2018  <sup>†</sup> <i>Measuring Black Hole Kicks with Future Gravitational Wave Detectors.</i> LIGO-Caltech Summer Research Celebration. California Institute of Technology, August 2017  <i>*Theoretical Physics Implications with Future Gravitational Wave Detectors.</i> Poster Presentation at Montana Space Grant Consortium Research Celebration. Bozeman, MT, May 2017  <i>*Theoretical Physics Implications with Future Gravitational Wave Detectors.</i> Poster Presentation at Undergraduate Research Celebration. Montana State University, April 2017  <sup>†</sup> <i>Gravitational Wave Tests of General Relativity with Future Detectors.</i> APS April Meeting. Washington D.C., January 2017  <sup>†</sup> <i>Constraints on Modified Gravity with Future Gravitational Wave Detectors.</i>	

Relativity and Astrophysics Seminar.  
Montana State University, October 2016

\* *Theoretical Physics with Multi-Band Gravitational Wave Astrophysics.*  
Poster Presentation at Undergraduate Research Celebration  
Montana State University, April 2016

<b>PRESS</b>	<i>“Looking for nothing to test gravity”</i> Interview with Symmetry Magazine	2018
<b>OUTREACH &amp; SERVICE</b>	<i>Member</i> Steward Graduate Student Council University of Arizona Acting liaison between faculty and graduate students, responsible for graduate student townhalls to discuss state of the graduate program.	2019 - Present
	<i>Volunteer</i> Warrior-Scholar Project University of Arizona Research project leader - Taught students an introduction to programming in Python, led a Jupyter Notebook-based exoplanet research project, and provided tutoring help during students’ homework sessions.	2019, 2020
	<i>Founder</i> Society of Physics Students <i>Coding Nights</i> Montana State University Teaching basic coding courses in Mathematica and LaTeX to early undergraduate physics students.	2016 - 2018
	<i>Society of Physics Students</i> Montana State University	2013 - 2018
	- President	2016 - 2017
	- Vice President	2015 - 2016
	- Student Representative	2017 - 2018
<b>MEMBERSHIPS</b>	- TiNy Titans (TNT) Collaboration	2018 - Present
	- American Astronomical Society	2018 - Present
	- LIGO Scientific Collaboration	2017
	- American Physical Society	2016 - 2019
	- eXtreme Gravity Institute at Montana State University	2015 - 2018