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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

**COMPUTATIONAL SKILLS**    *Proficient:* Python, Mathematica, LaTeX, HPC, HTML, git, emacs.  
*Some experience:* Java, MATLAB, bash, vi.

**HONORS, AWARDS & GRANTS**

MONTANA STATE UNIVERSITY	
Undergraduate Scholars Program Grant	2015 - 2018
Research Travel Grants	2017, 2018
Montana University System Honors Scholarship	2013 - 2017

MONTANA STATE UNIVERSITY PHYSICS DEPARTMENT	
Outstanding Graduating Senior in Physics	2018
Outstanding Undergraduate Physics Researcher Award	2017 - 2018
Georgeanne Caughlan Scholarship for Women in Physics	2017 - 2018
John and Marilyn (Milburn) Asbridge Family Physics Scholarship	2015 - 2017

MONTANA STATE UNIVERSITY MATHEMATICS DEPARTMENT	
Outstanding Graduating Senior in Math	2018
John L Margaret Mathematics and Science Scholarship	2017 - 2018
Mathematics Department Scholarship for Excellence in Coursework	2014 - 2015

OTHER	
American Physical Society Division of Gravitation Travel Award	2018

**TALKS<sup>†</sup> & POSTERS<sup>\*</sup>**

*\*Frequency of dwarf galaxy pairs throughout cosmic time.*  
Small Galaxies, Cosmic Questions Meeting.  
Durham, UK, July 2019

*†Towards a “Kicked” Frequency-Domain Waveform Approximant.*  
APS April Meeting.  
Columbus, Ohio, April 2018

*†Testing Modified Gravity with Future Gravitational Wave Detectors.*  
Pacific Coast Gravity Meeting.  
California Institute of Technology, March 2018

*†Measuring Black Hole Kicks with Future Gravitational Wave Detectors.*  
LIGO-Caltech Summer Research Celebration.  
California Institute of Technology, August 2017

*\*Theoretical Physics Implications with Future Gravitational Wave Detectors.*  
Poster Presentation at Montana Space Grant Consortium Research Celebration.  
Bozeman, MT, May 2017

*\*Theoretical Physics Implications with Future Gravitational Wave Detectors.*  
Poster Presentation at Undergraduate Research Celebration.  
Montana State University, April 2017

*†Gravitational Wave Tests of General Relativity with Future Detectors.*  
APS April Meeting.  
Washington D.C., January 2017

*†Constraints on Modified Gravity with Future Gravitational Wave Detectors.*

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 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
	<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