

# Madeline Stover

## PERSONAL DATA

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## EDUCATION

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EXPECTED MAY 2026 Doctorate in Physics, **University of Illinois**, Urbana, IL  
GPA: 3.83/4.00

MAY 2020 Bachelor of Arts, **Kenyon College**, Gambier, OH  
Major: Physics (High Honors), Minor: Mathematics  
Honors Thesis: "Calibration Uncertainty of Advanced LIGO and its Effect on Data Analysis"  
Advisor: Prof. Madeline Wade  
Major GPA: 3.80/4.00, Cumulative GPA: 3.45/4.00  
Merit List

## AWARDS AND SCHOLARSHIPS

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*Sept 2022* | **Schlesinger Travel Grant Award**  
This award was granted to support my attending the AGU Fall 2022 Meeting.  
Award amount: \$750.

*May 2022* | **Graduate Physics Travel Award**  
This award was granted to support my attending the US CLIVAR Pattern Effect Workshop.  
Award amount: \$300.

*Jul 2019* | **Society of Physics Students Outstanding Presentation Award**  
This award is given to members of the Society of Physics Students presenting their work at national professional society meetings. This award was granted for a presentation I gave on my research on "Calibration Uncertainty of Advanced LIGO and its Effect on Parameter Estimation" at the American Physical Society April Meeting.

*Nov 2018* | **Clare Boothe Luce Undergraduate Research Scholar**  
This scholarship equips high-potential women for success in graduate school and academic careers by engaging them in mentored research, networking, and career preparation initiatives. Funds research for two semesters and a summer.  
Award amount: \$7,000.

*Mar 2018* | **Kenyon College Summer Science Scholars Fellowship Award**  
This scholarship funds mentored research in the natural sciences at Kenyon for one summer.  
Award amount: \$4,000.

*May 2016* | **Distinguished Academic Scholar Merit Scholarship**  
This scholarship program recognizes outstanding students whose academic achievement, leadership potential, and accomplishments in activities place them in the top 10 to 15 percent of admitted students.  
Award amount: \$15,000 a year for four years.

## PROFESSIONAL MEMBERSHIP

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- Aug 2022 - Present* | Member of the American Geophysical Union
- Expected Jan 2023* | Member of Tau Beta Pi the Illinois Alpha Chapter at the University of Illinois at Urbana-Champaign  
Selected for induction into the honor society Sigma Xi for rank in top fifth of graduate students.
- Feb 2019 - Present* | Member of Sigma Xi  
Inducted into the honor society Sigma Xi for significant commitments to advancing research in science.
- Jan 2018 - Apr 2020* | Member of the American Physical Society
- Sept 2017 - Apr 2020* | Member of the Laser Interferometer Gravitational-Wave Observatory (LIGO) Collaboration  
Member of the calibration group. Work in bridging the gap between calibration and parameter estimation, and calibration and compact binary coalescence search.

## WORK EXPERIENCE

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- Aug 2020 - May 2021* | Teaching Assistant at the University of Illinois, Urbana, IL  
Taught PHYS 101 Discussion and PHYS 102 Discussion (ranked as excellent in both).
- Aug 2019 - Dec 2019* | Teaching Assistant at Kenyon College, Gambier, OH  
*Instructor: Prof. Benjamin Schumacher*  
Aided in teaching the course Introduction to Experimental Physics, graded coursework.
- Jan 2019 - May 2019* | Teaching Assistant at Kenyon College, Gambier, OH  
*Instructor: Prof. Tom Giblin*  
Aided in teaching the course Introduction to Computational Physics.
- Aug 2018 - Dec 2018* | Teaching Assistant at Kenyon College, Gambier, OH  
*Instructors: Prof. Madeline Wade and Prof. Leslie Wade*  
Aided in teaching the course First Year Seminar in Physics: Gravitational Wave Astronomy.
- Jan 2018 - May 2018* | Grader at Kenyon College, Gambier, OH  
*Instructor: Prof. Leslie Wade*  
Graded problem sets for General Physics II.
- Aug 2017 - Dec 2017* | Teaching Assistant at Kenyon College, Gambier, OH  
*Instructor: Prof. Aaron Reinhart*  
Aided in teaching the course Introduction to Experimental Physics, graded coursework.

## COURSES TAUGHT

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<i>Aug 2020 - Dec 2020</i>	PHYS 101 Discussion at the University of Illinois at Urbana-Champaign Ranked as excellent
<i>Jan 2021 - May 2021</i>	PHYS 102 Discussion at the University of Illinois at Urbana-Champaign Ranked as excellent

## RESEARCH EXPERIENCE

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<i>Jan 2022 - Present</i>	Research Assistant at the University of Illinois, Urbana, IL <i>Advisor: Cristian Proistosescu</i> Estimating climate sensitivity with a Bayesian Green's function approach.
<i>May 2021 - Jan 2022</i>	Research Assistant at the University of Illinois, Urbana, IL <i>Advisor: Zaida Luthey-Schulten</i> Added cell growth to the group's existing computational model of the minimal bacterial cell JCVI-syn3A.
<i>Sept 2017 - May 2020</i>	Research Assistant at Kenyon College, Gambier, OH <i>Advisors: Madeline and Leslie Wade</i> Investigated the effects of calibration uncertainty on Advanced LIGO (Laser Interferometer Gravitational-Wave Observatory) data analysis. High Honors in Physics Lab Manager
<i>2016-2017</i>	Team Leader for the Radio and Optical Astronomical Research Group Kenyon College, Gambier, OH <i>Advisors: Madeline and Leslie Wade</i> Trained as a remote observer for the Green Bank Radio Telescope. Analyzed data from the Green Bank Radio Telescope for evidence of pulsars. This work was done in collaboration with the North American Nanohertz Observatory for Gravitational Waves.
<i>Jul 2014 - Aug 2016</i>	Research Assistant at Michigan State University, East Lansing, MI <i>Neuroscience Program and Department of Integrative Biology</i> <i>Advisor: Dr. Ashlee Rowe</i> Independent research project on the role of potassium channel beta subunits in the grasshopper mouse defense against bark scorpion venom. Description of this work can be found at <a href="#">BEACON Center for the Study of Evolution in Action</a> .

## PUBLICATIONS AND PRESENTATIONS

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- Present “Improving LIGO calibration accuracy by using time-dependent filters to compensate for temporal variations”  
Authors: M. Wade, A. D. Viets, T. Chmiel, and M. Stover  
Submitted for publication
- SEPT 2021 “Modeling cell growth of JCVI-syn3A”  
Talk given at a virtual workshop hosted by the J. Craig Venter Institute (JCVI) for researchers using the JCVI minimal bacterial cell or the minimal bacterial cell *Mesoplasma florum* for basic or applied research.
- SEPT 2019 “Calibration Uncertainty of Advanced LIGO and its Effect on Search Sensitivity”  
Public talk at Kenyon College given in satisfaction of Honors in Physics
- SPRING 2019 “Calibration Uncertainty of Advanced LIGO and its Effect on Parameter Estimation”  
Poster presented at American Astronomical Society Meeting (Jan 2019), Ligo Virgo Collaboration March Meeting (Mar 2019), and American Physical Society April Meeting (Apr 2019).  
Winner of Society of Physics Students Outstanding Presentation Award

## LEADERSHIP EXPERIENCE

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- Summer 2022 - Present* | Diversity Ambassador for the Grainger College of Engineering  
*University of Illinois at Urbana-Champaign, IL*  
I assist with recruitment and retention of engineering graduate students from diverse backgrounds. I engage with prospective students, serve as a positive role models, act as an on-boarding mentor, host events, and support students from groups traditionally underrepresented in engineering throughout their experience at Grainger Engineering. This two year term of service lasts the 2022-2023 and 2023-2024 academic years and includes a \$1000 stipend at the end of each year.
- Fall 2021 - Present* | Outreach Coordinator for the Physics Graduate Student Association  
*University of Illinois at Urbana-Champaign, IL*  
Help to put on social events for graduate students in Physics and events for prospective students. As outreach coordinator I organize Science at the Market, an event where a different research group hosts an outreach booth at the farmer’s market each Saturday during the season.
- Fall 2017 - Fall 2019* | President of the Society of Physics Students  
*Kenyon College, Gambier, OH*  
Our mission: to strengthen Kenyon’s Physics community and provide opportunities for professional development to students.  
Organize local programming to engage students with physics, connect them to professional resources, and plan an annual trip to connect students to the larger physics community.  
Honors: Society of Physics Students Outstanding Chapter Award (Fall 2018), Society of Physics Students Distinguished Chapter Award (Fall 2019).
- Fall 2016* | Campus Fellow  
*Ohio Together, Clinton Campaign in Ohio*  
Data entry, phone banking, canvassing, voter registration; recruited and trained 20-30 student volunteers to register voters and phone bank; 10 hours a week.  
Organized campus events to register voters, recruit volunteers, etc.; recruited volunteers at the Clinton Campaign’s largest event, about 20,000 people.

## VOLUNTEER EXPERIENCE

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*Fall 2017 - Fall 2019* | Peer Counselor  
*Kenyon College Counseling Center, Gambier, OH*  
Worked with Kenyon College's Counseling Center to promote mental health on campus and student well-being, student-led discussion groups, one-on-one counseling, weekly meetings discussing mental health education.

*Fall 2016 - Present* | Middle School Science Outreach Volunteer  
*Kenyon College, Gambier, OH*  
Volunteer twice a year for an NSF funded middle school science outreach program that aims to increase the participation of women in science through engaging hands-on science activities.

## LANGUAGES

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ENGLISH: Fluent  
FRENCH: Intermediate

## RESEARCH SKILLS

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Fluent: PYTHON, C/C++, STAN MATHEMATICA, LINUX, L<sup>A</sup>T<sub>E</sub>X, LABVIEW, Github, Microsoft Suite, Visual Molecular Dynamics  
Certifications: Green Bank Telescope Observer, NASPA Peer Educator