

# Christine Mazzola

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Graduate Student  
University of Pittsburgh  
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## EDUCATION

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**Doctorate of Philosophy**, Physics Fall 2016 - Present (in progress)  
University of Pittsburgh  
*Advisor:* Dr. Carles Badenes  
*Dissertation:* Stellar Multiplicity Statistics in APOGEE

**Master of Science**, Physics Fall 2016 - Spring 2018  
University of Pittsburgh

**Bachelor of Science**, Physics Fall 2012 - Spring 2016  
Mississippi State University  
Mathematics minor  
Summa cum laude

## RESEARCH EXPERIENCE

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**Graduate Student Researcher, University of Pittsburgh** Summer 2017 - Present  
*Research Advisor:* Dr. Carles Badenes  
*Topics:* Doctoral research in stellar multiplicity in the APOGEE survey using radial velocity, effective gravity, effective temperature, and metallicity measurements. Developed a Monte Carlo script to simulate binary star systems with various parameters.

**Undergraduate Student Researcher, Mississippi State University** Summer 2015  
*Research Advisor:* Dr. Jim Dunne  
*Topics:* Wrote a script in C to evaluate the thermodynamic performance of a heater for the cryogenic hydrogen system of targets at the Thomas Jefferson Accelerator Facility.

**Undergraduate Research Assistant, Mississippi State University** Summer 2013 - Spring 2015, Fall 2015 - Spring 2016  
*Research Advisor:* Jim Gafford  
*Topics:* Helped manage the Advanced Electronics Laboratory in the Center for Advanced Vehicular Systems. Built prototype circuit boards from copper boards using the lab's milling machine and soldered the boards' components. Tested and studied a Simulink model file for a vehicle's powertrain as part of an externally funded Army project.

## PUBLICATIONS

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*Stellar Multiplicity Meets Stellar Evolution and Metallicity: The APOGEE View*  
Badenes, C., **Mazzola, C.**, Thompson, T. A., et al. 2018, ApJ, 854, 147

## FUNDING

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**Dietrich School of Arts and Sciences Peter F. M. Koehler Predoctoral Fellowship** Fall 2019, Summer 2020

## HONORS AND AWARDS

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**3MT Competition Winner, Department of Physics and Astronomy, University of Pittsburgh**  
Spring 2020

**3MT Competition Winner, Department of Physics and Astronomy, University of Pittsburgh**  
Spring 2019

## TALKS AND PRESENTATIONS

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**Astrosnacks Seminar Series, Carnegie Mellon University** Sept. 17, 2019  
*Title: Python Plotting 101*

**Lightning Talk, SDSS 2019 Collaboration Meeting, Ensenada, Mexico** June 26, 2019  
*Title: Stellar Multiplicity Through the APOGEE Lens*  
Also presented a poster of the same name.

**Astrosnacks Seminar Series, University of Pittsburgh** Nov. 12, 2018  
*Title: Stellar Multiplicity Through the APOGEE Lens*

**Astrosnacks Seminar Series, University of Pittsburgh** Feb. 6, 2018  
*Title: Sparsely Sampled RV Curves: Where Stellar Multiplicity, Evolution, and Metallicity Intersect*

## TEACHING

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**Graduate Teaching Assistant, University of Pittsburgh** Spring 2020  
*Course:* PHYS 0091: Conceptual Physics  
*Responsibilities:* Prepared and taught 1-hour recitations for 1 section of 26 undergraduates. Held weekly office hours and graded recitation sheets. Second half of semester was entirely online, so held online review sessions for both recitation sections.

**Graduate Teaching Assistant, University of Pittsburgh** Spring 2019  
*Courses:* ASTRON 0088: Stonehenge to Hubble and ASTRON 0089: Stars, Galaxies, and the Cosmos  
*Responsibilities:* Prepared and taught 1-hour recitations for 3 sections of ASTRON 0088 under 2 different instructors and 1 section of ASTRON 0089. Attended instructor's lectures for 1 section of ASTRON 0088. Held weekly office hours and graded recitation sheets.

**Graduate Teaching Assistant, University of Pittsburgh** Fall 2016 - Spring 2017  
*Course:* ASTRON 0089: Stars, Galaxies, and the Cosmos  
*Responsibilities:* Prepared and taught 1-hour recitations for 5 sections of 30-40 undergraduates. Attended professor's lectures. Held weekly office hours and graded recitation sheets.

**Unofficial Laboratory Instructor, Mississippi State University** Spring 2016  
*Course:* ECE 4653/6653: Introduction to Power Electronics  
*Responsibilities:* Ordered parts for and created student kits. Set up laboratory space and scheduled student time slots. Monitored student use of lab equipment and answered student questions, including Skyping distance students.

**Unofficial Laboratory Assistant, Mississippi State University** Spring 2015  
*Course:* ECE 4653/6653: Introduction to Power Electronics

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*Responsibilities:* Ordered parts for and created student kits. Coordinated with head laboratory instructor to set up laboratory space and schedule student time slots. Split time with head lab instructor to monitor student use of lab equipment and answer student questions.

## WORKSHOP/CONFERENCE ATTENDANCE

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**Women in Medicine and Science Forum, University of Pittsburgh** Nov. 20, 2019

**Negotiation and Management Workshop for Women in Sciences, University of Pittsburgh**  
Nov. 14, 2019

**APOGEE Stellar Companions Paper Sprint, University of Virginia** Oct. 4-8, 2019

**SDSS 2019 Collaboration Meeting, Ensenada, Mexico** June 24-28, 2019

**LSST Community Brokers Workshop, Seattle, Washington** June 19-21, 2019

**APS Conference for Undergraduate Women in Physics, Georgia Institute of Technology** Jan. 15-17, 2016

**APS Conference for Undergraduate Women in Physics, University of Mississippi** Jan. 16-18, 2015

## PROFESSIONAL MEMBERSHIPS

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Sloan Digital Sky Survey IV: APOGEE-2 Survey

Sloan Digital Sky Survey V

## INVOLVEMENT

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**Women and Minorities in Physics, University of Pittsburgh** Fall 2019 - Present  
Member; attend bi-weekly meetings and helped with with various effort, including participating in an APS Committee on the Status of Women climate visit.

**Graduate Student Mentor, University of Pittsburgh** Fall 2019 - Spring 2020  
Mentored four new students through their first year of graduate school.

**Undergraduate Student Research Mentor, University of Pittsburgh** Summer 2019  
Helped Dr. Carles Badenes advise two undergraduate students in summer research.

**Graduate Student Mentor, University of Pittsburgh** Fall 2018 - Spring 2019  
Mentored three new students through their first year of graduate school.

**Society of Physics Students Vice President, Mississippi State University** Spring 2015 - Fall 2015  
Member from Spring 2014 until graduation in Spring 2016.