

Christine Mazzola

Graduate Student
University of Pittsburgh
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EDUCATION

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

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

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

FUNDING

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

Dietrich School of Arts and Sciences Predoctoral Summer Research Fellowship Summer 2017

HONORS AND AWARDS

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

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

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

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

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

Sloan Digital Sky Survey IV: APOGEE-2 Survey

Sloan Digital Sky Survey V

INVOLVEMENT

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.