
MORGANA IACOCCA

1015 South Braddock Ave, Pittsburgh, PA, 15218
+1 (484) 643-6484
mii25@pitt.edu
<https://www.linkedin.com/in/morgana-iacocca/>
<https://morganafayeiacocca.github.io/>

EDUCATION

University of Pittsburgh, Pittsburgh, Pennsylvania 2018-2023 (Cumulative GPA: 3.841)
Summa Cum Laude
B.S.E. - Computer Engineering (Major GPA: 3.835)
B.S. - Physics & Astronomy, with Graduate School Preparation (Major GPA: 3.880)
Certificate - Nanoscience and Engineering

HONORS AND AWARDS

University of Pittsburgh Dietrich School of Arts and Sciences Dean's List, Fall 2020, Spring 2021, Spring 2022, Fall 2022, Spring 2023
University of Pittsburgh Swanson School of Engineering Term Honor List, Spring 2020
Sigma Pi Sigma Physics Honors Society Induction, April 2021
Pennsylvania Space Grant Consortium Scholarship, Fall 2022
Phi Beta Kappa Honors Society Induction, April 2023

RESEARCH

Department of Physics & Astronomy, University of Pittsburgh, Pittsburgh, PA
Undergraduate Research Assistant, September 2022 - May 2023
Post-Baccalaureate Researcher, May 2023 - Present

Dr. Rachel Bezanson, Associate Professor of Physics and Astronomy

- Assisted with developing python software to degrade spectroscopic images of low redshift galaxies to resemble those of high redshift galaxies to give better insight into galaxy evolution
 - Reviewed and added documentation to previously written code
 - Revised code that had become deprecated or obsolete since initial development
- Utilized public LEGA-C data and Prospector formation time modeling data from a collaborator to examine formation time and structural trends in rotational support for $z \sim 1$ galaxies

Quantum Hall Edge State Tunneling (QUEST) lab, Institut Néel, Grenoble, France

Research Intern, May 2022 - July 2022

Dr. Benjamin Sacépé, Researcher, Institut Néel

- Assisted with developing graphene heterostructures (stacks) for electronic analysis of edge states in the quantum hall regime
- Tasked with developing a tunneling probe design for graphene heterostructures
- Performed graphene exfoliation using the scotch tape method
- Located and performed characterization on graphene and hexagonal boron nitride (hBN) flakes using optical and atomic force microscopy
- Planned and performed stacking of graphene van der Waals heterostructures
- Developed electronic connection patterns for lithography on graphene stacks using KLayout

Department of Physics & Astronomy, University of Pittsburgh, Pittsburgh, PA
Undergraduate Research Assistant, September 2021 - May 2022

Dr. Sergey Frolov, Associate Professor of Physics and Astronomy

- Assisted with developing nanowire devices for electronic analysis of superconducting behavior
- Transferred InAs nanowires to silicon substrates using a micropositioner
- Developed lithography patterns for electric leads from bonding pads to nanowires using KLayout

PRESENTATIONS

2024 Astrophysicist for a Day - High School Field Trip to Allegheny Observatory, Pittsburgh, PA. "A Hands-On Approach to Markov Chain Monte Carlo and its Use in Evaluating the Hubble Constant," March 2024

2023 Astrophysicist for a Day - High School Field Trip to U. Pittsburgh, Pittsburgh, PA. "A Hands-On Approach to Markov Chain Monte Carlo and its Use in Evaluating the Hubble Constant," November 2023

2023 Allegheny Observatory High School Field Trip, Pittsburgh, PA. "Using Doppler Redshifts to Draw Conclusions about Saturn's Rings and Other Astronomical Objects," November 2023

2023 Pennsylvania Governor's School for the Sciences, Pittsburgh, PA. "Calibration Frames and Their Use in Astronomical Observation," July 2023

2023 Swanson School of Engineering Design Expo, Pittsburgh, PA. "SAFEWALKS: Solar-powered AI For Energy-efficient Walkway Accessibility and LooKout System" April 2023

2022 French-American Workshop, Grenoble, France. "Developing a Tunneling Probe on a Graphene Stack in the Quantum Hall Regime," July 2022

2019 Swanson School of Engineering Design Expo, Pittsburgh, PA. "Sharp Sense: Promoting Proper Sharps Disposal," April 2019

LEADERSHIP

Business Manager, Pagans at Pitt, University of Pittsburgh, Pittsburgh, PA, August 2021 - Present

- Planned and organized club events and making decisions about club policies

Mental Health Liaison, League of Legends at Pitt, University of Pittsburgh, Pittsburgh, PA, August 2022 - Present

- Made decisions about club policies and drafting club rules and behavioral expectations
- Worked to ensure that club member behavior remained respectful of other club members and their wellbeing, especially with respect to the treatment of club members who are part of marginalized communities
- Organized and ran an intra-club, for-fun tournament

Dungeon Master, Big Bads and Beyond D&D 5e Game, Pittsburgh, PA, April 2023 - Present

- Developed a narrative for players to enjoy with relevant artifacts, including maps, artwork, and game mechanics, in congruence with player interests and comfort with sensitive materials
- Organized regular game sessions, including scheduling and sending reminders to ensure everyone's time commitments were respected
- Maintained open channels for consistent, clear communication with players regarding expectations for their behavior and involvement in the game

OTHER INVOLVEMENT

T is For - Member, University of Pittsburgh, Pittsburgh, PA, March 2022 - April 2023

Ultra-VioLETS (Ultra Visibility of LGBTQ+ Experimentalists, Theorists, and Staff) - Member, University of Pittsburgh, Pittsburgh, PA, September 2021 - Present

Allegheny Observatory (Outreach) - Volunteer, Pittsburgh, PA, June 2023 - Present

SKILLS

Programming Languages: Adept at Python. Proficient in Java, x86 assembly, and RISC-V. Familiar with C, MATLAB, and Mathematica.

Spoken Languages: Fluent in English and Conversational in German.

Other Languages: Proficient in VHDL. Familiar with UML.

Technical Software: Proficient with GitHub, Jupyter Notebook, and PuTTY.

Design Software: Proficient with KLayout, Altium, and Vivaldo. Familiar with LTSpice.

Design Skills: Proficient with AGILE framework. Familiar with UX design concepts.

Nanofabrication Machining Tools: Proficient with micropositioner, atomic force microscope, and photoresist spin coat machine. Familiar with wire bonder and scanning-tunneling electron microscope.

Other Relevant Tools: 24" Astrograph Telescope at Allegheny Observatory controlled via MaxIM DL Pro 6.