

Emily Biermann

PHD CANDIDATE · ASTROPHYSICIST

Pittsburgh, PA

☎ (978) - 382 - 0736 | ✉ emily.biermann@pitt.edu | 🌐 <https://embiermann.github.io/> | 📷 [embiermann](#) | 🔗 www.linkedin.com/in/embiermann

Education

Stony Brook University

B.S. IN PHYSICS AND ASTRONOMY

- Graduated Magna Cum Laude with departmental honors in physics and astronomy
- Senior Thesis: Composing an Answer Key for Weighing the Giant's Photometric Redshifts

Stony Brook, NY

Sep. 2015 - May. 2019

University of Pittsburgh

M.S. IN PHYSICS

Pittsburgh, PA

Aug. 2019 - Dec. 2021

University of Pittsburgh

PHD IN PHYSICS

Pittsburgh, PA

In Progress

Skills

Programming Languages	Python, C++, Fortran, MATLAB
Operating Systems	Linux, Windows, Mac OS
Applications	LaTeX, GitHub, Wolfram Mathematica

Research Experience

University of Pittsburgh

GRADUATE STUDENT RESEARCHER

- Analyze ACT data to search for microwave transient events
- Contribute to Simons Observatory transient pipeline
- Simulations of moving lens effect in microwave data
- Remote observer

Pittsburgh, PA

Sep. 2019 - Present

Lawrence Berkeley National Labs, Nuclear Division

RESEARCH ASSISTANT

- Paid position at Lawrence Berkeley National Labs Summer 2018
- Integrated simulated lepton-flavor violation events into MATLAB accelerator detection code.

Berkeley, CA

May. 2018 - July 2018

Stony Brook University

UNDERGRADUATE RESEARCHER

- Analyzed calibration data for the IceCube Experiment under the direction of Joanna Kiryluk.
- Studied weak lensing of galaxy clusters from the "Weighing the Giants" catalog under the direction of Anja von der Linden by determining the accuracy of cluster's photometric redshifts using python code and various astronomy software packages.
- Completed a senior research paper leading to departmental honors in astronomy

Stony Brook, NY

Dec. 2016 - Aug. 2019

Honors & Awards

2021	Honorable Mention , NSF Graduate Research Fellowships Program	<i>University of Pittsburgh</i>
2019	Fellowship Recipient , Elizabeth U. Baranger Predoctoral First Year Fellowship	<i>University of Pittsburgh</i>
2020	Fellowship Recipient , University of Pittsburgh Kenneth P. Dietrich School of Arts and Sciences Fellowship	<i>University of Pittsburgh</i>
2019	Departmental Honors , Dept. of Physics, Dept. of Astronomy	<i>Stony Brook University</i>
2018	Membership , Sigma Pi Sigma National Physics Honor Society	<i>Stony Brook University</i>
2015	Award Recipient , Undergraduate Provost's Scholarship (40,000)	<i>Stony Brook University</i>

Talks and Presentations

July 2022 **"Transients in ACT Data"**, CMB-S4 Transients and Sources Workshop

May 2022 **"Numpy I"**, Python Bootcamp

April 2022 **"Transients in ACT Data"**, April APS Meeting

invited

workshop

contributed

Community Engagement

Astro On Tap: Pittsburgh

PRESENTER: *Say Cheese! Capturing Our Galaxy's Camera-Shy Black Hole*

Two Freys Brewing, Pittsburgh PA

June 2022

AHN Burn Camp

GUEST INSTRUCTOR

Camp Kon-O-Kwee, Fombell PA

June 2022

Ultimate Science Sunday

POSTER PRESENTER: *IceCube*

World Science Festival, New York

City NY

June 2017

IceCube Masterclass: Connecting students and researchers through IceCube

FACILITATOR

Stony Brook University, Stony Brook

NY

March 2017

Extracurricular Activity

Dept. of Physics and Astronomy Equity and Inclusion Committee

COMMITTEE MEMBER

University of Pittsburgh, PA

Jun. 2020 - PRESENT

- Participated in interviewing and evaluating candidates' diversity and inclusion experience during a faculty job search
- Assisted in writing a code of conduct for the department
- Interviewed and evaluated Bridge Student Candidates.

Ultra-VioLets

MODERATOR & FOUNDING MEMBER

University of Pittsburgh, PA

Jun. 2020 - PRESENT

- Created a space for LGBTQ+ members of the University of Pittsburgh's Department of Physics and Astronomy to meet twice a month.
- Planned and implemented several political advocacy programs open to the department.
- Planned social gatherings for LGBTQ+ members of our department and allies

Spirit of Stony Brook Marching Band

DRUM MAJOR

Stony Brook University, NY

May 2016 - May 2019

- Conducted and performed a mace routine at all home football games.
- Taught members marching and musical skills during bandcamp and rehearsal
- Lead a conducting course for drum major applicants
- Designed and implemented a multi day course on marching as well as lessons throughout the season.

Common Purpose Global Leader Experience

ALUMNA

SUNY Global Center in New York

City, NY

Jul. 2018

- Attended four day conference for select SUNY students centered around cultural intelligence, leadership, and community impact
- Gained insight through conversations with leaders within the New York City Community

Science and Society Undergraduate College

TEACHING ASSISTANT FELLOW

Stony Brook University, NY

Dec. 2015 - Dec. 2016

- Served as a teaching assistant for a freshman 101 seminar.
- Participated in a leadership and education course

Teaching Experience

University of Pittsburgh

TEACHING ASSISTANT

Pittsburgh, PA

Sep. 2020 - Dec. 2022

- Designed and taught recitation courses for Algebra based physics courses.

Voyage Academics

ACADEMIC TUTOR

- Tutored high school students in STEM courses and SAT prep.

Suffolk County, NY

May, 2018 - July 2018