Ilana Bromberg

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Purdue University, *West Lafayette, IN*
PhD Student (Fall 2021-Present)
Department of Physics

Stony Brook University, *Stony Brook, NY*
Bachelor of Science, May 2020
Women in Science & Engineering Honors Program
Majors: Physics and Astronomy, Minor: Art History
GPA: 3.62

RESEARCH EXPERIENCE

Dr. Lucy Flesch Geophysics Group
Purdue University, West Lafayette, IN
PhD Student, Fall 2021 — present
- Finite element modeling of the Basin and Range region in COMSOL multiphysics software to examine long-term geophysical processes present in the area
- Pre- and post-processing large sets of data in Matlab and Python

Science Undergraduate Laboratory Internship
Brookhaven National Labs, Upton, NY
Research Intern, Aug 2020 - May 2021 (Virtual)
- Finite element modeling of different magnet setups in CST for electron beamline experiments as part of Dr. Navid Vafaei-Najafabadi's plasma physics group
- Communicated results and updates in weekly meetings

Radiological Accelerator Research Facility (RARAF)
Nevis Labs, Irvington, NY
Research Experiences for Undergraduates Intern, Summer 2019
- Collaborated with a team of physicists, biologists, and engineers to run experiments on the biologic effects of neutron radiation
- Designed physical collimation shielding in MCNP to limit neutron radiation exposure on the chest cavity of mice

WORK EXPERIENCE

Women in Science & Engineering (WISE)
Stony Brook, NY
Student Mentor, Sept. 2019 – May 2020
- Mentored and advised three freshmen in the WISE program with declared physics/astronomy majors
- Introduced mentees to coding concepts, assisted with classes and scheduling, and gave professional, personal, and academic advice

Vanderbilt Planetarium
Centerport, NY
Astronomy Educator/Console Operator, Dec. 2019 – July 2021
- Operated the Konica Minolta and Digital Sky hybrid planetarium system
- Created educational programming
- Gave star talks to the general public at various levels of complexity

SKILLS

Computational
- Python plotting and machine learning packages - PyTorch, Pandas, Matplotlib (highly proficient)
- Matlab (proficient), Github (proficient), Java (intermediate), C++/ROOT (intermediate), Fortran (working knowledge)
- Finite element modeling - MCNP, COMSOL, CST (highly proficient)
- Microsoft Office (highly proficient)
- Experience with data analysis and visualization
- Comfortable working with large data sets

Other
- Experience working with Photoshop and other image editing programs
- Experience in public speaking from the Alan Alda Center for Communicating Science & the Vanderbilt Planetarium
- Skilled presenter of scientific concepts
- Intermediate Mandarin Chinese speaker

AWARDS AND HONORS

Indiana Space Grant Consortium Doctoral Fellowship, *Fall 2022 – Spring 2023*
- NASA-affiliated fellowship for STEM research

Presidential Scholarship, *2016 – 2020*
- Full academic scholarship at Stony Brook University

CAS Dean's Excellence Scholarship, *2016*
- Merit-based scholarship

Dean's List
- Fall 2016, Spring 2017, Fall 2017, Spring 2018, Spring 2019, Fall 2019

Graduation Honors
- Cum Laude
- Departmental Honors in Physics