

# Ilana S. Bromberg

ilanabromberg.com  
Lafayette, IN

isbromberg@gmail.com

## Education

### Purdue University

*PhD. Student*

- Masters of Physics, Computational Science and Engineering Specialization – May 2024

Aug. 2021 – Present

*West Lafayette, IN*

### Stony Brook University

*Bachelor of Science in Physics and Astronomy, Cum Laude*

Aug. 2016 – May 2020

*Stony Brook, NY*

## Research Experience

### Research Assistant

*Dr. Lucy Flesch Geophysics Group*

- Finite element modeling of the Basin and Range region in COMSOL multiphysics software to examine long-term geophysical processes present in the area
- 3D modeling & mesh analysis of region of interest
- Pre- and post-processing of large geophysical datasets in Matlab and Python

Aug. 2021 – Present

*West Lafayette, IN*

### Science Undergraduate Laboratory Intern

*Dr. Navid Vafaei-Najafabadi Plasma Group*

- Finite element modeling and analysis of various magnet configurations in CST for electron beamline experiments

Aug. 2020 – May 2021

*Brookhaven National Labs, Upton, NY*

### Radiological Accelerator Research Facility Intern

*Research Experience for Undergraduates through Columbia University*

- Collaborated with an interdisciplinary team of physicists, biologists, and engineers to run experiments on the biological effects of neutron radiation; designed physical collimation shielding in MCNP

May 2019 – Aug. 2019

*Nevis Labs, Irvington, NY*

## Work, Outreach, & Leadership

### Physics Graduate Student Association

*Secretary, President*

- Organized professional development and social opportunities for physics graduate students

Sept. 2022 – Present

*West Lafayette, IN*

### WISE Mentor

*Women in Science and Engineering Honors Program*

- Mentored and advised three freshmen in the WISE program with declared physics/astronomy majors with professional, personal, and academic advice; Mentor of the Year in 2021

Aug. 2020 – May 2021

*Stony Brook, NY*

### Planetarium Console Operator

*Vanderbilt Planetarium*

- Operated the Konica Minolta and Digital Sky hybrid planetarium system
- Created educational programming and gave star talks to the general public at various levels of complexity

Dec. 2019 – Jul. 2021

*Centerport, NY*

## Presentations

**Effects of Weak Lower Crust & Gravitational Collapse on the Evolution of the Western US** Bromberg, I., Flesch, L. M.

Stony Brook University, Visiting Scholar Talk, Sept. 2024

**Collapse on High Topography in the Evolution of the Western US.** Bromberg, I., Flesch, L. M., Holt, W. E., Bahadori, A., Calvelage, C. M.

American Geophysical Union, Poster, Dec. 2023

**Geodynamic Evolution of the Basin & Range Province** Bromberg, I.

Purdue Physics Graduate Student Seminar, Talk, Nov. 2023

**Shielding Modeling & Verification for Controlling Neutron Dose during Mouse Irradiation** Bromberg, I., Garty, G., Welch, D.

Conference for Undergraduate Women in Physics, Poster, Jan. 2020

## Skills

**Programming Languages:** Python (Matplotlib, PyTorch, PyGMT), Matlab, C++/ROOT, Fortran, Java, HTML/CSS,  $\LaTeX$

**Software:** Git, MCNP, COMSOL, CST, Office Suite

**Languages:** English (native), Mandarin Chinese (conversational)

**Professional Development:** Public speaking and science communication experience from the Alan Alda Center for Communicating Science, led workshop on website building, planning committee for 2025 Purdue CU\*iP

## Awards

**Travel Grants:** Purdue Graduate School (Fall 2023), Women in Science Program (Fall 2023)

**Fellowships:** Indiana Space Grant Consortium Doctoral Fellowship (Fall 2022 – Spring 2023, Fall 2024 – Spring 2025)

**Scholarships:** Stony Brook University Presidential Scholarship (2016 – 2020), Stony Brook College of Arts and Sciences Dean's Excellence Scholarship