

Ilana S. Bromberg

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Education

Purdue University <i>PhD. Student</i> <ul style="list-style-type: none">Masters of Physics, Computational Science and Engineering Specialization – May 2024	Aug. 2021 – Present West Lafayette, IN
Stony Brook University <i>Bachelor of Science in Physics and Astronomy, Cum Laude</i>	Aug. 2016 – May 2020 Stony Brook, NY

Research Experience

Research Assistant <i>Dr. Lucy Flesch Geophysics Group</i> <ul style="list-style-type: none">Finite element modeling of the Basin and Range region in COMSOL multiphysics software to examine long-term geophysical processes present in the area3D modeling & mesh analysis of region of interestPre- and post-processing of large geophysical datasets in Matlab and Python	Aug. 2021 – Present West Lafayette, IN
Science Undergraduate Laboratory Intern <i>Dr. Navid Vafaei-Najafabadi Plasma Group</i> <ul style="list-style-type: none">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 <i>Research Experience for Undergraduates through Columbia University</i> <ul style="list-style-type: none">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 <i>Secretary, President</i> <ul style="list-style-type: none">Organized professional development and social opportunities for physics graduate students	Sept. 2022 – Present West Lafayette, IN
WISE Mentor <i>Women in Science and Engineering Honors Program</i> <ul style="list-style-type: none">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 <i>Vanderbilt Planetarium</i> <ul style="list-style-type: none">Operated the Konica Minolta and Digital Sky hybrid planetarium systemCreated 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. Visiting Scholar Talk, Stony Brook University, 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