

## OUTREACH PROGRAMS AT BOSTON UNIVERSITY: GRADUATE WOMEN IN SCIENCE AND ENGINEERING

Cassandra A. Browning, Cynthia Brossman, Anna K. Swan



**Purpose:** This poster highlights three programs at Boston University that provide opportunities for female undergraduate and graduate students in science, technology, engineering, and math (STEM) disciplines to become involved in educational outreach.

### Four Schools for Women in Engineering



- NSF-funded effort of four MA engineering colleges.
- Each partner has formed and trained all-female STEM teams composed of faculty, university students, and industry partners.
- Each team develops a model that demonstrates the teaching and applications of STEM concepts in gender inclusive ways.
- The concepts are derived from the newly mandated engineering strand of the Mass. Frameworks from which the students are tested on the MCAS.
- STEM teams currently serve as in-class resources in eight different school districts in the Boston area.
- BU activities included “What is Engineering?” presentation, demos by industry engineers, and hands-on engineering projects lead by undergrads.
- Primary in-class projects were a bacterial gene transformation and the design of a solar house.
- Website: [www.bu.edu/eng/stem](http://www.bu.edu/eng/stem)

### Pathways



- A two-day event held at BU during which female scientists, engineers, and university students serve as role models for young women in high school and encourage them in their pursuit of science.
- Goals are to expose students to a wide range of career options and give them an opportunity to interact with women currently working in these fields.
- Mentor volunteers share information and experiences with small groups of students at the beginning of the program and over lunch.
- Volunteers at career tables provide information about specific career paths and offer advice.
- Researchers offer tours of their facilities and explain the cutting-edge research conducted in their labs, as well as the applications to the real world.
- Presenters provide demonstrations that engage the students in experiments and hands-on activities.
- Website: [www.bu.edu/lernet/pathways](http://www.bu.edu/lernet/pathways)

### Project STAMP



- NSF-funded GK-12 program that partners graduate students with local middle/high school teachers in STEM disciplines.
- Fellows provide additional content to K-12 classrooms and collaborate with teacher partners to enhance curricula with activities, labs, and demos.
- GK-12 Fellows receive specialized training in teaching methods, curriculum development, and classroom dynamics during the summer.
- Fellows develop lessons that help students learn principles of engineering by designing and building robots, bridges, etc.
- Fellows design and implement labs and activities that complement the Boston Public School's new city-wide Active Physics curriculum.
- Fellows assist students with science fair projects and help run after school programs.
- Website: [www.bu.edu/lernet/GK12](http://www.bu.edu/lernet/GK12)