Biomedical Engineering Society (BMES)
The Cornell University Biomedical Engineering Society promotes the profession of biomedical engineering (BME) through research, educational outreach, and advocacy of engineering approaches to biology and human health. The Cornell Chapter of BMES has worked to promote personal growth and development of over 100 doctoral students and over 90 masters of engineering students by expanding existing programs and implementing new initiatives. Recently, Cornell BMES was presented the Commendable Chapter Award and Meritorious Achievement Award at the 2011 and 2010 BMES Annual Meetings, respectively, to recognize their outstanding commitment to outreach and excellence in both the local and greater communities. Additionally, Cornell BMES was awarded the National Diversity Award at the 2013 National BMES Conference in Seattle, WA.

Professional Development:
The annual Cornell BMES Retreat provides a forum for students to present their research to a technical audience and increases industry exposure of BME research at Cornell. In 2016, 13 speakers and 14 posters were presented about the cutting-edge research occurring in our department. Biomedical technology companies have sponsored this event for the last 4 years and representatives interact with students throughout the retreat. Some of our past sponsors include West Pharmaceutical Services, Momenta Pharmaceuticals, Angel Medical Systems, Becton, Dickinson, and Co., and Bose-Electroforce.

During the year, Cornell BME hosts numerous professional development events for graduate students. Work-In-Progress Luncheons (a.k.a. WIP lunches) are a forum for students to present their current research, and receive feedback from students and faculty members. Students can present anything from a proof of concept for an experiment to final results. Presentations are followed by questions and input from the larger group, and afterwards a selected faculty member will sit down with each student and give further comments.

The Professional Development Committee organized site tours and visits to Advion-Quintiles and brought in representatives of Mass General and Siemens for professional seminars.

(Over)
Outreach:
The BMES Outreach committee is very active on campus and in the greater Ithaca community with a number of projects. What follows is a sampling of outreach events occurring during the 2015-2016 academic year:

**Girl Scout Engineering Day** (March and October)
Across two days (one in spring and one in fall), BMES hosted over 200 Girl Scouts from grades 2-12 at Weill Hall for a full day of events introducing various fields of engineering. Interactive activities included playing with non-Newtonian fluids, using potential and kinetic energy principles to build marble roller coasters, combining different materials to protect a dropped egg from breaking, learning basics of electricity to build LED circuits, learning the phases of matter involved in making liquid nitrogen ice cream, making polymer hydrogels that release dyes to understand drug delivery and controlled release concepts, and constructing towers out of toothpicks and gumdrops to support the weight of several textbooks.

**Upward Bound Saturday Academy** (April)
Approximately 50 high school students (Upward Bound program) rotated through bone and biomechanics themed activities that included testing chicken bones in 3-point bending, learning about FTIR spectroscopy, seeing 3D reconstructions of bone made from micro-CT scans, and simulating osteoporotic bone loss in a Jenga-based game.

**STEAM Night at Caroline Elementary** (April)
BMES taught elementary students about osteoporosis using a game of Jenga to model bone loss. Students also got to try their hand at clearing ‘plaque’ in a model artery with atherosclerosis.

**Expanding Your Horizons** (April)
At demo sessions throughout the Expanding Your Horizons event, BMES discussed the consequences of atherosclerosis on cardiovascular health with middle school girls. The girls had the opportunity to develop a tool to “clear a path to the heart” by removing ‘plaque’ from a model artery with atherosclerosis.

**Community Workdays at Ithaca Sciencenter** (May)
Members of BMES helped give Ithaca’s Sciencenter a much-needed spring makeover by pulling weeds and re-mulching garden areas.

**Into the Streets** (October)
As part of Cornell’s largest day of service, members of BMES traveled to West Haven Farm to help prepare garlic seeds and harvest the last tomatoes of the season.

Social:
Each year the BMES group also hosts several informal social events for M.Eng. and Ph.D. graduate students to connect with each other as well as with faculty. Recent social events included an end-of-year picnic, laser tag, bowling night at Helen Newman Hall, and a wine tour (for the 21+ crowd).

www.bme.cornell.edu