How do you keep a classroom of 100 undergraduates actively learning? Can students practice communication and teamwork skills in a large class? How do you boost the performance of underrepresented groups? The Student-Centered Activities for Large Enrollment Undergraduate Programs (SCALE-UP) Project has addressed these concerns. Materials developed by the project are now in use by more than 1/3 of all science, math, and engineering majors nationwide. Physics and chemistry classes are currently in operation, with biology, engineering, and oceanography adaptations in progress.

Educational research indicates that students should collaborate on interesting tasks and be deeply involved with the material they are studying. We promote active learning in a redesigned classroom for 100 students or more. (Of course, smaller classes can also benefit.) Class time is spent primarily on “tangibles” and “ponderables” — hands-on activities, simulations, and interesting questions. There are also hypothesis-driven labs. Nine students sit in three teams at round tables. Instructors circulate and engage in Socratic dialogues. The setting looks like a banquet hall, with lively interactions nearly all the time.

Hundreds of hours of classroom video and audio recordings, transcripts of numerous interviews and focus groups, data from conceptual learning assessments (using widely-recognized instruments in a pretest/posttest protocol), and collected portfolios of student work are part of our rigorous assessment effort. We have data comparing 16,000+ students. Our findings can be summarized as the following:

- Ability to solve problems is improved
- Conceptual understanding is increased
- Attitudes are improved
- Failure rates are drastically reduced, especially for women and minorities
- Performance in later courses is enhanced

In this talk I will discuss the classroom environment, describe some of the activities, and review the findings of studies of learning in various SCALE-UP settings.

TIME: 4:00 p.m., Thursday, October 11th, 2007
Refreshments at 3:30 p.m.
PLACE: 106 Corcoran Hall, GWU
725 21st Street, N.W. (Between G and H Streets)
METRO STATION: GWU/FOGGY BOTTOM (BLUE & ORANGE LINES)