

NSE Conference, December 12-15, 2005
Panel Discussion: NSF Education

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Since its creation in 2001, the NSEC based at Harvard has collaborated with the Museum of Science - Boston and Carol Lynn Alpert to bring ideas and concepts from nanoscale science and engineering to the public in an enjoyable way. The Museum knows how to engage the public with entertaining presentations on stage through its Current Science & Technology program and by developing new interactive displays. Our Center supported two talented presenters, Joel Rosenberg and Daniel Davis, who could tell the audience why carbon nanotubes are important or describe how single-electron transistors were developed. In addition, faculty from Harvard and MIT told museum visitors about new topics in their research using the excellent audio-visual facilities, with the help of museum staff. Combining the skill of the people at the museum with the technical knowledge of the researchers allowed us to inform the public about nanoscience in an entertaining way.

At Harvard the NSEC created a new course - Applied Physics 298: Interdisciplinary Chemistry, Engineering and Physics - to present the basics of nanoscale science and engineering to college students. This area combines topics from different departments, so new courses are needed to provide an introduction to the basic concepts and approaches. In this course, faculty members of the Center presented a series of tutorial lectures about their research specialties. The topics varied from microfluidic tools, to nanowire devices, to cooled scanning probe microscopes for imaging. The faculty members were joined in this series by technical staff from Harvard's Center for Nanoscale Systems who described research techniques including electron microscopy and lithography. This course is held every other year - 2003 and 2005, and planned for 2007.

Our NSEC connects with undergraduate students through the Research Experience for Undergraduates program, and with public school teachers through the Research Experience for Teachers program. Each summer the undergrads and teachers work together in research labs with grad students and faculty members, to learn how research is done. We have also connect with public school teachers using Graduate Teaching Fellowships for K-12 Education for graduate students. These programs are coordinated by Kathryn Hollar at Harvard.

Our NSEC looks forward to collaborating with Larry Bell and Carol Lynn Alpert in the newly created NISE network of museums to bring the concepts of nanoscale science and engineering to the public.