



Teaching Nanoscale Science and Engineering

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The National Center for Learning and Teaching in Nanoscale Science and Engineering (NCLT) was established in 2004 by the National Science Foundation with a mission to build US capacity in nanoscale science and engineering education (NSEE); enhance Science, Technology, Engineering, and Math (STEM) education; and help to meet the human resource development needs of the National Nanotechnology Initiative (NNI).

NCLT consists of world-class nano researchers and education experts and their students, working to quickly transfer the latest nanoscale science and engineering (NSE) research to US classrooms. Its unique program integrates learning and teaching research, instructional material development, professional development, and NSEE community building. The Center's website (www.nclt.us) provide teachers, students and college faculty with a variety of resources including courses, lectures, pre-college classroom modules, and learning technologies that enhance student understanding such as visualizations, animations, and games.

This talk will introduce the Center's activities and unique methodology, which incorporates the principles of inquiry and design, working partnerships with teachers, and cascade learning. Plans for expanding national and global partnerships will also be discussed.



Figure 1: An NCLT classroom module stimulates scientific inquiry during a high school Chemistry class.



Figure 2: An NCLT design project challenges students to build a model AFM from a soda can.