

**Symposium on Undergraduate Nano-Education:  
"Addressing the Challenges of Nanoscale Science & Engineering Education"**

**Presentation:**

"Developing an Interactive Digital Learning Environment for New Undergraduate Nanoscience and Nanoengineering Degree Paradigms"

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**Presenter Biography:**

Dr. Eric Eisenbraun is currently an Associate Professor in the College of Nanoscale Science and Engineering (CNSE) at the University at Albany-SUNY. Since joining UAlbany in 1998, Dr. Eisenbraun has been involved in the research and teaching of various areas of nanoscale thin film and materials integration for nanoelectronic, thermal, and protective coatings applications. This research includes vapor phase processing techniques including chemical vapor deposition and atomic layer deposition of a variety of metallic and dielectric coatings, as well as research involving three-dimensional wafer-scale integration. In addition, he is currently investigating the development of systems based on organic and inorganic molecular wires for applications in nanoscale devices and interconnects. Dr. Eisenbraun received his Ph.D. in Physics from the University at Albany, and his B.S. in Physics from RPI. Prior to UAlbany, Professor Eisenbraun was Chief Scientist at Tokyo Electron (TEL) Massachusetts, and prior to that was a process engineer at Lam Research. He has over nineteen years experience in nanomaterials processing and integration, and he has over 75 publications, one patent issued, and one filed. He is PI on the Hewlett-Packard "Innovations in Higher Education" program at CNSE.

**Abstract:**

CNSE's nascent undergraduate program provides significant opportunity for the implementation of unique instructional methods. One approach to be applied involves a grant from Hewlett-Packard, "Promoting a Technology-driven Innovation Economy through Nanotechnology Education at the World's First Accredited Undergraduate Nanoscale Science and Nanoscale Engineering Programs", which aims to employ digital learning methodologies in an undergraduate nano-centric program. A key focus of this program will involve strongly linking the educational experience with relevant technical skills and interaction/communication skills that will positively impact the students' academic experience and, longer term, their careers beyond college.