

BEST PRACTICES FOR ADVANCING NSE EDUCATION

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Areas of investigation –

- Identify effective pedagogical methods for using nanoHUB resources for learning
- Understanding the dynamics of knowledge generation and usage on nanoHUB

Methods –

- Instructor and student surveys
- In-depth instructor and student interviews
- nanoHUB usage data

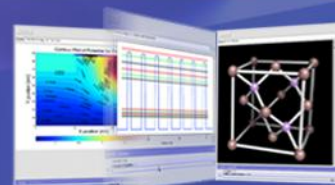
New Education Support

- Tool-powered curricula
 - Turn-key simulation
 - Instructor-created custom tool bundles
 - Visualizations
 - Homework and project assignments
 - Interactive seminars by leading researcher

Tool Powered Curriculum

enhance learning through
online simulation & more

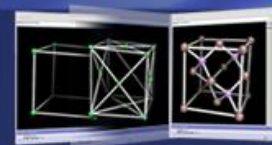
visualizations - homework - projects



Introduction to semiconductor devices with

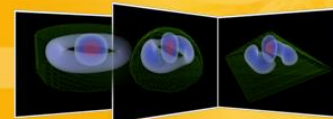
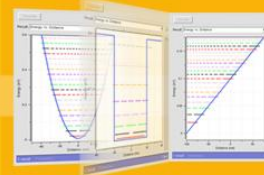
ABACUS

Assembly of Basic Applications for Coordinated Understanding of Semiconductors



Advancing Quantum Mechanics for Engineers with

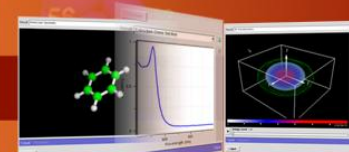
AQME



Freshman

Chemistry

Coming soon



Key characteristics of nanoHUB.org –

- Supports student exploration
- Supports active and collaborative learning
 - However, students taxed to be “intellectually present” and “on task”; they may push back
- On-line is engaging for “Digital Natives”
- Crossover of formal/informal environments
 - Positive for K-12

Observations

- With laboratories it is fairly easy to distinguish research and education use
- Discovery and Learning form a continuum with cyber-environments