Chassell High School Nanotech Enterprise Mid-year Synopsis

NanoNXT
Chassell’s Nanotech Team 2009-2010

• Team members: Bryan Waineo, Jared Jarvi, Mathias Aho, and Garrett Warren

• In coordination with MTU’s nanotech enterprise and Dr. John Jaszack
Project

- The Chassell HSE group has been learning about nanoscale microscopy.
- Our goal is to make a working model of an Atomic Force Microscope so that we can demonstrate how it works.
- Oct. - Learn to use STM – make tips for AFM - Used nano surf to measure and adjust tips and move them
- Nov. – Field trip Scanning electron microscope Laptop program
- Dec. – Gather Lego parts
- Jan. – Build model
- Feb. – Programming
- Mar. – Added laser needle
- Apr. – 15th UG expo.
Getting Started

- It has taken a while to get things rolling with a new enterprise. The early team members spent several hours just coming up with a logo.
Nanotubes under the SEM

NanoNXT has taken three separate field trips to MTU to work on three different microscopes, the Atomic Force Microscope (AFM), the Scanning Tunneling Microscope (STM) and the Scanning electron Microscope (SEM).
Diatoms under the SEM and the team
Difficulties

• Getting the Lego parts to build the model has delayed us a lot.
• Craig Otis and the nanotech enterprise team has succeeded in getting all the parts, and now we just have to get together and build the model.
• The students on our team have very involved schedules, so finding time to meet outside of school is difficult. We were meeting during our tutorial time, but now I have a class during that time.
The learning curve

• Students have learned how to work three different microscopes that can focus down to the nanometer scale.

• We will be learning how to computer program to get the model to interface with the computer.
What’s next?

• We’ve got a long way to go…
• First, we need to set up a time with the MTU nanotech enterprise to get our parts and to start building the model
• Then, we need to build it.
• After that the programming has to occur