

CPN Joins Forces with FLL NanoQuest

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WINTER 2007: The Center for Probing the Nanoscale (CPN) joined forces with the Stanford Nanofabrication Facility (SNF) to enhance the educational value of the [FIRST LEGO League \(FLL\) Nano Quest Challenge](#). This year, thousands of students (ages 9 to 14) teamed up to build and program robots designed to solve nine [Missions](#) focused on principles of nanotechnology. Mission themes ranged from molecular self-assembly to the tensile strength of nanotubes to atomic force microscopy. Guided by their imaginations and adult mentors, students learn engineering and computer programming by applying math, science, and technology to solve real-world problems.



CPN Fellow Nick Koshnick teaches students about scanning probes on NanoQuest Day.

Visualization is a powerful tool for teaching students about nanoscience. CPN research focuses on nanoprobe development which gives us a unique opportunity to use visualization to impart an intuitive understanding of nanoscale objects and properties. With this aim, the CPN partnered with the SNF for NanoQuest Day (October 23rd 2006). Over forty children and their mentors went on lab tours, listened to lectures and engaged in hands-on activities designed to interest them in the world of nanoscience. CPN scientists led an inquiry-based activity that illustrated the principle of scanning probes and magnetic force microscopy. Students were encouraged to take the materials used in the activity and share what they learned with their teachers and fellow students.

CPN scientists followed up NanoQuest Day by serving as Judges in the FLL Championship tournament held at San Jose City College on January 20th 2007. Dozens of teams brought their creative robotic solutions to compete in solving the NanoQuest Missions. Although teams were focused and driven, the event was dominated by a spirit of cooperation and encouragement.

There were many novel robot designs and students had clearly embraced the theme of nanotechnology.



Team "NXT2 Nobodies" has fun tackling the molecular motor Mission at the FLL NanoQuest championship tournament.



Students explore magnetic force microscopy at NanoQuest Day.

