

RESEARCH EXPERIENCE for UNDERGRADUATES

Every summer about fifty undergraduate students from universities and colleges across the country participate in the NNUN Research Experience for Undergraduates (REU) program. In this program the students work with faculty and graduate students on research projects in all areas of nanotechnology, and learn first-hand what it is like to do graduate-level research in nanoscience. Each student joins a research group for the 10 week program. They not only work on a research project that assists a graduate student, but they also attend group meetings, seminars, and social activities.

SNF hosts twelve of these students each summer. The 2002 SNF REU group, along with SNF staff, is shown at right. SNF also organizes weekly meetings in which the students are instructed in writing research papers and giving research

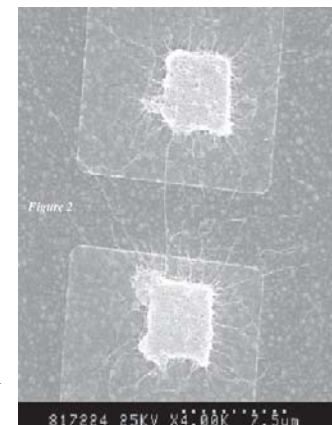


presentations. Near the end of the program, all the REU students from the different NNUN sites get together at one of the sites for a convocation, where they present their research results in oral presentations and poster sessions. Last year's convocation was held at Cornell University.

Funded by NSF, DOD, and CIS, the program provides each participant housing, transportation costs, lab user funds, and a stipend. In this program, students are sought from smaller schools which do not have the research facilities and programs that Stanford has.

Minorities and women are especially sought-after. Since the beginning of the program in 1997, students have come from over 80 different colleges and universities, and approximately 60% have been females or underrepresented minorities.

The students in the 2002 program worked on research projects in a wide range of nanoscience topics. Research titles included "Pyrosequencing of DNA using Electrowetting on Dielectrics," "Carbon Nanotubes as Piezoresistors for a Pressure Sensor," and "Patterned Multilayers for the Formation of Sub-Lithographic Features," among others. Shown at right is a secondary electron micrograph of carbon nanotubes which grow out from catalyst islands and span the gaps between electrodes, from work that REU student Robert Caldwell of Boston College did with Prof. Hongjie Dai's group.



Last summer, students made use of SNF's remote user tools to interact with REU students at the UCSB site. Amy Cosnowski from U. Michigan, shown at right, gave a live web presentation of her work on DNA in Dr. Griffin's group to students at UCSB working on a similar project. She also gave a web lab demo of an experiment in which the wetting properties of a liquid are changed by applying a voltage.

