

NIST OFFICE OF ACADEMIC AFFAIRS PROGRAM OVERVIEW

<http://www.nist.gov/oiaa/acdmaffr.htm>

Academic Affairs (AA) serves as the focal point for the National Institute of Standards and Technology's (NIST) cooperation with academic institutions, and coordinates all academic affairs of NIST. In particular AA administers the NIST/National Research Council (NRC) Postdoctoral Research Associateships Program, coordinates NIST unpaid High School Internship Program, assists staff of the technical Operating Units (OU's) in identifying and promoting research collaboration efforts with universities on scientific and technical research projects of mutual interest, interacts with committees within NIST, with outside organizations and other government agencies, and serves as an academic related resource at NIST.

NIST GUIDE TO EDUCATIONAL ACTIVITIES

http://www.nist.gov/public_affairs/edguide.htm

The National Institute of Standards and Technology (NIST), an agency of the U.S. Commerce Department's Technology Administration, takes an active role in promoting science and technology education throughout the Gaithersburg, Md., community. Although NIST's primary mission is to develop and promote measurement, standards, and technology to enhance productivity, facilitate trade, and improve the quality of life, the institute's employees participate in many educational activities in conjunction with local schools both public and private as well as higher education institutions.

To aid the educational community in locating information about NIST resources, the agency has established an Education Clearinghouse, a convenient centralized source of information about the educational activities at the NIST Gaithersburg site. Callers are referred to the appropriate contact for each activity by the Clearinghouse Coordinator.

For information on any of the activities listed below, contact the Clearinghouse Coordinator, Barbara Cuddington, at (301) 975-3628.

NIST-Sponsored or Hosted Programs

- **Career, Engineering, and Technology Student Challenge**
The Montgomery County Public Schools Division of Career and Technology Education works with the High Technology Council of Maryland and Montgomery College to conduct the Career, Engineering, and Technology Student Challenge. This annual competition challenges teams of students in 4th - 12th grade to solve problems with technology using higher-level thinking skills and technical ingenuity. NIST provides judges for this event.
- **4-H Adventure in Science, Inc.**
This hands-on science program for children ages eight through 15 years consists of classes in physics, chemistry, computers, biology, astronomy, and other disciplines taught by scientists and engineers. Classes meet for

two hours on Saturday mornings from October through March at NIST, Bechtel, COMSAT, and the National Institutes of Health; and Sunday mornings at the Charles E. Smith Jewish Day School.

- **Intel Science Talent Search**
Several high school finalists in this competition are paired up for visits with NIST staff in the area of interest demonstrated in the finalists' projects.
- **Measurement Science Award for High School Students' Science Fair Projects (Sigma Xi)**
This award is given to senior high school students who have entered the Montgomery Area Science Fair or the Frederick County Science Fair. Students are selected on the basis of the quality of measurement science that was applied in their science fair project. NIST judges look for experimental design, unbiased measurement methods, replication of the measurements, and statistical analysis of the data.
- **Postsecondary Internship Program**
The NIST Diversity Program Office participates in the Department of Commerce Postsecondary Internship Program. This Internship program allows undergraduate and graduate students the opportunity to work at NIST for a period of 10 weeks to integrate academic theory and workplace requirements, gain relevant skills and knowledge in various scientific fields, explore Federal career options, develop professional networks, and gain a greater awareness of the role of Federal agencies.
- **Science: Get Psyched!**
NIST hosts this event once a year for 300 Girl Scouts from the local area. The girls are divided into small groups and visit several rooms where lively, hands-on science demonstrations are presented. The girls also have the opportunity in a panel discussion to ask female scientists questions about why they chose science and what it is like to be a scientist.
- **Student Employment**
NIST has student employment opportunities for undergraduate and graduate students as well as volunteer programs for students in high school and above.
- **SURFing the Physics, Materials Science and Engineering, Manufacturing Engineering, Electronics and Electrical Engineering, Chemical Science and Technology, Information Technology, and Building and Fire Research Labs**
These Summer Undergraduate Research Fellowship Programs are part of the NSF Research Experiences for Undergraduates (REU) program. Undergraduate students interested in pursuing graduate degrees in physics, materials science, engineering, computer science, chemistry, applied math, or related areas come to NIST for a 12-week summer honors-academy program involving them in hands-on research.
- **Take Our Daughters and Sons to Work Day**
This one-day annual activity, sponsored by NIST's Office of Administration with the assistance of NIST's Committee for Women, is open to daughters

and sons (ages nine through 16) of NIST employees. Science demonstrations, hands-on experiments, and a panel discussion are included in the day's activities.

- **Yearly Teacher Award (Sigma Xi)**

This award is presented by the NIST Sigma Xi chapter to a teacher in Montgomery County Public Schools.

NIST Programs Involving Area Schools

- **Community Outreach**

The NIST Diversity Office develops and builds upon existing alliances with the community to foster opportunities for networking, recruitment, education, work life issues, community activities, and promoting good will.

- **National Job Shadowing Day**

NIST participates in the Job Shadow Day sponsored by the National Academy Foundation's Academy of Information Technology at Gaithersburg High School. The program helps motivate students to learn by demonstrating how the knowledge the students gain in their classrooms is applied in the day-to-day work of NIST computer scientists and specialists. Students selected by their school to participate in job shadowing day will spend a day at NIST visiting with various information technology (IT) professionals to learn about some of the IT research and support projects that are conducted at NIST as well as what skills and academic accomplishments are needed for work in the various IT fields.

NIST Student Tours

- **College Tours**

These guided class tours consist of visits to three NIST labs. The tours are geared toward the students' area of study, such as engineering, physical science, mathematics, and computer science. Each tour can accommodate up to 30 students.

- **10th-12th Grade Tours**

These guided two-hour tours of NIST consist of visits to three labs. The tours are geared toward the students' area of study or interest. Each tour can accommodate up to 30 students.

- **8th-9th Grade Tours**

These guided tours consist of visits to three NIST labs and are specifically geared for this age level, with lively demonstrations and hands-on involvement. Each tour can accommodate up to 30 students.

- **Tour of NIST's Center for Neutron Research for High School Science Classes**

NIST's Center for Neutron Research (NCNR) offers a special tour of its facilities specifically tailored for high school science classes. Groups of up to 40 can be accommodated for the introductory lecture and tour that take about two hours. The emphasis is on how neutrons are used to probe the sub-microscopic structures and molecular motions that determine the properties of materials ranging from concentrate to cell membranes.