

## A Summer to Remember

The Northeastern University **Young Scholars Program** offers future scientists and engineers a unique opportunity for hands-on experiences while still in high school. This six-week summer program is open to Greater Boston area applicants who have completed their sophomore or junior year in high school. It is a highly selective program, in which hundreds apply and less than 20 are accepted each year.

Students earn \$150 per week working in research laboratories within Northeastern University's Colleges of Arts and Sciences and Engineering. Many assignments work with faculty affiliated with CenSSIS (Center for Subsurface Sensing and Imaging Systems) at Northeastern University. Research assignments of the 2004 YSP included: *Insulin-like growth factors and insect development*; *Design of test targets for biomedical imaging*; *Behavior of reinforced concrete columns under earthquakes*; *Research on robotics and mechatronics*; *Effect of sea water environment on the static and dynamic properties of fiber-reinforced composites*; *Flame propagation studies*; *Fundamental catalysis: understanding reactions on surfaces*; and *Benchmarking, profiling and performance analysis*.

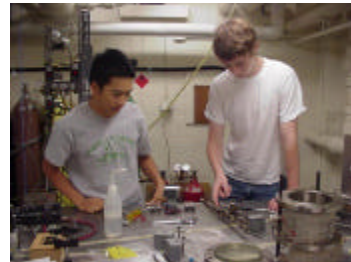
In addition to a general overview of engineering education, students attend a special seminar series comprised of presentations by Chemical, Civil, Electrical and Computer, Mechanical and Industrial Engineering professors and graduate students. Topics include radar, environmental issues, super-conductivity, lasers, microwave materials, biotechnology, chemical analysis, and robotics. And each Young Scholar participates in college and career counseling.

Students are further exposed to the 'nuts and bolts' of careers for scientists and engineers through **field trips** to a variety of corporate and government sites where they see and speak with scientists and engineers in action. Destinations have included Raytheon, Biogen Idec, Genzyme, Harbor Explorations, Massachusetts General Hospital, and the U.S. Army Natick Research, Development, and Engineering Center.

The Young Scholars become acquainted with college life and students at various points in their academic careers, and have access to University recreational and educational facilities.

Northeastern's dedication to encouraging industry-relevant experiences along with classroom education is the major thrust of the program. The University's outstanding facilities and staff, coupled with Northeastern's hands-on approach, provide a challenging opportunity.

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Students work in teams of two or three on active research projects such as Flame Propagation Studies using a thermodynamic model to calculate flame speed as a function of unburned gas temperature, pressure and fuel-air mixture equivalence.



Using the caterpillars of the sphinx moth, *Manduca sexta*, students research the cellular action of insulin-like hormones that serve as regulators of insect embryonic development and later growth and lifespan.