

Students Put Their Talents to the Test

THROUGHOUT THE YEAR, THE NJIT EXPERIENCE ENCOMPASSES MUCH MORE THAN MEETING DEADLINES FOR PAPERS AND PASSING EXAMS. IT'S BEING ENGAGED IN RESEARCH PROJECTS THAT YIELD SIGNIFICANT REAL-WORLD RESULTS, AND SHOWCASING GROWING PROFESSIONAL SKILLS IN A WIDE RANGE OF COMPETITIONS. IT'S EARNING RECOGNITION FOR LEADERSHIP IN ACADEMICS AND ATHLETICS, AND FOR INITIATIVES THAT BENEFIT THE COMMUNITY. HERE ARE JUST SOME OF THE WAYS THAT NJIT STUDENTS DEMONSTRATED THEIR CONSIDERABLE TALENTS DURING SPRING SEMESTER 2007.

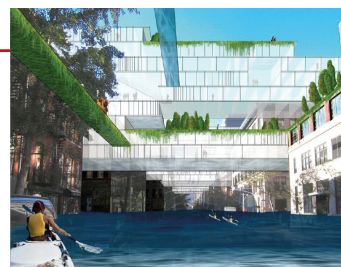
PROVIDING POWER FOR A "WET BIG APPLE"

How would you bring power — for lighting and heating, communications and transportation — to a New York City partially submerged by the effects of global warming?

This was the challenge put before a team of NJIT electrical and computer engineering students in the "City of the Future" Challenge sponsored by IBM and the History Channel in partnership with the American Society of Civil Engineers. Using their analyses and projections for existing resources and the likely path of research over the next century, Latha Singanamalli, Kiratbir Khurana, Arwa Gheith and team captain Gian Francisco provided a winning solution to be named "IBM Engineers of the Future."

The contest gave students a chance to conceive and formulate engineering marvels essential for our urban future. Individual contests were held in three cities: Los Angeles, Chicago and New York. According to many experts, in a hundred years, large swaths of New York City will be under knee-high water because the rivers encircling the city will have risen dramatically. The students had five weeks to design a power system for a submerged 22nd-century Manhattan.

The power system the NJIT team created is bold and innovative. Their proposal included building solar farms in southwestern Arizona, where open land and abundant sunshine abound; coating solar panels with nano-crystals, which would absorb the entire light spectrum and be 80 percent efficient; embedding the solar panels with nano-prisms that refract the light directly onto the solar cells; and using superconductive transmission cables to transport the electricity from Arizona to New York City. The team received IBM Thinkpads and shared a \$5,000 cash award.



Arwa Gheith celebrates the team's new status as IBM Engineers of the Future



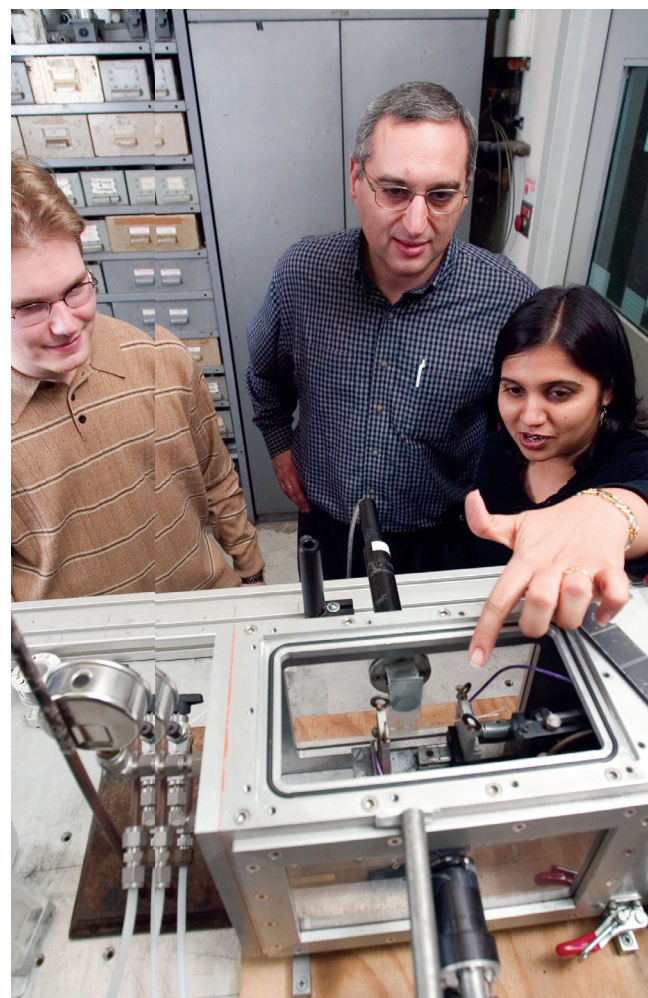
BUILDING BETTER BRIDGES, DESIGNING FOR DISASTER

NJIT civil engineering students won first place overall in the 2007 Metropolitan Regional Steel Bridge Competition, held at the New York College of Technology in Brooklyn. The NJIT Steel Bridge Team also received first-place awards in the categories of construction economy, structural efficiency, lightness and construction speed. The members of the NJIT Steel Bridge Team are Hertzler Awuy, Brian Felber, Steven Flormann, Giancarlo Fricano, Indira Hernandez, Vince Manners, Anthony Massari, Shefali Patel, Diana Rodriguez, Menilik Ruty, Nishant Shah, Lauren Thompson and team captain Britain Materek. All are members of the student chapter of the American Society of Civil Engineers.

Another team of civil engineering students put their energy into the task of designing a building that could withstand a major earthquake in the 2007 Earthquake Engineering Research Institute's National Seismic Design Competition held in Los Angeles. The team of Adam Enea, Steven Flormann, Indira Hernandez, Britain Materek, Anthony Massari, Shefali Patel and Diana Rodriguez created plans for a building designed to pivot around one anchored corner under seismic shock conditions. The concept earned them the Igor Popov Prize for Structural Innovation as well as a ninth-place finish nationally.



NJIT's Seismic Design Team celebrates their victory at Universal Studios, California



RESEARCHING ROCKET SCIENCE

Two graduate students in mechanical engineering won honors in the Region I student presentation competition of the American Institute of Aeronautics and Astronautics. Swati Umbrajkar was honored for her studies of kinetics of thermite reactions using nanocomposite reactive materials, and Ervin Beloni for his work with slurry fuel, which combines conventional jet fuels with powder additives based on novel reactive nanomaterials to increase the efficiency of the fuel.

Graduate students Ervin Beloni and Swati Umbrajkar with their advisor, Professor Edward Dreizin