

**NJIT Responds  
to Superstorm Sandy:**

# STRONG FOR NEW JERSEY



On October 29-30, 2012, Superstorm Sandy assaulted New Jersey from Moonachie to Atlantic City, leaving behind two million households without power, 346,000 homes damaged or destroyed, and an estimated \$30 billion in damage. NJIT faculty, staff and students found many ways to contribute to the relief effort.



Within hours of the end of Hurricane Sandy, Professor **Michel Boufadel** (*right*) of civil and environmental engineering had an NSF Rapid Research Response Grant to study the storm's impact on coastal ecosystems and the best ways to restore the state's beaches. His research team at **NJIT's Center for Natural Resources Development and Protection** includes Professor **Nancy Jackson**, an expert on beaches and dunes, and **Michael Weinstein** (*left*), who studied the impact of contaminants mobilizations on fish in the Passaic River. The team is evaluating the shift and erosion of sand and measuring the runoff of fertilizers, pesticides and other compounds into the Raritan Bay.



Adjunct Instructor **Thomas Dallessio** established the Center for Resilient Design at the College of Architecture and Design to provide storm-resistant designs and expertise for recovery to towns, businesses and individuals. Dallessio (*left in top photo above*) and Professor **Darius Sollohub** confer with **John Camera**, Seaside Heights borough administrator, about storm damage on the boardwalk.

With NSF support, Professor **Nancy Jackson** (*left*) brought the prestigious Binghamton Geomorphology Symposium to NJIT's Newark campus in October 2013. Organized with the theme of "Coastal Geomorphology and Restoration," the program included invited speakers, poster

presentations, and a field trip to the Jersey shore, beginning at Sandy Hook and continuing down to Seaside Heights.

Graduate students in Research Professor **Michael Chumer's** Emergency Management and Business Continuity program distributed emergency supplies in Bayonne, Hoboken and Newark in their Rails 4 Recovery Program (*above*). The students, who work as emergency management interns in Chumer's Business Emergency Operations Center, routed and distributed diapers, blankets, canned goods and other supplies streaming into Newark's Penn Station from New Orleans to residents of northern New Jersey cities.

## A Different Kind of Spring Break

Organized by the Center for Resilient Design, the Dean of Students Office and Career Development Services, Alternative Spring Break brought hundreds of NJIT students and staff to storm-stricken areas of the state to provide “brains and brawn” for recovery.



For NJIT President **Joel S. Bloom**, the destruction caused by Hurricane Sandy had a very personal aspect. The 1968 riverfront house in Monmouth Beach (above) where he and his family lived sustained irreparable damage during the storm. In May, the Blooms provided breakfast for alumni and others helping them to rebuild. Among those who joined them are their son **Ean** (above, front row, third from right) and **Charles Farkouh**, general contractor (second from left). In the back row are **Richard Maser**, alumnus and member of the Board of Overseers (second from right) and **Charles R. Dees, Jr.**, NJIT vice president for advancement (blue jacket).

Seven engineering students supervised by **Colette Santasieri**, NJIT director of strategic ini-



tiatives, conducted physical assessments of damaged waterfronts in Elizabeth and Perth Amboy and were invited to discuss their findings with the towns' mayors. Above, from the left: **Syed Risvi**, **Isaac Velez**, **Elliot Danso**, Mayor Wilda Diaz of Perth Amboy, **Dhruv Panchal**, **Taran Johnson** and **Joao DeCarvalho**.



**Jim Myers**, civil engineering major, was one of 25 members of the track and field team who worked to clean up the HIS Development Corporation in Newark. Students helped to remove debris and performed minor carpentry repairs.

NJIT students participated in clean-up efforts in Asbury Park.



NJIT students helped with the restoration of the SurfFlight Theatre in Beach Haven.



Cell Podium, headed by **Cesar Bandera**, assistant professor of management, helped the U.S. Public Health Service Rapid Deployment Force-3 to establish Federal Medical Stations for patients from nursing homes and hospitals who could not access needed services at regular shelters during Superstorm Sandy. With power outages interrupting most communications, the CDC Emergency Operations Center called on the Cell Podium team to help coordinate response operations and broadcast logistics videos with mobilization instructions via cell phone. Cell Podium holds the technology to push multimedia training to cell phones regardless of the carrier or model of the phone and



has a \$1.2 million contract from the Centers for Disease Control (CDC) and Prevention to establish a global broadcasting center. The CDC Center for Global Health is using the broadcasting center in a polio vaccination literacy campaign in rural Afghanistan and Pakistan to help overcome suspicion of the vaccine. The National Institute for Occupational Safety and Health is using the center to promote workforce safety videos to cell phones at construction sites. **NJIT's Warren Street Village** was the first site in the nation to adopt this new mobile safety technology. The International Foundation is funding NJIT students to deploy this technology in the Dominican Republic to improve access to healthcare in rural areas. (Above, the Cell Podium team, from left: **Jie Mai**, MBA student and project manager of the CDC contract; **Ricky Kharawala**, computing student and videographer to the project; **Bandera**; **Matthew Cooper**, graduate student in computer science; and **Jing Guo '12**, lead developer of the CDC project. Left, a medical station set up at Middlesex County College through the Cell Podium team.)

**NJIT's College of Architecture and Design** hosted the AIA Regional Recovery Working Group at "Post Sandy: the Effect on the URBAN," a program that examined the effects of Superstorm Sandy on Newark, Hoboken, and Jersey City, and potential solutions and strategies for storm damage in the cities. **Georgeen Theodore** (below standing), associate professor and director of the



master's program in infrastructure planning, presented the work of students in her MIP studio who focused on the local and regional responses to Sandy. She leads a team that is a collaboration between Interboro Partners, her Brooklyn-based design firm, and **NJIT's Infrastructure Planning Program**, which she directs. The team was

selected by HUD's Hurricane Sandy Rebuilding Task Force as one of 10 Design Teams to proceed to Stage Two of REBUILD BY DESIGN, a multi-stage regional design competition that will develop innovative projects to protect and enhance Sandy-affected communities.

**Dan Yacovino '86**, a project manager at Arora and Associates P.C., led a team that was called in by the New Jersey Department of Transportation to assess the damage to Route 35 in Mantoloking, which was breached by the storm surge in three locations. Dubbed "The Miracle on Route 35," the project has received numerous awards including Alliance for Action's Distinguished Engineering Award.

Assistant Professor **Martina Decker** was one of the architecture faculty who presented ideas for rebuilding at the Sea Bright Town Hall in May. An expert in smart materials in architecture, she

demonstrated how different materials can be engineered at the molecular level to change their size and shape, to store, release and repel water, and to generate and conduct electricity. She presented ideas created for Sea Bright by her students that focused on climate change, adaptation and resilience from a social, economic and structural point of view.



Second year industrial design students in a studio led by Assistant Professor **Brooks Atwood** and Adjunct **Virginia Harper** were asked to design emergency kits that could help disaster victims survive. With Harper, they volunteered for the Tunnels to Towers Foundation in Staten Island to study firsthand what people needed and how products make a difference

in the quality of life as well as to help Staten Island residents affected by Sandy. Students worked in the distribution warehouse helping to disburse food, groceries, and other essential products. Design teams came up with a variety of unique products, including a solar-powered backpack/sleeping bag that provides its own light and warmth (top); portable cell phone charging stations (middle); and unique portable lighting solutions (bottom).



Assistant Professor **Brooks Atwood's** POD DESIGN studio launched the Sylki chair (left) in November and pledged 20 percent of all sales to Sandy relief efforts.

**James Cicon**, assistant professor of management, served as incident captain in central New Jersey for Voluntary Organizations Active in Disaster (VOAD), a national disaster relief organization. He coordinated the Sandy clean-up activities of hundreds of volunteers in central New Jersey. His unit logged more than 10,000 volunteer hours in the months following Sandy, clearing trees and debris from properties, mucking out homes, and providing food, clothing and supplies to storm victims, especially the elderly and the infirm.