WHEN HURRICANE KATRINA STRUCK THE GULF COAST IN AUGUST 2005, NEW ORLEANS NATIVE JAMES DART, UNIVERSITY LECTURER AT NEW JERSEY SCHOOL OF ARCHITECTURE, KNEW THAT HE HAD TO DO SOMETHING TO HELP THE CITY'S RECOVERY.

“Tou never really leave New Orleans, and that sense of deep roots – of belonging to a place – is one of the things I love about the city. It was hard to see it so devastated and not want to do something. The studios at NJIT — and a group of very dedicated students — became a way to help people in the city rebuild.”

Dart established his NOLA (New Orleans, La.) studio to get students involved in analyzing the problems, surveying the damage, and offering solutions in the form of designs and prototypes of housing that will better withstand flooding as well as plans for retrofitting surviving homes.

Dart’s group collaborated with Assistant Professor Darius Sollohub’s Infrastructure Planning studio, which also looks at issues like transportation and landscaping. The NJIT team focused on the low- to-moderate-income New Orleans East neighborhood.
Last year, Pratt Institute and NJIT received a two-year grant from the U.S. Department of Housing and Urban Development to assist local efforts in the planning and recovery of New Orleans. The grant is part of a $2 million collaborative initiative called the Universities Rebuilding America Partnership, a federal program that enables university students and faculty to partner with non-profit organizations to help rebuild communities devastated by the 2005 hurricanes.

In collaboration with Pratt and with local partner, ACORN Housing in New Orleans, the NJIT studios developed solutions for new and retrofitted housing as well as infrastructure master plans for New Orleans East. Critical issues of safety, sustainability, economic and environmental responsiveness informed a very real-world effort to create a model for re-development throughout New Orleans, the Gulf Coast and other low lying coastal areas at risk from sinking lands and/or rising seas.

“This has been an invaluable experience for our students, making their studio work less abstract," Dart said. “They are learning how a neighborhood truly works, both architecturally and socially.”

Dart said, however, that although the “rich legacy of social and familial networks characteristic of the city” enriched the work, James Dart and his Pratt collaborator Deborah Gans took third prize in the “High Density on the High Ground” competition sponsored by Architectural Record and Tulane University, for the project shown at right.

In Other Projects...

Zeyuan Qiu, assistant professor of chemistry and environmental science, is leading an effort to improve water quality in the Neshanic River watershed in Hunterdon County, New Jersey. With funding from the U.S. Environmental Protection Agency, he heads a team of researchers that will improve water quality in watershed communities by mapping out an integrative and comprehensive restoration plan.

Rima Taher, university lecturer in architecture, worked with wind researchers at the Center for Building Science and Technology in Nantes, France, to come up with recommendations for building designs that can best withstand high winds and hurricanes. Among her findings were a cyclonic home (below) with a central shaft that helps to balance pressure, thus reducing the wind load on the roof, and a notched frieze or a horizontal grid (above) installed around the perimeter of the home at the level of the gutters to help alleviate the local wind pressures in these areas.
these factors will not limit its applicability. “The methodologies used in the design and planning studios for New Orleans serve as a model for recovering unsustainable patterns of development across the nation,” he said.

Starting at the scale of the individual citizen and his or her house-lot, the studios developed the Backyard Project, a lot-scaled strategy for storm water management. According to USDA’s National Resource Conservation Service, for instance, the massing of multiple small plots of water-retaining landscape can be as effective as a major drainage project, and the Infrastructure Planning studio made detailed recommendations for landscaping and the types of trees and shrubs that would be most useful. According to Dart, the results of the studio’s work have been embraced by the community and the local agencies, and are in the process of being codified into city ordinance by local planners.

In Other Projects...

Dale Gary, professor and chair of physics at NJIT, was quoted in the cover story that appears in the June 9, 2007 edition of Science News Online as well as the July 2007 issue of Sky & Telescope magazine. Director of the Owens Valley Solar Array, he was among the first to recognize the magnitude of last December’s outburst of solar radio noise, which caused massive disruptions of Global Positioning Satellite receivers worldwide. With more than $1 million in research support from NASA and NSF, Gary studies space weather to identify and predict solar activity that may disrupt cell phones and other communications. Above, he oversees observations by students such as Jabeen Reza.

David Mendonca, associate professor of information systems, is leading the first large-scale study to investigate improvisation at the nexus of cognitive, behavioral, and social phenomena in emergency response. Supported by an NSF grant, the study aims to improve scientific understanding of improvisation in emergency response, thereby informing educational and policy initiatives to improve how society plans for, responds to, and learns from disasters. The study will also develop and evaluate tools, techniques, and other materials to support training and policy making regarding improvised response to disaster.

Elizabeth Avery Gomez, who completed her doctorate in information systems in May, did her doctoral research on community crisis response teams with her advisor, Murray Turoff, distinguished professor emeritus of information systems. Because volunteers from grassroots organizations who are often the first to respond in a local emergency often do not have adequate training and practice with quick-response tactics and mobile two-way device usage, she proposed web-based training text messaging for all appropriate personnel to create a common communications medium.

In Other Projects...

President’s Report • 2006–2007

In Other Projects...

The backyard landscape strategy proposed by NJIT’s Infrastructure Planning studio plays a critical role in storm water management.

NJIT’s Bus Rapid Transit Proposal for Chef Menteur Highway.
Design for flood resistant housing by Sameh Salmon, a 2007 participant in the NOLA lab.