Researchers Apply Data from Ida to Strengthen Infrastructure

A professor of civil and environmental engineering at Northeastern University is using wind, wave, and surging tide measurements in an effort to bolster levees, update urban planning and, hopefully, save lives. The professor, Qin Jim Chen, is part of a federally funded project called Nearshore Extreme Events Reconnaissance Association, worked with a team of researchers from Louisiana State University at Baton Rouge and the University of Florida. The team navigated tricky terrain to physically install the gauges only hours before the storm made landfall.

“Levees are often designed using model results of hypothetical hurricanes,” says Chen. “We want to see whether the existing theories we’ve used to build these levees are accurate. Using this new data, we can check our assumptions and hypotheses to improve these designs and better protect people and property.”

Grid Experts Grapple with ‘Resilience’ in Ida’s Wake

The widespread destruction left by Hurricane Ida after the storm plowed into Louisiana and headed up the East Coast made one thing clear: There’s more work to be done in building a resilient power grid, reports E&E News. But how might solutions differ from New Orleans to New York, especially as climate change scrambles conventional wisdom about when and where extreme weather strikes?

“The nature of the risk has changed,” said Saurabh Amin, an associate professor with the Massachusetts Institute of Technology's Department of Civil and Environmental Engineering.

Stay up to date on legislative issues through the NSPE Advocacy Center.

Anti-Licensing Forces Miss the Point
Extreme anti-licensing bills have popped up in numerous states and are posing a threat to the rigorous and established professional standards followed by PEs, architects, and others who design and construct the built environment, according to an op-ed in The Hill.

Lawmakers calling for these extreme measures don’t differentiate between barbers and manicurists, for example, and PEs and architects, say Tom Smith, executive director of ASCE, and Michael Armstrong, CEO of NCARB. “In their absolutist free-market view, reflected in the language of their model legislation, a visit to a barbershop or beauty salon should be treated the same as designing a bridge or water treatment plant.”

The legislative proposals range from measures that would eliminate licensing entirely to so-called “Universal Licensing” bills that would require states to accept licenses from any state regardless of whether the out-of-state license had the same level of qualifications behind it.

**NSPE Calls for PE Role in AI Risk Management**

To protect the public from the potential dangers of artificial intelligence applications, NSPE is calling for the involvement of licensed professional engineers in the AI development process.

NSPE’s recommendations were submitted to the National Institute of Standards and Technology in response to NIST’s request for input on an artificial intelligence risk management framework. The recommendations advocate for professional engineers or certain certified individuals to be included within the risk management framework, which covers all levels of development and implementation.

“This individual would be responsible for making decisions related to protecting the public, including those who would use or potentially be affected by an AI application,” wrote NSPE President Rick Guerra, P.E., F.NSPE. “Oversight responsibility should include having the authority to approve or reject the process, methodology, or other characteristics of the specific AI project. Having a credentialed individual to ensure these considerations are made can reduce risk that an artificial intelligence application will fail.”

**Meet the 2021 Scholarship Winners**

The NSPE Education Foundation recently awarded several scholarships to support talented students pursuing engineering. Meet the 2021 winners:
Markie Ash, of Waupaca, Wisconsin, is winner of the Auxiliary Legacy Scholarship and the George B. Hightower, P.E. Fellowship. Ash is studying civil engineering with a structural emphasis at University of Wisconsin-Platteville. The $2,500 auxiliary scholarship is awarded annually to a female undergraduate entering, or continuing, her junior year of a four-year ABET-accredited engineering program. The $3,000 Hightower Fellowship is awarded annually to an engineering undergraduate or graduate student who is enrolled in, or graduated from, an ABET-accredited engineering program.

Justin Sivasothy is this year’s recipient of the Maureen L. and Howard N. Blitman, P.E., Scholarship to Promote Diversity in Engineering. The $5,000 scholarship is awarded to a high school senior from an ethnic minority going into an ABET-accredited engineering degree program at a four-year college or university. Sivasothy, of Sugar Land, Texas, is attending the University of Texas at Austin.

The $5,000 Steinman Scholarship has been awarded to five students studying in ABET-accredited programs this academic year. Michael Kadus (Chicago, Illinois) is studying industrial engineering at Purdue University. Robert Schneider (West Coxsackie, New York) is studying civil engineering at Clarkson University. Annabel Sharnowskki (Novi, Michigan) is studying mechanical engineering with a minor in electrical engineering at the University of Michigan. Noah Struck (Alexandria, Minnesota) is studying civil engineering at the University of Minnesota-Twin Cities. Jacob Witlin (Ellicott City, Maryland) is studying fire protection at the University of Maryland.

FROM LEFT TO RIGHT: MICHAEL KADUS, ROBERT SCHNEIDER, ANNABEL SHARNOWSKI, NOAH STRUCK, AND JACOB WITLIN

**Nominations Open for Federal Engineer of the Year Award**

Honoring the commitment of federal engineers to innovation and service is the hallmark of the Federal Engineer of the Year Award. Nominations for the award, which attracts participation from more than a dozen federal agencies, are open until October 31.
The FEYA ceremony is scheduled for February 24, 2022, at the National Press Club in Washington, DC. Tickets will be available for sale in January. Apply or nominate a worthy engineer.

The 2021 Federal Engineer of the Year

Major Monica Pickenpaugh, Ph.D., P.E., of the US Air Force, was named NSPE’s 2021 Federal Engineer of the Year Award winner during a virtual awards event in February. As US Forces Korea’s chief of construction, she directed $5.7 billion of funded construction in the Republic of Korea. As part of a sharing agreement with the US, the construction program supports USFK commanders’ defense efforts through critical projects.