

State News for NSPE Members

Autonomous Systems Enlisted to Protect Shipbuilding, Manufacturing

URI's College of Engineering and Navatek LLC of Rhode Island have been awarded a \$3.8 million contract to develop autonomous systems to combat threats to cyber-physical systems such as marine vessels, unmanned vehicles, water treatment plants, power grids, and smart buildings. The program goal is to advance research on the resiliency of then Industrial Internet of Things when faced by physical and cyberattacks in shipbuilding and manufacturing. It will include the development of autonomous systems that can respond quickly to attacks that leverage machine learning, artificial intelligence, and digital twin concepts coupled with hardware and software. The result of this research will be a set of procedures, architectures, and devices that will be used to retrofit existing or new manufacturing processes for the US Navy. The contract was awarded by the US Office of Naval Research.

Residents Push for Dam Repair

Hope Valley residents with properties on Wyoming Pond are eagerly awaiting some engineering help. The 26-acre pond in the town of Hopkinton is losing water due to a leaky 300-year-old dam and leaving behind stinking mud flats, according to the [Westerly Sun](#). A spokesman for the Department of Environmental Management, which owns the dam, said: "Dam repairs of this nature are complex, costly, and time-consuming. Our P & D [planning and development] team has been working with a consultant engineer on the design, and as part of that effort, the engineer has been monitoring the condition of the dam." Sinkholes and the coronavirus pandemic have slowed progress, however.

Job Opening

[Director of Engineering](#)

Review Raises Questions About Tax Incentive for STEM Grads

A state tax incentive aimed at attracting STEM graduates to Rhode Island has received a questionable [review](#) from the state Office of Revenue Analysis. The program will end this year unless it's extended in the state budget. The tax incentive provides college graduates who are working in science, technology, engineering, mathematics and some design fields with a refundable tax credit that covers eligible beneficiaries' student loan payments for up to four years. An eligible beneficiary with an associate's degree receives up to \$1,000 annually in refundable tax credits; an eligible beneficiary with a bachelor's degree receives up to \$4,000 annually in refundable tax credits; and an eligible beneficiary with at least a master's degree receives up to \$6,000 annually in refundable tax credits. An eligible beneficiary need not be a Rhode Island resident, but they must work for a Rhode Island-based company.

At Virtual PECon, NTSB Chair Discusses Florida Bridge Collapse

In a session on August 5, National Transportation Safety Board Chairman Robert Sumwalt III explained the role of the NTSB and the agency's investigation and [report](#) on the deadly pedestrian bridge collapse at Florida International University in Miami.



In March 2018, a pedestrian bridge under construction at FIU collapsed—claiming six lives. Despite evidence of severe cracking, the engineer of record insisted that the cracking did not pose a safety problem, according to the NTSB report. The university wanted to enhance pedestrian safety by constructing the bridge over a multilane highway that had been the scene of a pedestrian fatality. It would also serve as a unique gathering place for students, faculty, and university visitors.

“We all know that cracking in concrete is going to happen. That’s acceptable. But in this case, we saw structural cracks that were 40 times larger than is typically acceptable,” Sumwalt stated. The bridge was designed using an “accelerated bridge construction” design method.

The NTSB identified three critical errors: 1) The bridge was under-designed. 2) The peer review was insufficient; and 3) There was a failure to close the bridge to traffic and workers.

During the session, Sumwalt outlined how failures at all levels to stop work on the project or to close the highway to vehicle traffic and pedestrians played a significant role in the tragedy. He emphasized the responsibility to speak out for public safety no matter what.

“I saw those crushed cars. Six people lost their lives because of what I will call hubris and professional arrogance,” he stated. “I don’t care where you fit on the totem pole, if something doesn’t look right, you have an ethical and moral obligation to wave the flag.”

Access Virtual PECon Webinars

NSPE members who registered for an all-access pass and individual sessions can access webinar recordings at their convenience. Members who were unable to attend **PECon** can [purchase and access](#) some individual sessions at a discounted member price.

Coming Soon: ‘Fireside Chat’ Series

NSPE is hosting a set of fireside chat style webinars on legislative issues affecting the future of the engineering profession, as well as the here and now.

Monday, August 31 (TBD)

Diversity is the Future of Engineering: Opportunities in STEM Education

Monday, September 14 (3 p.m. ET)

Building for the Future, with US Rep. Bruce Westerman, P.E. (R-AR)

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