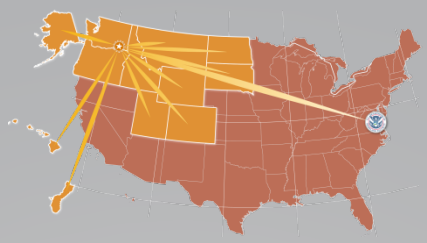

UPCOMING EVENTS

- February 1-2, 2019 – Pink Elephant Unicorn cybersecurity competition, Seattle, WA
- March 26-29, 2019 – Preparedness Summit, St. Louis, MO
- April 16-18, 2019 – Partners in Emergency Preparedness Conference, Lynnwood, WA
- April 29, 2019 – Idaho Cybersecurity 5th Annual Interdependencies Summit, Boise, ID

CONTACT

- Want to know more? Visit us on the web at http://nwrtc.pnnl.gov.
- Contact the NWRTC with questions and comments at nwrtc@pnnl.gov.

AROUND THE REGION IN HOMELAND SECURITY

The Northwest Regional Technology Center (NWRTC) is a virtual resource center, operated by Pacific Northwest National Laboratory (PNNL), to support regional preparedness, resilience, response, and recovery. The center enables homeland security solutions for emergency responder communities and federal, state, and local stakeholders in the Northwest.

VITALTAG TO GIVE VITAL INFORMATION IN MASS CASUALTY INCIDENTS

When mass casualty incidents occur, first responders can easily be overwhelmed by the sheer number of victims. Researchers at PNNL developed a stick-on sensor that measures and tracks a patient's vital signs to help first responders quickly triage, treat, and transport the injured.

The patent-pending VitalTag is a low-cost suite of sensors that detects, monitors, and wirelessly transmits vital signs including blood pressure, heart rate, respiration rate, and other metrics such as blood oxygen levels, shock index, and data from a single-lead electrocardiogram.

VitalTag was developed as part of a broad Department of Homeland Security Science and Technology Directorate program called the Responder Technology Alliance (RTA). PNNL manages to advance the development of emerging technologies critical to the responder community.

"First responders told us they need a device to continuously monitor patients in demanding environmental conditions," said Grant Tietje, a former first responder who manages RTA at PNNL. "VitalTag provides a wearable, cost-effective health monitoring solution."

PNNL data scientist Luke Gosink and his team worked to embed intelligence into the monitoring devices. They developed machine learning algorithms to interact with sensor hardware and created an intuitive user interface that helps first responders do more.

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"It is a resource multiplier," said Gosink. "Yes, ambulances have these types of equipment but usually only a few of each. With VitalTag, many more patients can be monitored simultaneously and continuously. More situational awareness, like that achieved with VitalTag, can result in better patient outcomes."

VitalTag was included in the Next Generation First Responder – Harris County Operational Experimentation event in early December. PNNL is also partnering with the occupational medicine company AnovaWorks to validate the efficacy of the prototype.

VitalTag is a fielded prototype technology that has not yet been approved by the FDA and is not commercially available. See the PNNL Available Technologies website or contact PNNL's commercialization manager Kannan Krishnaswami for details.

SYMPOSIUM EXPLORES SMART CITY EVOLUTION

In November, Northeastern University Seattle (NU-Seattle) hosted "Smart Cities: Critical Infrastructure Protection" to explore technology and policy opportunities and challenges facing the smart city evolution. The symposium was organized by Ann Lesperance, PNNL NWRTC Director and NU-Seattle Program Director of the College of Social Sciences and Humanities.

"The event gave us the opportunity to explore both the public and private policy and technology perspectives on how smart technologies are changing our communities now and in the future," Ann said.

The event featured representatives from the Office of Infrastructure Protection Organization at the U.S. Department of Homeland Security, FirstNet, Uber, Lime, Seattle Department of Transportation, Washington State Fusion Center, City of Bellevue, Seattle City Light, CI Security, and the State of Washington. Guests also participated in hands-on demonstrations with technologies from PNNL, RealWear Inc., Uber, and Lime. Read more about the event in "Here's some advice to make internet hackers less frightening" at News@Northeastern.

DOE CYBERFORCE COMPETITION ENGAGES STUDENTS NATIONWIDE

Teams representing 14 colleges and universities from the Northwest, and as far away as Indiana and Texas, converged on the PNNL campus in December to compete in the DOE CyberForce Competition—a contest over how to best defend America's energy infrastructure from cyberattacks.

The teams competed against one another and against 55 other institutions competing simultaneously in similar environments at six other Department of Energy national laboratories across the country. This year's regional winner at the PNNL venue was Oregon State University, Western Washington University received the 256th Intelligence Squadron Award from the Washington Air National Guard as the top-performing team from Washington State, and national honors went to the University of Central Florida team.

The next DOE CyberForce Competition is Nov. 15-16, 2019. PNNL is also hosting its annual Pink Elephant Unicorn cybersecurity competition in Seattle, WA on Feb. 1-2, 2019. The event will feature challenges aligned to the NIST National Initiative for Cybersecurity Education Framework. Visit the PEU website for details.

For more information, contact Director Ann Lesperance (ann.lesperance@pnnl.gov | (206) 528-3223), or Deputy Directors Ryan Eddy (ryan.eddy@pnnl.gov | (509) 372-6622) and Rob Jasper (robert.jasper@pnnl.gov | (509) 371-6430), or visit http://nwrtc.pnnl.gov.

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