OPPORTUNITIES

Events current at time of publication. Have a virtual resource or event to share? Email us!

- July 22-25 – 2024 National Homeland Security Conference
- August 4-7 – APCO International's Conference and Expo
- October 1-4 – National Emergency Management Association Annual Forum
- October 19-22 – International Association of Chiefs of Police Annual Conference and Exposition
- March 18-20 – 2025 Arctic Emergency Management Conference

CONTACT

Want to know more? Visit us at pnnl.gov/projects/nwrtc. 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.

WORKSHOP SPOTLIGHTS AVIATION SECURITY AND RISK MODELING

From critical infrastructure and event security to borders and soft target protection, technology is transforming both challenges and solutions for protecting people, places, and things. Researchers from PNNL shared several technologies addressing urgent security challenges at the 2024 Homeland Protection Technologies Workshop at the Massachusetts Institute of Technology (MIT) Lincoln Laboratory, in Boston, Massachusetts. The invite-only workshop focused on next-generation technologies for site security and law enforcement missions relevant to homeland security.

During the event, PNNL's Nick Betzsold presented "Security, Throughput, and Resource Optimization," highlighting PNNL's aviation screening technologies, risk modeling, and situational awareness platforms. He also presented on the Emergency Management of Tomorrow Program, in which PNNL has partnered with the Department of Homeland Security Science and Technology Directorate (DHS S&T) to conduct research on strengthening and reimagining the future emergency response structure. Laboratory Fellow David Sheen presented on millimeter-wave imaging sensors for people screening. Most recently, Sheen and his team have been leveraging the technology for a "checkpoint of the future" to enhance airport security screening and border security. The event also featured a presentation on the Guardian immersive imaging system, a collaboration between PNNL and Consolidated Resource Imaging LLC that provides a 360-degree view of high-resolution video for security operators, first responders, and other tactical applications.

Read the PNNL article to learn more.

ENHANCING EQUIPMENT TO DETECT FENTANYL

While the deadly opioid epidemic continues to expand, so do research and outreach to combat this rapidly evolving threat. In the article "Fentanyl Hazards and Detection," featured in the June 2024 issue of the *Domestic Preparedness Journal*, PNNL's Ashley Bradley and Kristin Omberg address the scientific and technological challenges with detecting fentanyl.

In particular, the article highlights how scientists at PNNL and DHS S&T have been leading projects focused on closing the gap between detection equipment and what responders encounter in the field. These projects include updating standards for, expanding chemical libraries used by, and ultimately assessing detection equipment. The work has resulted in three new ASTM laboratory standards, updated spectral libraries used by detection equipment, and, most recently, the publication of a publicly accessible report summarizing an assessment of field-portable detection products against the updated compound libraries and testing standards.

Through science and technology, scientists are forging paths toward better detection to improve protection for first responders in the field.

Read the *Domestic Preparedness* article to learn more.

VR EXPLORES CYBER-SECURITY, CRITICAL INFRASTRUCTURE

Recently, PNNL's Donny Mendoza and Matt Chopek were invited by the Cybersecurity Infrastructure and Security Agency (CISA) Region 10 to attend the Secure Our Alaska 2024 Alaska Cybersecurity Summit. At the event, they demonstrated the PNNL-developed virtual reality (VR) capability to expose conference goers to CISA's Control Environment Laboratory Resource platforms, demonstrating various failure conditions. Using augmented reality and VR assets, the conference attendees were able to recreate the failure condition interacting with virtual representations of the realistic environments like interacting with train cab controls in the rail sector and with wastewater unit operations. The goal of the demonstration was to educate participants on the different sector operations, the potential for cyber risks, and to share experiences in realistic environments.

AI FOR INFRASTRUCTURE RESILIENCY

Researchers at PNNL are advancing the use of satellite data, artificial intelligence (AI), and machine learning to better prepare for wildfires and mitigate risks to energy infrastructure. Their work is exploring ways to predict wildfires and mitigate the impact of other potential natural disasters. In particular, a recent article from *FedScoop* features PNNL's Chief Scientist Andre Coleman, who shares how tools like the Rapid Analytics for Disaster Response (RADR) software suite are helping to modernize disaster and emergency management by using AI and machine learning to make sense of vast amounts of satellite and geospatial data in near real-time. To learn more about this and other AI science and technology at PNNL, visit the Center for AI @PNNL and sign up for the newsletter here.

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