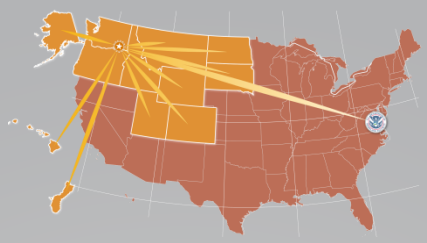

UPCOMING EVENTS

- July 11-13, 2017 – 2017 Cyber Security R&D Showcase and Technical Workshop, Washington DC
- July 23-27 – Pacific NorthWest Economic Region Annual Summit, Portland, OR
- Aug. 13-17 – Association of Public-Safety Communications Officials International Annual Conference & Expo, Denver, CO
- Aug. 29-Sept. 1 – Small Vessel Preventative Radiological / Nuclear Detection Drills, Various Marinas in WA

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 the Pacific Northwest National Laboratory (PNNL), to support regional preparedness, resiliency, response, and recovery. The center enables homeland security solutions for emergency responder communities and federal, state, and local stakeholders in the Northwest.

RESEARCHERS TEST COMMERCIAL BIODETECTION PRODUCTS FOR RESPONDERS

With hundreds of biodetection products on the market—how do you know which one to pick? PNNL has made that decision a little easier.

Researchers at PNNL conducted more than 5,000 tests with nearly three dozen field biodetection products to assess their performance for anthrax and ricin detection. The team published their findings in *Health Security* to aid first responder organizations in the purchase and use of field biodetection equipment.

The team used a statistically rigorous approach to evaluate 28 different general biological indicators and immunoassay products and five portable polymerase chain reaction instruments. In general, the testing found that:

- **Biological indicator products** like protein tests produce numerous false positives with commonly encountered suspicious powders.
- **Immunoassays** performed better for ricin detection than for anthrax detection. Seven of 12 immunoassays met the researchers' most stringent performance criteria for anthrax, while 9 of 12 met the most stringent criteria for ricin. Most of the immunoassays also detected ricin in three different crude castor seed preparations, which are materials that could be found in real-world situations.

(continued on page 2)

- Three of the five polymerase chain reaction systems met the most stringent performance criteria. These systems gave nearly no false-positive results with common powders.

The detailed results of these studies are available in two open-access articles published in *Health Security*: "Evaluation of Immunoassays and General Biological Indicator Tests for Field Screening of Bacillus anthracis and Ricin" and "Evaluation of PCR Systems for Field Screening of Bacillus anthracis." To learn more, read "Hazmat Responders to Get Help in Biodetection" on the International Association of Fire Chiefs blog.

INDUSTRY DAY HIGHLIGHTS TECH OPPORTUNITIES

Anil John, Program Manager DHS S&T Cyber Security Division

The Department of Homeland Security (DHS) Science and Technology Directorate (S&T) Silicon Valley Innovation Program hosted an Industry Day in Seattle, WA, to share with the local tech community about newly opened topic calls in the following areas:

- 3D Dynamic Mapping – real-time 3D mapping and visualization of the inside of building spaces under varying conditions.
- Energy Harvesting Fabrics – non-traditional power sources to reduce the logistical and weight burden that first responders are required to carry.
- Identity and Anti-Spoofing of Non-Person Entities – identity assurance and anti-spoofing capabilities for non-person entities (i.e., sensor platforms, wearable devices, small unmanned aerial vehicles).

Applications are accepted on a continuous, rolling basis and will be evaluated on a quarterly basis. For deadlines and more information visit the DHS Homeland Security Innovation Programs site.

INFLATABLE PLUG FOR SUBWAY TUNNELS DEMONSTRATED

A giant, inflatable structure designed to prevent flooding in subways was rolled out, literally, for media observers inside a full-scale, mock subway tunnel. As the video shows, in under five minutes it is nearly filled with pressurized air — creating a flexible but extremely strong barrier. Full inflation is complete in less than 12 minutes. The live demonstration continued with the plug holding back simulated floodwater at 11.5 pounds per square inch pushing against it.

John Fortune, DHS S&T, points out features of the Resilient Tunnel Plug at a demonstration for media. Quick inflation and extreme strength of the plug's material hold back water that might enter a subway tunnel during a flood. Credit: DHS

PNNL helped develop the Resilient Tunnel Plug in partnership with ILC Dover and West Virginia University for DHS S&T. To learn more, read the press release.

UPCOMING SMALL VESSEL PREVENTATIVE RAD/NUC DETECTION DRILLS

- Aug. 29 – Port Angeles Marina, WA
- Aug. 30 – Everett Marina, WA
- Aug. 31 – Bellingham Marina, WA
- Sept. 1 – Seattle, Elliott Bay Marina, WA

To participate or learn more, contact melanie.godinez@pnnl.gov for details.

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

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