

Members Help Radioactive Materials Marine Interdiction

Alameda County and Oakland Police Boats Play Good Guy/Bad Guy

Smoke detectors, radiant signs, and a container load of bananas share some similarities. All three can move freely in commercial vehicles or vessels on waterways and highways. And all three can cause radiation detectors to alarm.

Smoke detectors contain small amounts of radon. Radiant signs glow because of tritium, a radioactive hydrogen isotope. And bananas, a fine source of dietary potassium, contain a small fraction of Potassium-40 that emits ionizing radiation. A whole container-full will make your Geiger counters talk—or tick.

From a national security perspective, a major hurdle in radiation detection is the issue of discrimination: How to pick out the bad stuff against a background of multiple benign radiation sources. Enabling discrimination is complicated by the need for technical expertise to interpret the scientific signals emitted from complex detectors. When focused on a commercial vessel that is under way, false positives can prove both economically costly and politically embarrassing.

Under the direction of Dr. Alex Bordetsky, the Naval Postgraduate School of Monterey and the Lawrence Livermore National Laboratory have been conducting a series of experiments aimed at detecting, identifying and interdicting nuclear materials in open waters. Other participants and observers included elements from the DoD, DOE, DHS, other three-letter federal agencies, as well as military representatives of several nations.

The experiments detect a moving vessel emitting signs of ionizing radiation. Researchers board the vessel and take in-depth readings with portable technical instruments. Those readings are immediately radio-relayed to scientific experts, who may be conti-

nents away. Results are radioed back to the boarding vessel for use by first responders on the scene.

Recently a three-day experiment occurred in San Francisco Bay, between Yerba Buena Island and the Port of Oakland. Alameda

County Marine Enforcement provided both the ops center and the boarding vessel, while the Oakland Police Boat played the bad guy or target vessel. Bordetsky dubbed the exercise, "another successful step.... We managed to conduct drive-by radiation detection, networking and collaboration with boarding and target vessels on the move, with geographically distributed expert/command teams."

The involvement of marine enforcement agencies makes a major contribution to cutting-edge science in the interest of national security. Participants view firsthand the bright minds and technologies that make our homeland a safer place to live.

If your agency would like to be included in future experiments, please contact Dr. Bordetsky at abordets@nps.edu



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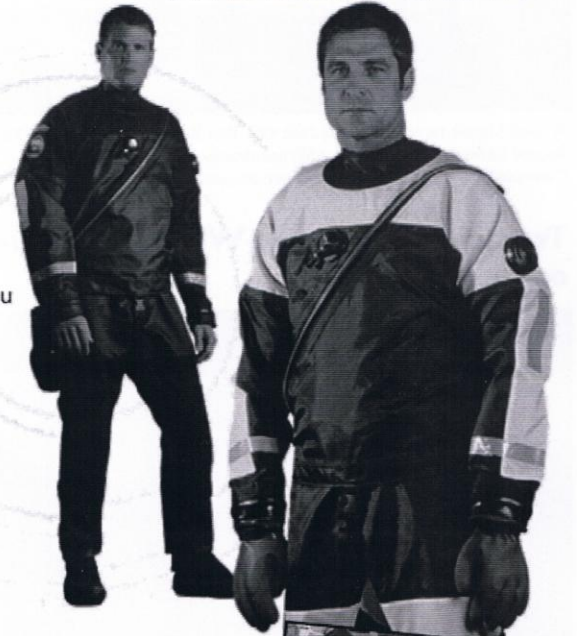
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