



News Release

For Information: Amanda Dubbs, 410-436-1159

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Project Jack Rabbit: Fast Track to Safer Chemical Transport

ABERDEEN PROVING GROUND, Md. - Two Edgewood Chemical Biological Center (ECBC) scientists detailed to the Department of Homeland Security (DHS)/Chemical Security Analysis Center (CSAC) were recently honored with winning the 2013 Federal Laboratory Consortium (FLC) Mid-Atlantic Regional Award for Excellence in Technology Transfer for their work on Project Jack Rabbit. Dr. Shannon Fox and Mr. Adolfo Negron led the successful execution of Project Jack Rabbit which involved a series of highly-instrumented multi-ton chlorine and ammonia field release trials with the purpose of filling critical knowledge and data gaps for large-scale TIH release incidents. The work is enabling the chemical and railroad industries to operate more safely.

A railway car carrying chemicals through the heart of a city is a common site. That everyday occurrence turned tragic in 2005 when a freight train collision led to the release of 60 tons of chlorine gas in Graniteville, S.C. Nine people were killed. Another 250 were treated for chlorine gas exposure. In all, 5400 residents within one mile of the crash site were forced to evacuate for nearly two weeks while the site was decontaminated. The disaster cost the country \$30 to \$40 million.

Project Jack Rabbit was conceptualized and planned after Congressional leaders expressed concerns that 90-ton railcars filled with chlorine and other toxic inhalation hazard chemicals (TIHs) passing through metropolitan areas were potential terrorist targets. In 2010, with DHS Transportation Security Administration (TSA) and DHS Science & Technology Directorate as cosponsors, the DHS Chemical Security Analysis Center initiated the execution of the project.

“The Jack Rabbit field trials were an amazing example of how a wide range of different organizations - government and industry - worked together and benefitted from a very unique series of outdoor field trials,” said the Director of the DHS Chemical Security Analysis Center George Famini, Ph.D.

The trials helped to develop the critical data necessary to improve the modeling of TIHs released from potential accidents or terrorist attacks on chemical storage tanks or

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railcars. Project Jack Rabbit also developed a web-based data repository, which hosts and distributes the project's extensive data, videos, and reports. From these resources, new insights, enhanced training and novel risk mitigation strategies continue to be developed for the chemical and railroad industries.

The FLC Mid-Atlantic Regional Award for Excellence in Technology Transfer was the result of Project Jack Rabbit technology being transitioned to the private sector via four major trade associations representing hundreds of industrial members including the Chlorine Institute (CI), the Ammonia Safety & Training Institute (ASTI), The Fertilizer Institute (TFI) and the Association of American Railroads (AAR). Technology transfer occurred through presentations at industry meetings and national-level training programs; distribution of data, modeling and knowledge products through the Jack Rabbit website; and a cooperative research and development agreement (CRADA) established between CSAC and CI.

"This transfer will enable risk reduction, safety improvements, mitigation and cost avoidance for industries in the case of a TIH chemical release incident", said Dr. Fox during his acceptance speech on November 14, 2013 at the FLC Mid-Atlantic Annual Conference.

"Under the sponsorship and leadership of DHS CSAC and the TSA, results from these tests are currently being used in training HAZMAT operators and first responders in DoD, and local communities at chemical plants and facilities. The impact of this project has been very broad and far reaching," said Dr. Famini.

The FLC is a nationwide network of federal laboratories that provides the forum to develop opportunities for linking federal laboratory technologies and expertise with industry. The mission of the FLC is to add value to the federal agencies, laboratories and their partners to accomplish the rapid integration of research and development resources within the mainstream of the U.S. economy. The Mid-Atlantic Region of the FLC comprises more than 70 federal laboratories and agencies across Pennsylvania, Delaware, Maryland, Virginia, West Virginia and the District of Columbia.

Photo credit: U.S. Army Edgewood Chemical Biological Center

For more information about ECBC, visit <http://www.ecbc.army.mil/>.

ECBC is the Army's principal research and development center for chemical and biological defense technology, engineering and field operations. ECBC has achieved major technological advances for the warfighter and for our national defense, with a long and distinguished history of providing the Armed Forces with quality systems and outstanding customer service. ECBC is a U.S. Army Research, Development and Engineering Command laboratory located at the Edgewood Area of Aberdeen Proving Ground, Maryland. For more information about the Edgewood Chemical Biological Center, please visit our website at <http://www.ecbc.army.mil> or call (410) 436-1159

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