



Awareness and Localization of Explosives-Related Threats (ALERT)

ALERT is supported by the Department of Homeland Security (DHS)
Science and Technology (S&T) Directorate through the
Office of University Programs (OUP)

ALERT Technology Showcase

May 14, 2019, 10:00 AM – 5:00 PM
Interdisciplinary Science and Engineering Complex
805 Columbus Avenue
Northeastern University, Boston, MA

Poster List

Project Oriented Posters Focusing upon ALERT Transition Outcomes

<i>Project Lead and Other Presenters</i>	<i>Poster #</i>	<i>Poster Title</i>
Thrust 1: Characterization & Elimination of Illicit Explosives		
Prof. Jimmie Oxley <i>University of Rhode Island</i> Michelle Gonsalves <i>University of Rhode Island</i> Lindsay McClennan <i>University of Rhode Island</i>	1	Characterization of Explosives and Precursors
Prof. Jimmie Oxley <i>University of Rhode Island</i> Alex Yevdokimov <i>University of Rhode Island</i> Robert Ichiyama <i>University of Rhode Island</i>	2	Metrics & Explosive interaction with Environment
Prof. Steve Son <i>Purdue University</i>	3	Detonation Failure Characterization of Homemade Explosives
Prof. Joel Greenberg <i>Duke University</i> Amit Ashok <i>Quadridox</i> Chris Gregory <i>Smiths Detection</i> Mary Beth Tabacco <i>Smiths Detection</i>	4	Characterizing, Modeling and Mitigating Texturing in X-Ray Diffraction Tomography



Thrust 2: Trace & Vapor Sensors

Prof. Steve Beaudoin <i>Purdue University</i> Alan Smith <i>Signature Sciences</i> Cara Coultas-Mckenney <i>Purdue University</i>	5	Improving Understanding of Contact Sampling for Trace Detection
Prof. Otto Gregory <i>University of Rhode Island</i> Kathy Olenick <i>ENrG Inc.</i> John Olenick <i>ENrG Inc.</i> Peter Ricci <i>University of Rhode Island</i>	6	Orthogonal Sensors for Trace Detection
Prof. Matteo Rinaldi <i>Northeastern University</i> Ryan Sungho Kang <i>Northeastern University</i> Zhenyun Qian <i>Northeastern University</i>	7	Persistent Unpowered Human Detectors for Border Protection
Prof. Anthony Hoffman <i>University of Notre Dame</i> Cagri Aydinkarahaliloglu <i>University of Notre Dame</i>	8	Mid-Infrared Photonic Integrated Circuits for Stand-Off Detection of Trace Explosives
Prof. Scott Howard <i>University of Notre Dame</i> David Benirschke <i>University of Notre Dame</i> Bernardo Cruz <i>University of Notre Dame</i>	9	Optical trace explosives detection using commercially available low-cost devices



Thrust 3: Bulk Sensors & Sensor Systems

Prof. Carey Rappaport <i>Northeastern University</i>	10	Multistatic Millimeter-Wave 3D Personnel Screening System for Explosives-Related Threats
Prof. Jose Martinez <i>Northeastern University</i>		
Chris Gregory <i>Smiths Detection</i>		
Mohammad Tajdini <i>Northeastern University</i>		
Mohammad Nemati <i>Northeastern University</i>		
Prof. Jose Martinez <i>Northeastern University</i>	11	System Design for "Stand-off" & "On-the-Move" Detection of Security Threats
Prof. Samuel Hernandez <i>University of Puerto Rico Mayagüez</i>	12	System Design for "Stand-Off" & "On-the-Move" Detection of Security Threats
Annette Colon Mercado <i>University of Puerto Rico Mayagüez</i>		MIR Laser Spectroscopy

Thrust 4: Video Analytics and Signature Analysis

Prof. David Castanon <i>Boston University</i>	13	Advanced Multispectral CT Algorithms with Transition to Air Cargo CT
Francois Zayek <i>Astrophysics Inc.</i>		
Prof. Clem Karl <i>Boston University</i>		
Fernando Quivira <i>Northeastern University</i>		



Thrust 4: Video Analytics and Signature Analysis

Prof. David Castanon 14 Adaptive Automated Threat Recognition (AATR)

Boston University

Carl Crawford, President

Csuptwo, LLC

Harry Martz

Lawrence Livermore

National Laboratory

Prof. Rich Radke 15 Video Analytics for Mass Transit Environments

Rensselaer Polytechnic Institute

Prof. Octavia Camps

Northeastern University

Prof. Mario Sznaier

Northeastern University

Meng Zheng

Rensselaer Polytechnic Institute

Prof. Octavia Camps 16 Correlating Luggage and Specific Passengers (CLASP)

Northeastern University

Prof. Rich Radke

Rensselaer Polytechnic Institute

Prof. Henry Medeiros

Marquette University

Prof. Charlie Bouman 17 Distributed Memory Framework for Fast High-Resolution CT
Reconstruction

Purdue University

Venkatesh Sridhar

Purdue University

Xiao Wang

Purdue University

Thilo Balke

Purdue University



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Thrust 4: Video Analytics and Signature Analysis

Prof. Eric Miller 18 Sparse view Compton scatter tomography with energy resolved data: experimental and simulation results
Tufts University

Dan Strellis

Rapiscan Systems

Mark Witinski 19 Data Science in Support of the Vehicle Infrared Chemical Threat
Pendar ObserveR (VICTOR) System

Prof. Eric Miller

Tufts University

ALERT Industrial Partnerships

Emel Bulat 20 ALERT Industrial Membership

Northeastern University

Kristy Provinzano

Northeastern University