

HOMELAND SECURITY: Detect and Protect
Novel Military Technologies for Commercial Use

DETAILED AGENDA

7:30 am – 8:30 am	Continental Breakfast, Registration, and Exhibits
8:30 am – 9:00 am	Welcome and Opening Remarks Renee Winsky, TEDCO Mark Glazer, Tech Council of Maryland James “Smokey” Stanton, Battelle Memorial Institute Brian Simmons, Aberdeen Proving Ground
9:00 am – 9:20 am	Procurement – How to work with Aberdeen Proving Ground (APG) Pat Huber, APG * Procurement officers will be available during the 10:30 am Networking Break for additional questions or information.
9:20 am – 9:30 am	TEDCO Funding Presentation Steve Fritz, TEDCO
9:30 am – 10:30 am	Technical Session I: <i>Detect It</i> LIBS Technology for Force Protection and Homeland Security Dr. Andrzej W. Miziolek, ARL <ul style="list-style-type: none"> • Laser Induced Breakdown Spectroscopy (LIBS) offers effective real-time detection of hazardous materials in either close-contact (man-portable) or standoff modes Photo-Acoustic Monitoring for Chemical Vapors Dr. Paul Pellegrino, ARL <ul style="list-style-type: none"> • Ultra-sensitive trace detection based on indirect infrared absorption spectroscopy Surface Enhanced Raman Scattering for Biological Material Detection Dr. Troy Alexander, ARL <ul style="list-style-type: none"> • Vibrational spectroscopy for the detection/identification of micron-sized dielectric particles UV Sources for Biological Material Detection Dr. Mike Wraback, ARL <ul style="list-style-type: none"> • Proliferate high efficiency, low cost sources in compact biosensors for both point and stand-off detection Handheld Chemical Threat Monitor Dr. Pat Henning, Foster-Miller/ECBC <ul style="list-style-type: none"> • Miniature, low-cost infrared spectrometer capable of analyzing

	<p>unknown liquids, solids, and gases. The solid-state, rugged design uses interchangeable sampling probes, has no moving parts, and operates on standard battery power</p> <p>THz Devices for Explosive Detection and Concealed Weapons Imaging Dr. Mike Wraback, ARL</p> <ul style="list-style-type: none"> • New material for high efficiency THz sources: InN-based heterostructures that enable low cost, portable telecom detection and imaging of explosives and weapons <p>MEMS for Sensors and RF Systems Ron Polcawich, ARL</p> <ul style="list-style-type: none"> • Microelectromechanical (MEMS) based sensing, radio frequency components, and fabrication capability <p>Passive MMW Technology Dr. Steve Weiss, ARL</p> <ul style="list-style-type: none"> • Passive millimeter wave for concealed weapons detection using advanced focal-plane array technology
<p>10:30 am – 11:00 am 11:00 am – 12:00 pm</p>	<p>Networking, Exhibits, and Displays</p> <p>Technical Session II: <i>Protect It</i></p> <p>Chemical Agent Resistant Coating Technology John Escarsega, ARL</p> <ul style="list-style-type: none"> • Environmentally friendly coating formulations for first responder vehicles that offer specific color formulations, special attributes, higher performance, and durability <p>Nano-engineered Materials for Active Coatings Adam Rawlett, ARL</p> <ul style="list-style-type: none"> • Chemical Agent Resistant Coatings (CARC) that can increase surface protection of assets from environmental hazards by a factor of thirty <p>Nanotextured Fabrics for Increased Energy Absorption in Composite Robert Jensen, ARL</p> <ul style="list-style-type: none"> • Fiber surfaces that use increase frictional dissipation to increase energy absorption <p>Shear Thickening Fluids for Homeland Security Eric Wetzal, ARL</p> <ul style="list-style-type: none"> • Shear Thickening Fluids (STFs) are liquids loaded with stabilized, sub-micron particulates that protect against stab and ballistic attack <p>Vehicle Armors David Hackbarth, ARL</p> <ul style="list-style-type: none"> • Armor technology for the protection of personnel and light vehicles against bullets, improvised explosive devices, and rocket-propelled

	<p>grenades</p> <p>Transparent Armor for Homeland Security Peter Dehmer, ARL</p> <ul style="list-style-type: none"> • Lightweight, cost effective, transparent armor for shields, buildings, and vehicles <p>Enzymatic Decontamination Systems Dr. Steve Harvey, ECBC</p> <ul style="list-style-type: none"> • New developments in concentrated, non-toxic, non-corrosive, and environmentally safe enzymatic decontamination systems for military and civilian that minimize storage and logistics concerns <p>Power and Energy Dr. Cynthia Lundgren, ARL</p> <ul style="list-style-type: none"> • Portable fuel cell/hybrid power sources <p>Gunfire Detection Scott Miller, ARL</p> <ul style="list-style-type: none"> • Mobile and fixed acoustic and sensor arrays to detect small arms, mortars, rockets, muzzle blast and shock waves
12:00 pm – 1:00 pm	Lunch and Networking
1:00 pm – 2:00 pm	<p>Technical Session III: <i>Test it, Train them, and Track 'em</i></p> <p><u>Device and Sensor Testing</u></p> <p>Scanner Testing to Support HD and OIF Don Hammond, ATC</p> <ul style="list-style-type: none"> • Testing of personnel and vehicle scanners to determine and confirm safety, effectiveness, and reliability <p>Explosives Detection Testing William Bolt, ATC</p> <ul style="list-style-type: none"> • Options and technology for testing cargo and luggage, multi-purpose facilities, and explosives capability <p>Fire and Explosive Suppression Sean Jankiewicz, ATC</p> <ul style="list-style-type: none"> • Suppression ability testing for agents and delivery systems, support of survivability and lethality, and URL standards <p><u>Training of Key Personnel</u></p> <p>Relationship of Cognitive and Ergonomic Stressors on Airport Security Screener Performance and Resiliency Dr. Melissa W. Dixon, ARL</p> <ul style="list-style-type: none"> • Investigation of the factors affecting security screener effectiveness, including the relationship between cognition and

	<p>assessment surveys, screening performance, and attrition</p> <p><u>Tracking</u></p> <p>Unattended Sensors for Force Protection Scott Miller, ARL</p> <ul style="list-style-type: none"> • Multisensor modality fusion for vehicle and personnel detection, including acoustic, seismic, and visible imagery abilities <p>Image Processing for Existing and Future Camera Systems Dr. Alex Chan, ARL</p> <ul style="list-style-type: none"> • Moving target identification for tracking and suspicious activity detection, with super resolution and contrast enhancement for aided surveillance <p>Switchblade UAV for Homeland Security David H. Lyon, ARL</p> <ul style="list-style-type: none"> • Low cost, man-portable, reusable UAV with real-time video, infrared imagery, and GPS for surveillance <p>Autonomous Robotics for Homeland Security Charles Shoemaker, ARL</p> <ul style="list-style-type: none"> • Machine perception, intelligent control, tactical behaviors, human-robot interfaces, and command/control developments in unmanned systems for defense and security <p>Infrared Chemical Dyes as Taggants Dr. John La Scala, ARL</p> <ul style="list-style-type: none"> • Dyes to clandestinely mark a person or object that can be detected by inexpensive, specialized equipment
2:00 pm – 2:05 pm	Special Presentation: The Ben Franklin Partnership and Aberdeen Proving Ground
2:05 pm – 2:10 pm	Special Presentation: IE First Link and Aberdeen Proving Ground
2:10 pm – 2:30 pm	<p><u>Case Study Panel</u></p> <p>The Aberdeen Technology Transfer Initiative: <i>Detecting Success in Army/Industry Partnerships</i></p> <p>Panelists: William J. Biscontini, BSCO Rod Hudson, QuickSilver Analytics Mac Mottley, Axonx</p> <p>Moderator: David Minges, TEDCO</p>
2:30 pm – 4:00 pm	Harford County Office of Economic Development Reception