

Welcome to

# DHS SCIENCE & TECHNOLOGY

## FIRST RESPONDERS GROUP

Booth # 1729



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**THANK YOU** for visiting the DHS Science and Technology Directorate (S&T)! We are excited to be part of APCO 2017! Our **First Responders Group (FRG)** provides first responders with the edge to succeed during this age of rapid advances in technology. Through industry and academic partnerships, S&T develops and deploys tech solutions to address day-to-day and large-scale emergencies. The FRG team challenges you to think differently about the role technology plays with enhancing capabilities to drive operational efficiencies, improve decision-making and save lives. Come visit our **exhibit booth #1729** to meet FRG representatives, learn more about our work, and see demos of our tech solutions.

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**JOHN MERRILL** is the Director for FRG's Office for Interoperability and Compatibility (OIC), as well as the Next Generation First Responder Apex Program, a research, development, testing and evaluation program with more than 40 projects. He oversees first responder voice and data interoperability, information sharing, and alerts, warnings and notifications programs. He was formerly the senior policy/technical advisor for DHS on GPS interference, detection, mitigation and radio frequency spectrum management. He is a 28-year veteran of the U.S. Coast Guard with experience in program/policy management, radio navigation, maritime law enforcement, search and rescue, vessel traffic services and telecommunications.



**CUONG LUU** is an OIC Program Manager responsible for managing, researching and coordinating emerging technologies for emergency responder communication systems. His portfolio focuses on voice, video and data efforts, including the datacasting technology and the Video Quality in Public Safety (VQiPS) initiative. Prior to joining DHS, he worked 10 years in the private sector where he gained extensive knowledge in applied program and project management. His experience has focused on large, complex technology-based projects with an emphasis on management of technology driven services.



**SRIDHAR KOWDLEY** is an OIC Program Manager leading a number of initiatives, including the Project 25 Compliance Assessment Program (P25 CAP), where he is responsible for ensuring communications equipment declared by the supplier actually is P25 CAP compliant and tested against the standards with publicly published results. He also leads the DHS First Responder Electronic Jamming Exercise initiative, which works to assess, evaluate and mitigate impacts of electronic jamming on first responder communications. He has 30 years of experience in program management, engineering and analysis of civilian, commercial and defense telecommunications and wireless systems and networks.



**NORMAN SPEICHER** is an OIC Program Manager with more than 25 years of experience in emergency communications, emergency management and public safety information technology. Prior to joining FRG, he supported a range of federal programs, including S&T's Wireless Emergency Alerts and the Federal Emergency Management Agency's Integrated Public Alert and Warning System. In addition, he has acted as the City of Chicago Office of Emergency Management and Communication Program Manager for Northrop Grumman, Department of the Navy Emergency Response Management System Systems Architect, London Metropolitan Police subject matter expert, and in a breadth of management, domain expert and software/systems engineering positions.



**VINCENT SRITAPAN** is a Program Manager in the Cyber Security Division (CSD) for the Homeland Security Advanced Research Projects Agency at DHS S&T. Mr. Sritapan oversees the Mobile Security Research and Development (R&D) projects aimed at accelerating the adoption of secure mobility for the Department, government and global community to ensure the homeland security mission. Prior to joining CSD, Vincent spent three years with the Department's Office of the Chief Information Security Officer as the Technical Lead and Component Coordinator in the Information Security Architecture and Engineering Division.

# AT S&T'S BOOTH, SEE DEMONSTRATIONS OF THESE **CUTTING-EDGE TECHNOLOGIES:**

## **Datacasting Technology**

Mark O'Brien, SpectraRep

Uses current public television broadcast networks to quickly, reliably and securely share data, including videos, images and text from virtually any location. This tool helps first responders stay connected and provides the situational awareness and information they need to make informed decisions when responding to an incident. Datacasting was successfully used in Houston during Super Bowl LI and the 2016 NCAA Men's Final Four Basketball Tournament.

## **Modeling and Simulation Incident Command Station**

Eileen Smith and Rebecca Leis, University of Central Florida Institute for Simulation and Training (UCF-IST)

The Orange County Fire Rescue Department (OCFRD) in Florida partnered with UCF-IST to create a modernized training program for Incident Commanders (IC). UCF-IST created an engaging, performance oriented, multimedia training program and unique immersive simulator that allows ICs to learn and practice critical skills through scenario-based learning. Multiple personnel can participate in this simulation, increasing crew coordination through collective team training. Since completion, more than 600 fire officers have completed the OCFRD program. FRG is working with UCF-IST to equip first responders with next generation tools and technologies.

## **Wearable Alerts and Monitoring System (WAMS) & Assistant for Understanding Data through Reasoning, Extraction and Synthesis (AUDREY)**

Dr. Ed Chow and George Palouljian, NASA JPL

In partnership with NASA Jet Propulsion Lab (JPL), our teams are developing a distributed intelligent Internet of Things (IoT) communication system that brings seamless situational awareness to first responders. WAMS works in cooperation with JPL's AUDREY system that uses human-like artificial intelligence to understand the needs of first responders and incident managers. AUDREY can learn, adapt and tailor answers to each level of the chain of command, depending on what each responder would need to know. The main goal is to prevent information overload, while giving responders enough information at the right time to improve their performance.

## **2017 First Responder Electronic Jamming Exercise (JamX 17)**

Brandon Smith, DHS Office of Emergency Communications and Rodney Reed, Harris County Fire Marshal's Office

The First Responder Electronic Jamming Exercise is a multi-agency operational exercise to evaluate the effects of illegal, commercial-grade jamming devices on first responder communications, and to test technologies and tactics that can help first responders identify, locate and mitigate the impact of jamming. The July 2017 exercise built upon the results of the 2016 First Responder Electronic Jamming Exercise held last summer. FRG is currently working to develop tools to help first responders recognize, respond to, report and resolve jamming incidents.

## **Broadband Demonstration Network - In-Building Measurement**

Dr. Bob Johnk and Joe Parks, National Telecommunications and Information Administration's Institute for Telecommunication Sciences (NTIA/ITS)

The Public Safety Communications Research (PSCR) team is exploring methods for assessing the coverage of LTE systems inside of buildings. The team has conducted extensive testing to determine the state of indoor LTE coverage and provide procedures and techniques to both quantify and improve in-building performance and coverage for band class 14 LTE Systems. The data obtained can be used to mitigate data gaps in and around buildings or areas where signal coverage is inadequate.

**For more information on S&T's exhibit and speaking activities, see next page** 

	Monday August 14	Tuesday August 15	Wednesday August 16
<b>Speaking Engagements</b>	<p style="text-align: center;"><b>Got Comms? Recognizing and Mitigating Intentional and Unintentional Interference Panel</b></p> <p style="text-align: center;">Rooms: 503/504 (2:00 – 3:00 PM)</p> <p style="text-align: center;"><b>SPEAKERS:</b></p> <p style="text-align: center;"><b>Sridhar Kowdley</b>, FRG</p> <p><b>Brandon Smith</b>, Telecommunications Specialist, Office of Emergency Communications, National Protection and Programs Directorate, DHS</p> <p><b>Rodney Reed</b>, Assistant Chief of Operational Support, Harris County Fire Marshal's Office, Houston, Texas</p> <p><b>Ron Polluconi</b>, Technical Services Manager, Washington County Consolidated Communications Agency, Washington County, Oregon</p>	<p style="text-align: center;"><b>Second General Business Session</b></p> <p style="text-align: center;">Four Seasons Ballroom 1 – 2 (4:00 – 5:00 PM)</p> <p style="text-align: center;"><b>SPEAKER:</b></p> <p style="text-align: center;"><b>John Merrill</b>, FRG</p>	<p style="text-align: center;"><b>Rewriting the Rules: Innovating the Next Generation First Responder Panel</b></p> <p style="text-align: center;">Rooms: 501/502 (9:00 – 10:00 AM)</p> <p style="text-align: center;"><b>SPEAKERS:</b></p> <p style="text-align: center;"><b>John Merrill</b>, FRG</p> <p style="text-align: center;"><b>Cuong Luu</b>, FRG</p> <p><b>Dr. Ed Chow</b>, Manager of the Civil Program Office, Information System Projects Office, NASA Jet Propulsion Laboratory, California Institute of Technology</p> <p><b>Eileen Smith</b>, Director, E2i Creative Studio, Institute for Simulation &amp; Training, University of Central Florida</p>
<b>Booth Office Hours</b>	<p><b>10:00 – 11:00 AM</b> – Voice, Video &amp; Data w/ Cuong Luu</p> <p><b>11:00 AM – 12:00 PM</b> – Next Generation First Responder w/ John Merrill &amp; Norm Speicher</p> <p><b>12:30 – 1:30 PM</b> – JamX w/ Sridhar Kowdley, Brandon Smith &amp; Rodney Reed</p> <p><b>2:00 – 3:00 PM</b> – Mobile Device Security w/ Vincent Sritapan</p> <p><b>2:00 – 4:00 PM</b> – Emergency Services Sector Information Sharing Initiative w/ Dorothy Miller &amp; David Isaacson</p> <p><b>3:00 – 4:00 PM</b> – Next Generation First Responder w/ Norm Speicher</p> <p><b>4:00 – 5:00 PM</b> – UAS Considerations for Law Enforcement w/ Dorothy Miller &amp; David Isaacson</p>	<p><b>10:00 – 11:00 AM</b> – Next Generation First Responder w/ John Merrill &amp; Norm Speicher</p> <p><b>11:00 AM – 12:00 PM</b> – Next Generation First Responder w/ Norm Speicher</p> <p><b>1:00 – 2:00 PM</b> – Voice, Video &amp; Data w/ Cuong Luu</p> <p><b>1:00 – 3:00 PM</b> – UAS Considerations for Law Enforcement w/ Dorothy Miller &amp; David Isaacson</p> <p><b>2:00 – 3:00 PM</b> – P25 CAP w/ Sridhar Kowdley &amp; P25 stakeholder partners Jim Downes &amp; Chief Reardon</p> <p><b>3:00 – 4:00 PM</b> – Mobile Device Security w/ Vincent Sritapan</p> <p><b>3:00 – 4:00 PM</b> – Emergency Services Sector Information Sharing Initiative w/ Dorothy Miller &amp; David Isaacson</p>	<p style="text-align: center;"><b>P25 Compliance Assessment Program Advisory Panel (AP) Meeting</b></p> <p style="text-align: center;">Rooms 111/113 (1:00 PM – 5:00PM)</p> <p style="text-align: center;"><b>TOPICS:</b></p> <p style="text-align: center;">P25 CAP Compliant and Non-Compliant Equipment Lists, status of P25 CAP Recognized Laboratories, P25 CAP testing timelines for posting of Compliant Equipment</p> <p style="text-align: center;"><b>ATTENDEES:</b></p> <p style="text-align: center;"><b>P25 CAP AP members, Sridhar Kowdley, Chris Wilson (APCO), Chris Espinoza (CSRA) &amp; interested APCO conference attendees</b></p>
			<p><b>HOW ARE WE DOING?</b></p> <p><b>LOOK OUT FOR THE APCO 2017 SURVEY, AND LET US KNOW!</b></p> <div style="text-align: right;">  <p><b>Homeland Security</b> Science and Technology</p> </div>