



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)

Advanced Development for Security Applications (ADSA) Workshop 21: Effective Integrated Systems

November 5-6, 2019

Raytheon Amphitheater (Room 240), Egan Research Center
(120 Forsyth Street, Boston, MA 02115)
Northeastern University, Boston, MA

AGENDA

Tuesday, November 5, 2019 - Day 1

Time	Topic	Speaker
7:30 AM	Check-in/Breakfast	
8:30 AM	Introductions	
8:30 AM	Welcoming Remarks - ALERT	Michael Silevitch <i>Director</i> <i>Northeastern University / ALERT</i>
8:30 AM	Welcoming Remarks	Jacqueline Isaacs <i>Interim Dean of the College of Engineering</i> <i>Northeastern University</i>
8:35 AM	Welcoming Remarks	Laura Parker <i>Program Manager</i> <i>Department of Homeland Security</i>
8:40 AM	Setting the Stage	Carl Crawford <i>President</i> <i>Csuptwo</i>
8:55 AM	TSA Perspectives	
8:55 AM	Deploying Effective Security Systems	Darby LaJoye <i>Executive Assistant Administrator for Security Operations</i> <i>TSA</i>
9:35 AM	Applications of Machine Learning	
9:35 AM	The Truth About Machine Learning	Avi Kak <i>Professor, Electrical and Computer Engineering</i> <i>Purdue University</i>
10:00 AM	Break	
10:40 AM	Resilient Machine Learning in Adversarial Environments	Alina Oprea <i>Associate Professor</i> <i>Northeastern University</i>

Time	Topic	Speaker
11:00 AM	Deep Convolution Objection Detection for X-ray Baggage Screening	Dan Strellis <i>Senior Director of R&D Rapiscan Systems</i> Kevin Liang <i>Ph.D. Candidate Duke University</i>
11:20 AM	Machine Learning for Video Tracking of Passengers and Divested Objects at the Checkpoint	Henry Medeiros <i>Assistant Professor Marquette University</i>
11:40 AM	Lunch	
12:55 PM	TSA Panel Discussion	
12:55 PM	Accessible Property Screening System	Jason Hull <i>TSA</i> Frank Cartwright <i>Branch Manager, Capability Development & Integration (CDI) TSA</i>
1:10 PM	On-Person Screening (OPS)	Dan Williams <i>Capability Manager, On-Person Screening TSA</i>
1:25 PM	Alarm Resolution (AR)	Kevin Chan <i>Capability Manager for Alarm Resolution TSA</i>
1:55 PM	Checked baggage	Craig Mosford <i>Capability Manager for Checked Baggage TSA</i>
2:10 PM	IT Cyber Security	Edam Colon <i>Cybersecurity Specialist Office of Information Technology (OIT) Information Assurance and Cybersecurity Division (IAD) Secure Infrastructure and Vulnerability Management (SIVM) TSA</i> Victor Pryor <i>IT Specialist TSA</i>
2:25 PM	TSA (Part 3), DHS and Other Perspectives	
2:25 PM	Red Team Testing	Jason Pinegar <i>Director Inspection, Red Team Index Division TSA</i>

Time	Topic	Speaker
2:45 PM	UK Experiences on Deployment of Cabin Baggage Systems	Anthony Parker <i>Science & Technology Advisor: Aviation, Research, Analysis and Development Department for Transport (UK)</i>
3:05 PM	Behavioral Science Research Informing Next Generation Shoe Screening Technology	Kathleen Deloughery <i>Program Manager DHS</i>
3:25 PM	Synthetic Data for Efficient Training and Testing	Rob Klueg <i>Division Chief, Developmental Test and Evaluation DHS - Transportation Security Laboratory</i> William Garret <i>Test Engineer Office of Acquisition Program Management TSA</i>
3:45 PM	Break	
4:20 PM	Perceptions of Each Other's Problems - Panel Discussion	
4:20 PM	Sample Problem: Transitioning Inventions to the Field - Perspective of a Vendor and Moderator	Matthew Merzbacher <i>Director, Certification & Qualification Smiths Detection</i>
4:35 PM	Perspective of TSA	Frank Cartwright <i>Branch Manager, Capability Development & Integration (CDI) TSA</i>
4:45 PM	Perspective of a Third Party Vendor	David Wiley <i>President and CTO Stratovan</i>
4:55 PM	Perspective of a Third Party Vendor	Simon Bedford <i>Vice President, Business Development TeleSecurity Sciences</i>
5:05 PM	Perspective of an Academic Inventor	Joel Greenberg <i>Associate Research Professor Duke University</i>
5:15 PM	Data Desensitization - Panel Discussion	
5:15 PM	Creating Equivalent Datasets	Laura Parker <i>Program Manager Department of Homeland Security</i>
5:30 PM	Vendor Perspective	Matthew Merzbacher <i>Director, Certification & Qualification Smiths Detection</i>
5:45 PM	Third Party Perspective	Andrew Cox <i>Systems Analyst Sandia National Laboratories</i>
6:00 PM	Adjourn	Carl Crawford <i>President Csuptwo</i>

Wednesday, November 6, 2019 - Day 2

Time	Topic	Speaker
7:30 AM	Check-in/Breakfast	
8:00 AM	Call to Order	Carl Crawford <i>President</i> <i>Csuptwo</i>
8:05 AM	Advanced Technology	
8:05 AM	CT Dose Reduction and a Few-View X-Ray Security Scanner (Video Presentation)	Jong Chul Ye <i>Professor of Department of Bio and Brain Engineering</i> <i>Korea Advanced Inst. of Science & Technology (KAIST)</i>
8:25 AM	HALO X-ray Technologies	Simon Godber <i>CEO</i> <i>HALO X-ray Technologies</i>
9:05 AM	Use of Fiber Optics for Detecting People	Austin Park <i>Director, Advanced Recognition Systems</i> <i>NEC Corporation of America</i>
9:25 AM	Break	
10:05 AM	ESRI mapping technologies (Video Presentation)	Marco Viola <i>Global Business Developer</i> <i>ESRI</i>
10:25 AM	Gratings-based phase contrast X-rays for explosives detection	Erin Miller <i>Physicist and Technical Team Lead, Applied Physics</i> <i>Pacific Northwest National Laboratory</i>
10:45 AM	Determining the Optimal Time on X-ray Analysis for Transportation Security Officers	Austin Silva <i>Senior member of technical staff</i> <i>Sandia National Laboratories</i>
11:05 AM	Astrophysics - company products	Francois Zayek <i>CEO</i> <i>Astrophysics</i>
11:25 AM	Application of security tags to DHS/TSA and a resource allocation system based on machine learning	Aaron Karan <i>Senior Manager</i> <i>Kenco Label and Tag Company</i>
11:45 AM	Recent Developments of multi-beam X-ray technology at NuRay Tech	Jian Zhang <i>Principal Scientist</i> <i>XinRay Systems and NuRay Technology</i>
12:05 PM	Lunch	
1:15 PM	Deterrence and Prevalence	
1:15 PM	Deterrence	Richard John <i>Professor of Psychology</i> <i>Associate Director</i> <i>Center for Risk and Economic Analysis of Terrorism Events (CREATE)</i> <i>University of Southern California</i>

Time	Topic	Speaker
2:00 PM	Perpetrator manifestos: What can we learn from them and at what cost?	Erin Miller <i>Program Manager, Global Terrorism Database National Consortium for the Study of Terrorism and Responses to Terrorism University of Maryland</i>
2:20 PM	Operator Performance	
2:20 PM	Which People are Best Suited to Conduct Visual Searches?	Stephen Mitroff <i>Professor, Department of Psychological & Brain Sciences George Washington University</i>
2:40 PM	Dealing With Low Prevalence	Farahnaz Wick <i>Post Doctoral Student Harvard Medical School</i> Jeremy Wolfe <i>Director, Vision Attention Lab Harvard Medical School</i>
3:00 PM	Next Steps	
3:00 PM	Summary and Next steps	Harry Martz <i>Associate Program Leader Center for Nondestructive Characterization Lawrence Livermore National Laboratory</i> Carl Crawford <i>President Csuptwo</i> Suriyun Whitehead <i>Lead Associate Booz Allen Hamilton</i>
3:50 PM	Closing Remarks	
3:50 PM	Closing Remarks	Michael Silevitch <i>Director Northeastern University / ALERT</i>
3:55 PM	Closing Remarks	Laura Parker <i>Program Manager Department of Homeland Security</i>
4:00 PM	Adjourn	Carl Crawford <i>President Csuptwo</i>