



Awareness and Localization of Explosives-Related Threats (ALERT)

*ALERT is an emeritus Department of Homeland Security (DHS)
Science and Technology (S&T) Directorate Center of Excellence*

**Advanced Developments Encompassing Processes and Technologies
for Customs and Border Protection (CBP-ADEPT-05):
Development and Deployment of Algorithms for
Enhancing the Interdiction of Contraband**

In-Person and Virtual Workshop

Tuesday, July 25, 2023, 9:00 AM - 5:30 PM
Wednesday, July 26, 2023, 8:00 AM - 4:00 PM

17th Floor Event Space, East Village
(291 Saint Botolph Street, Boston, MA 02115)
Northeastern University, Boston, MA

Zoom Meetings
Links and passwords to be emailed

AGENDA

Subject to Change

Tuesday, July 25, 2023 - Day 1

Time	Topic	Speaker
8:00 AM - 9:00 AM	Check-in and Breakfast	
		Introductions
9:00 AM - 9:05 AM	Welcoming Remarks - ALERT <i>[In person]</i>	Michael Silevitch <i>Director</i> <i>SENTRY DHS Center of Excellence</i> <i>Northeastern University</i>
9:05 AM - 9:10 AM	Welcoming Remarks - DHS S&T <i>[In person]</i>	Chelsea Thompson <i>Office of University Programs</i> <i>Science and Technology Directorate</i> <i>Department of Homeland Security</i>

9:10 AM - 9:15 AM	Welcoming Remarks <i>[In person]</i>	Laura Parker <i>Senior Advisor for Sensors Science and Technology Directorate Department of Homeland Security</i>
9:15 AM - 9:30 AM	CBP-ADEPT Introduction <i>[In person]</i>	David Taylor <i>CBP Portfolio Manager Science and Technology Directorate Department of Homeland Security</i>
9:30 AM - 9:40 AM	Setting the Stage <i>[In person]</i>	Harry Martz <i>Director, Nondestructive Characterization Institute Lawrence Livermore National Laboratory</i>
US Customs and Border Protection (CBP) Perspectives		
9:40 AM - 10:10 AM	CBP Keynote Address <i>[Virtual]</i>	Sanjeev Bhagowalia <i>Assistant Commissioner Office of Information and Technology U.S. Customs and Border Protection</i>
10:10 AM - 10:35 AM	Precognition of Inbound Biological Threats <i>[In person]</i>	Romelito Lapitan <i>Director, Agro/Bio-Terrorism Countermeasures DHS-CBP-OFO-APTL U.S. Customs and Border Protection</i>
10:35 AM - 11:10 AM	Break	
11:10 AM - 11:35 AM	AI/ML and Non-Intrusive Inspection (NII projects) <i>[In person]</i>	Amy Hatfield <i>Branch Chief Border Solutions Integration Cargo Division U.S. Customs and Border Protection</i>
11:35 AM - 12:05 PM	Command Center Vision and Technical Overview <i>[In person]</i>	Victor Todorov <i>Chief, Advance Targeting Unit Los Angeles/Long Beach Seaport U.S. Customs and Border Protection</i>
Non-US Perspectives		
12:05 PM - 12:30 PM	Operational Challenges with Automated Detection - The UK's Perspective <i>[In person]</i>	Chijioke (Chino) Nwachukwu <i>Assistant Director Detection Capabilities (Border Force) UK Home Office</i>
12:30 PM - 1:25 PM	Lunch	

1:25 PM - 1:50 PM Operational Challenges with Automated Detection - Dutch Perspective
[In person]

Micha Slegt
Senior Scientist
Customs Region Amsterdam
Customs Administration of the Netherlands

Norbert Kouwenhoven
Customs Administration of the Netherlands

1:50 PM - 2:15 PM Operational Challenges with Automated Detection - New Zealand Perspective
[Virtual]

Jonathan Morten
New Zealand

2:15 PM - 2:40 PM Operational Challenges with Automated Detection - Australian Perspective
[In person]

Ash Bell
Assistant Secretary
Customs and Border Modernisation Branch
Australian Border Force

DHS Science and Technology and Other Perspectives

2:40 PM - 3:00 PM CBP Challenges - Review
[In person]

Roland Suliveras Jr.
Director-SES (Retired)
US Customs and Border Protection

3:00 PM - 3:40 PM Break

3:40 PM - 4:00 PM Vendor Perspective on Algorithm Deployment
[Virtual]

Matthew Merzbacher
Director, Certification & Qualification (Retired)
Smiths Detection

4:00 PM - 4:20 PM Container Advancements
[In person]

Jeffrey Barber
Research Chemist
Transportation Security Laboratory
U.S. Department of Homeland Security

4:20 PM - 4:45 PM Countering Weapons of Mass Destruction - Needs for Advanced Technologies
[In person]

Cameron Miller
Project Manager
Countering Weapons of Mass Destruction
Department of Homeland Security

Emerging Technologies

4:45 PM - 5:10 PM Decision Superiority AI
[In person]

Michael Schneider
Associate Program Leader
Lawrence Livermore National Laboratory

5:10 PM - 5:30 PM Human-in-the-loop AI technology for Capturing Textual and visual Information from Technical Documents with Application to Manifest Analysis *[In person]* **Amit Juneja**
CEO
Agile Data Decisions

Adjourn
 Adjourn **Harry Martz**
Center for Nondestructive Characterization
Lawrence Livermore National Laboratory

Wednesday, July 26, 2023 - Day 2

Time	Topic	Speaker
7:30 AM - 8:00 AM	Check-in and Breakfast	
8:00 AM - 8:05 AM	Call to Order & Setting the Stage	Harry Martz <i>Director, Nondestructive Characterization Institute</i> <i>Lawrence Livermore National Laboratory</i>
Data and AI		
8:05 AM - 8:25 AM	Development of Unrestricted Datasets and Requirements <i>[In person]</i>	Harry Martz <i>Director, Nondestructive Characterization Institute</i> <i>Lawrence Livermore National Laboratory</i>
8:25 AM - 8:45 AM	Intra-class Data Augmentation with Deep Generative Models of Threat Objects in Baggage Radiographs <i>[In person]</i>	Heidi Komkov <i>Sandia National Laboratories</i>
8:45 AM - 9:05 AM	A Fresh Look at AI <i>[Virtual]</i>	Jonathan Crawford <i>Student</i> <i>Department of Electrical and Computer Engineering</i> <i>Boston University</i>
Algorithms		
9:05 AM - 9:25 AM	Development and Deploying Algorithms and Data for CBP - National Lab Perspective <i>[In person]</i>	Rob Forrest <i>Senior Scientist</i> <i>Sandia National Laboratories</i>
9:25 AM - 9:55 AM	Break	

9:55 AM - 10:15 AM Video Analytics for CBP **David Castanon**
[In person] *Professor*
Department of Electrical and Computer
Engineering
Boston University

10:15 AM - 10:35 AM A Different View: Creating Algorithms for **David Smason**
 User-Independent Manifest Verification *CEO*
 in Container Non-Intrusive Inspection *Cargoseer*
 (NII)
[In person]

Emerging Technologies, Standards

10:35 AM - 11:00 AM Application of X-Ray Diffraction to CBP **David Coccarelli**
[In person] *Chief Operating Officer*
Quadridox

11:00 AM - 11:25 AM European Organization for Security Open **Simon Godber**
 Architecture API Standard *CEO*
[In person] *HALO X-ray Technologies*

11:25 AM - 12:25 PM Lunch

12:25 PM - 12:45 PM Parcel and Letter Security for Postal and **Anthony Dicken**
 Express Courier Flows (PARSEC) *Senior Science Officer*
[In person] *Halo X-Ray*

Simon Godber
CEO
HALO X-ray Technologies

12:45 PM - 1:05 PM American Science and Engineering's **Aaron Couture**
 Development of a Multi-Energy Portal *Chief Scientist*
 (MEP) with Emphasis on Automatic *Rapiscan*
 Detection of Illicit Materials
[In person]

1:05 PM - 1:25 PM Advancing Automated Detection **Jay Richards**
 Capability in X-ray and Computed *Managing Director*
 Tomography (CT) Screening: Leveraging *Nwpro*
 Cutting-Edge Data Sources and
 Algorithms
[In person]

1:25 PM - 1:55 PM Break

1:55 PM - 2:15 PM	Understanding How Trace Contamination Spreads During the Manufacturing of Drug Mixtures, Explosive Devices, and Biologics <i>[In person]</i>	Matthew Staymates <i>Surface and Trace Chemical Analysis Group National Institute of Standards and Technology</i>
2:15 PM - 2:35 PM	CT Air Cargo Inspection System and its Concepts of Operation <i>[In person]</i>	Joseph Bendahan <i>Center for Nondestructive Characterization Lawrence Livermore National Laboratory</i>
2:35 PM - 2:50 PM	Data Quality and Availability for Algorithm Development <i>[In person]</i>	Denis Dujmic <i>Senior Research Scientist S2 Global, OSI-Systems Inc.</i>
Perspectives		
2:50 PM - 3:10 PM	Truck/Passenger Vehicle Land Border Model Port Concept <i>[In person]</i>	Bobby Watt <i>President Innovative Border Concepts</i>
3:10 PM - 3:30 PM	Technology and Experience Being a Third-Party Algorithm Developer <i>[Virtual]</i>	Sam Song <i>Chief Technology Officer TeleSecurity Sciences</i>
Closing Remarks		
3:30 PM - 3:50 PM	Summary and Next steps <i>[In person]</i>	Harry Martz <i>Director, Nondestructive Characterization Institute Lawrence Livermore National Laboratory</i>
3:50 PM - 3:55 PM	Closing Remarks <i>[In person]</i>	David Taylor <i>CBP Portfolio Manager Science and Technology Directorate Department of Homeland Security</i>
3:55 PM - 4:00 PM	Closing Remarks <i>[In person]</i>	Michael Silevitch <i>Director SENTRY DHS Center of Excellence Northeastern University</i>
	Adjourn	Harry Martz <i>Director, Nondestructive Characterization Institute Lawrence Livermore National Laboratory</i>