

# Sixteenth Advanced Development for Security Applications Workshop (ADSA17):

## Systems Engineering Of Aviation Security Systems

# Workshop Objectives



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# So What? Who Cares?

- Competing goals for aviation security
  - Terrorist
    - Still trying to disrupt aviation security, smart adapting adversary
    - Displacement – using cars/trucks
    - Las Vegas – scary, even if not terrorist attack
  - Strengthen security: More threats, lower mass
  - Increase operational efficiency: Reduce costs, labor, footprint, deployment time/effort
  - Improve passenger experience: Reduce divesture, wait time
- Silver bullets are rare (said none at ADSA16)
- ADSA17 objectives
  - Begin looking at security as integration of systems/technologies
  - How to specify, integrate and deploy subsystems?
  - How to get more out of existing systems?
  - How to find the needle (broken) in hay stack?
  - How do find the hay instead of the needle?
  - How to deter needles? (But, worry about displacement)

# ADSA Format

- This is a workshop, not a conference
  - Speakers are instructed to begin with “So What? Who Cares?” (elevator speech)
    - Crawford bears responsibility for format (and agenda)
  - Conversation and questions are expected at all times, especially during presentations after first slide
  - Optimal presentation ends after first slide
- Public domain – no SSI or classified material
- No speaker introductions; read handouts

# ADSA17 Changes

- “Speed dating” for emerging technologies and companies
  - ~5 minute presentations
  - May not have results (early stage company)
- Passenger “panel” of one passenger
  - Passenger experience
  - Identify verification
  - Risk based screening
- More microphones
  - Use for questions
  - Or, speak very loudly

# Futures

- ADOSA18: May 15-16, 2018
  - Title TBD
- ALERT program reviews: May 17, 2018
  - Adaptive ATR (AATR)
  - Video tracking of passengers and divested items (CLASP)
- ADAS-CBP: June 20-21, 2018
  - ADOSA for DHS S&T on customs and border protection

# **BACKUP SLIDES**



Does solving one problem lead to another?

# DHS Tactics

- Augment abilities of vendors with 3<sup>rd</sup> parties
  - Academia
  - National labs
  - Industry other than the vendors
- Create centers of excellence (COE) at universities
- Hold workshops to educate 3<sup>rd</sup> parties and discuss issues with involvement of 3<sup>rd</sup> parties
  - Algorithm Development for Security Applications (ADSA)
- Forage for technology in other fields



# Equipment Requirements

- Probability of detection (PD)
- Probability of false alarm (PFA)
- FA resolution
- # types of threats
- Minimum mass
- Minimum sheet thickness
- Total cost of ownership
  - Purchase price
  - Siting
  - Labor
  - Maintenance
- Extensibility
- Ability to fuse
- Compatible with risk-based screening
- False alarm resolution methodologies
- Siting
- HVAC, space, weight shielding
- Throughput
- Safety

# Questionnaire

- Request for everyone to answer questions preferably during the workshop
- ~10 questions – 10 minutes
- Available via Survey Monkey

<https://www.surveymonkey.com/s/ADSA16>



**SurveyMonkey.com**  
because knowledge is everything

# Minutes

- Minutes of discussion will be taken
  - Sensitive information to be redacted
- Please identify yourself and your institution first time you speak
- Suriyun Whitehead, thank you for taking minutes

# Archival Materials

- Final reports and presentations from previous ADSAs
- Final reports from projects to CT-based EDS
  - Segmentation
  - Reconstruction
  - ATR

[https://myfiles.neu.edu/groups/ALERT/strategic\\_studies/](https://myfiles.neu.edu/groups/ALERT/strategic_studies/)

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- Northeastern University (NEU)
- Awareness and Localization of Explosives-Related Threats (ALERT) DHS Center of Excellence
- Department of Homeland Security (DHS)
- Presenters
- Participants



# Logistics

- Melanie Smith, lead
- Tiffany Lam
- Deanna Beirne
- Kristin Hicks
- Anne Magrath

Let them know if you need support during or after workshop.

# Final Remarks

- “Terrorism causes a loss of life and a loss of quality of life,” Lisa Dolev, Qylur
- Need improved technology
- Thank you for participating

