

Fourteenth Advanced Development for Security Applications Workshop (ADSA14):

Development and Deployment of Fusible Technologies for the Checkpoint

Workshop Objectives



Carl R. Crawford
Csuptwo, LLC

Doug Pearl, 1956-2016

- Friend & colleague
- Attended many ADSAs
- Presented twice
 - Role of third parties in medical imaging and security
 - Development of DICOM and DICOS
 - Use of incentives in this field
- His presence will be missed



ADSAs14 is dedicated to the memory of Doug

So What? Who Cares?

- Competing goals for aviation security
 - Strengthen security
 - More threats, lower mass, fast adaptation
 - Increase operational efficiency
 - Reduce costs, labor, footprint, deployment time/effort
 - Improve passenger experience
 - Reduce divesture, wait times
- No silver bullets
 - Present equipment may at limits
 - No emerging technologies can do it all
- Solution
 - Develop technologies that can be fused (connected) to extant systems
 - Solve specific problems
 - But ... fusing systems is known to be difficult
- ADSA14 purpose
 - How to specify what problems need to be solved?
 - How to test, deploy and fuse
 - Review emerging technologies and processes that can be fused

Fusion Already Here Already



- Risk based screening
- Intelligence
- CONOPs

Possible Fusible Technologies

- *Diffraction, phase contrast*
- *CT*
- *Chemical detectors*
- *Standoff trace*
- *Video analytics*
- *Third party involvement*
- *Advanced algorithms – recon/ATR*
- *XBS (return of)*
- *Transmission x-ray*
- *DICOS*
- *MMW – dielectric constant*
- *Removing human from the loop*
- *Better behavior detection*

Rule #3 – Public Domain

- Do not present classified, SSI, FOUO or proprietary material
- Presentations, minutes and proceedings will be placed in the public domain
 - After review for SSI and classified material

Rule #2 – Speaker Instructions

- 2nd slide has to be “so what who cares”
 - State how technology will improve explosive detection
 - Optimum presentation: stop at 2nd slide
- Don’t get trapped into developing the whole story before giving the bottom line.
- Move most slides into backup
- Put final version of presentation on USB memory stick

Rule #1 – Open Discussions

- This is a workshop, not conference
- Conversation and questions expected at all times, especially during presentations
- Moderator responsible for keeping discussions initiating discussion
 - Will *try* to allow speakers to complete their introduction

BACKUP SLIDES

DHS Tactics

- Augment abilities of vendors with 3rd parties
 - Academia
 - National labs
 - Industry other than the vendors
- Create centers of excellence (COE) at universities
- Hold workshops to educate 3rd parties and discuss issues with involvement of 3rd 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/ADSA14>



SurveyMonkey.com
because knowledge is everything

Minutes

- Minutes will be taken of discussion
 - Sensitive information to be redacted
- Please identify yourself and 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/

Acknowledgements

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



Acknowledgements

- Speaker selection
 - Laura Parker, DHS
 - George Zarur, DHS/TSA (retired)

Logistics

- Melanie Smith, lead
- Deanna Beirne
- Kristin Hicks
- Teri Incampo
- 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

