Symposium on Homeland Security and Public Safety: Research, Applications and Standards

Sponsored by ASTM Committee E54 on Homeland Security Applications

June 28-29, 2018
Sheraton San Diego Hotel & Marina
San Diego, California

Symposium Co-Chairs: Philip Mattson
Department of Homeland Security
Washington DC, USA

Jennifer Marshall
National Institute of Standards and Technology
Gaithersburg MD, USA

ABOUT THE SYMPOSIUM
This symposium will provide a forum to discuss strategically coordinated standards development and the increasing need for standards in homeland security and public safety.

Specific objectives are to:

- Showcase strategic topics/issues facing this standards community
- Discuss topical issues such as response robotics, personal protective and operational equipment, and critical infrastructure
- Define better ways to connect standards development with conformity assessment in this community
- Promote communication and information sharing between ASTM International committees, other SDOs, researchers, manufacturers, users, test laboratories, accreditation bodies, and government agencies
- Assess the need for new and/or revised standards as well as better coordination and links with standards between other SDOs
THURSDAY, JUNE 28, 2018

8:30 AM  
**Welcome and Opening Remarks**  
Philip Mattson and Jennifer Marshall, Symposium Co-Chairs

8:45 AM  
**Welcome to San Diego, CA**  
Local Public Safety Official

### SESSION 1: STRATEGY AND IMPACT

8:55 AM  
**Strategy and Impact Introduction**

9:00 AM  
**Deploying Standards Enabled Capabilities - An Operational Perspective**  
Philip Mattson, Department of Homeland Security Science and Technology Directorate

9:20 AM  
**Developing a Suite of Ballistic Test Methods in ASTM E54.04 for Better Harmonization and Reuse in Various Ballistic Resistance Performance Standards**  
Mark Greene, National Institute of Justice

9:40 AM  
**The Economic Impacts of ASTM International Test Methods for Evaluating Emergency Response Robot Capabilities**  
Erik Puskar, National Institute of Standards and Technology

10:00 AM  
**Break and Poster Session**

### SESSION 2: ROBOTICS

10:30 AM  
**Robotics Introduction**

10:35 AM  
**Testing and Evaluating Small Aerial Systems**  
Adam Jacoff, National Institute of Standards and Technology

10:55 AM  
**Best in Class: Leveraging Robot Performance Standards in Academic Competitions to Encourage Develop and Dissemination**  
Raymond Sheh, Curtin University
11:15 AM
A Test Method for Measuring Response Robot Performance Under Attenuated Radio Conditions
Richard Candell, National Institute of Standards and Technology

SESSION 3: HUMAN FACTORS, TRAINING, AND OPTIMIZATION INTRODUCTION

11:35 AM
Human Factors, Training, and Optimization Introduction

11:55 PM
Towards Developing Standardized Usability Evaluation Methodology for Public Safety Communications Technology: A User-Centered Approach
Kristen Greene, NIST

12:15 PM
Developing and Implementing Standard Test Methods for Academic Research
Adam Norton, New England

12:35 PM
Using Standard Test Methods for Operator Proficiency in Emergency Response Skills
Adam Jacoff, NIST

12:55 PM
Standard Test Materials and Procedures for Optimization and Validation of Trace Explosives Detection Systems
Greg Gillen, National Institute of Standards and Technology

1:15 PM       Lunch  (On Your Own)

SESSION 4: INFRASTRUCTURE & RESILIENCE

2:30 PM
Infrastructure & Resilience Introduction

2:40 PM
Preventing, Preparing for, and Responding to Intentional, Unintentional, and Natural Events
Marc Siegel, San Diego State University

3:00 PM
Community Resilience Planning and Assessment: NIST’s Community Resilience Program
Stephen Cauffman, National Institute of Standards and Technology
3:20 PM Break and Poster Session

3:50 PM
Glazing Performance Standards for Improved School Security
Valerie Block, Kuraray America & Chris Kapiloff, LTI Group

4:10 PM
Redefining the Yardstick: Setting a Standard for Comparison and Prioritization of Competing Critical Infrastructure Projects with LIRA
Angela Blair, Department of Homeland Security Science and Technology Directorate

4:30 PM
Forced Entry and Ballistics Protection for Buildings and Infrastructure Facilities
James Stapleton, Habersham Metal

4:50 PM
Closing Remarks
Philip Mattson and Jennifer Marshall, Symposium Co-Chairs

5:30 PM Reception

FRIDAY, JUNE 29, 2018

8:30 AM
Welcome and Opening Remarks
Philip Mattson and Jennifer Marshall, Symposium Co-Chairs

SESSION 5: PREPAREDNESS AND RESPONSE PERSONAL PROTECTIVE AND OPERATIONAL EQUIPMENT

8:35 AM
Preparedness and Response Personal Protective and Operational Equipment Introduction

8:40 AM
Developing U.S. Standards for Law Enforcement Civil Disturbance Unit Personal Protective Equipment
Mark Greene, National Institute of Justice

9:00 AM
Hands-On Protection for Law Enforcement and Corrections Officers
Amanda Battisti, Warwick Mills

9:20 AM
Statistical Considerations for Bomb Suit Overpressure Testing
Jean-Philippe Dionne, Med-Eng
9:40 AM  
**Performance Standards for Non-Pneumatic Tourniquets**  
Alan Hester, Tactical Medical

10:00 AM  
**Break and Poster Session**

10:30 AM  
**Next Generation Test Forms for Testing in Fire Simulations**  
Margaret Auerbach, U.S. Army Natick Soldier Research

10:50 AM  
**A Novel Approach to Evaluate Thermal Protective Performance of Clothing Subjected to Stretching Forces**  
Guowen Song, Iowa State University

11:10 AM  
**Introducing a Newly Developed Smoke and Particulate Resistant Structural Turnout Ensemble**  
Bryan Ormond, North Carolina State University

11:30 AM  
**Development of the Combination Unit Respirator Performance Standard: A Collaboration Between NIOSH and NFPA**  
Frank Palya, National Institute for Occupational Safety and Health

11:50 PM  
**Closing Remarks**  
Philip Mattson and Jennifer Marshall, Symposium Co-Chairs

12:00 PM  
**Symposium Adjourns**
Posters

**Protection of Public Safety Personnel and Responders through Certification of PPE**  
Patricia Gleason, Safety Equipment Institute

**Testing and Evaluation of Remotely Operated Vehicles (ROVs)**  
Adam Jacoff, NIST

**Automatic Semantic Search Engine for Suitable Standards (ASSESS)**  
Chris Mattmann, NASA, JPL, USC

**Evaluation of NIOSH Certified Air-Purifying Respiratory Protective**  
Frank Palya, National Institute for Occupational Safety and Health

**Reducing Agency Risk & Officer Vulnerability by Closing the Gap in Body Armor Coverage**  
Casandra Robinson, NIST

**Investigation of Thermal Degradation and Its Impact on Thermal Protection for Various Thermal Protective Clothing Fabrics**  
Guowen Song, Iowa State University

**Modelling the Effects of Air Gap and Fabric Properties on Physiological Responses in Firefighter Protective Clothing**  
Guowen Song, Iowa State University