

# Call for Papers and Posters

## 2018 IEEE International Symposium on Technologies for Homeland Security

2 – 3 May 2018 DoubleTree Hotel, Crystal City, VA

<http://ieee-hst.org/>



Sponsor:



### Call for Papers & Posters

The 18th annual IEEE Symposium on Technologies for Homeland Security (HST '18), will be held 2 – 3 May 2018, in the greater Washington D.C. area. This symposium brings together innovators from leading academic, industry, businesses, Homeland Security Centers of Excellence, and government agencies to provide a forum to discuss ideas, concepts, and experimental results.

Produced by IEEE with technical support from DHS S&T, IEEE, IEEE Boston Section, and IEEE-USA and organizational support from MIT Lincoln Laboratory, Raytheon, and MITRE, this year's event will once again showcase selected technical papers and posters highlighting emerging technologies to:

Secure Cyberspace

Enhance Biometrics & Forensics

Secure Land and Maritime Borders

Prevent Terrorism & Manage Incidents

We are currently seeking technical paper and poster session submissions in each of the areas noted above. Papers examining the feasibility of transition to practice will also be considered. *This year, papers focused on DHS high-priority technology gaps will be of particular interest.* All areas will cover the following common topics:

- Strategy and threat characterization, operational concepts, risk analysis;
- Modeling, simulation, experimentation, and exercises & training; and
- Testbeds, standards, performance and evaluations.

### Contact Information

For more detailed information on the Call for Papers and Posters, as well as Sponsorship and Exhibit Opportunities, visit the website <http://ieee-hst.org/> or email: [information@ieee-hst.org](mailto:information@ieee-hst.org). Submissions should be made at the following website: <https://cmt3.research.microsoft.com/HST2018>

### Important Dates

<b>Paper Extended Abstract and Poster Abstract Deadline:</b>	<b>November 1, 2017</b>
<b>Paper, Poster Acceptance Notification</b>	<b>December 15, 2017</b>
<b>Final Paper Submission Deadline:</b>	<b>March 30, 2018</b>

*All deadlines are by midnight Eastern Time.*

### Organizing Committee

General Chairs:	James Flavin, MIT Lincoln Laboratory Jordan Feidler, MITRE
Deputy Chair:	Fausto Molinet, Matrix Internationale
Technical Chairs:	Gerald Larocque MIT Lincoln Laboratory David Harvey, MITRE
Marketing Chair:	Anthony Serino, Raytheon
Local Arrangement Chair:	Bob Alongi, IEEE Boston
Marketing Chair:	Jessica Kelly, Raytheon
Publications Chair:	Adam Norige, MIT Lincoln Laboratory
Sponsorship/Exhibits Chair:	Fausto Molinet, Matrix Internationale
Special Advisor to the Chair:	Lennart Long, EMC Consultant
Registration Chair:	Karen Safina, IEEE Boston

### Technical Program Committee Chairs

<b>Prevent Terrorism and Manage Incidents</b>
Lance Fiondella, UMass, Dartmouth Kenneth Crowther, MITRE
<b>Enhance Biometrics &amp; Forensics</b>
Eric Schwoebel, MIT Lincoln Laboratory James L. Wayman, San Jose State University
<b>Secure Land and Maritime Borders</b>
Karen Panetta, Tufts University Rich Moro, Raytheon John Aldridge, MIT Lincoln Laboratory
<b>Secure Cyberspace</b>
Claire Applegarth, MITRE Mark Peters, MITRE

# Call for Papers and Posters

## Prevent Terrorism and Manage Incidents

*Track focus: Technologies to facilitate threat detection (including chemical, biological, nuclear, explosives) and counter-terrorism surveillance. Technologies for effective data analysis. Technologies to track responders, improve situational awareness, and better mitigate, respond to, and recover from incidents.*

- Detection of hazardous materials, field detection equipment, dispersion tracking
- Machine learning, advanced analytic methods, predictive modeling
- Situational awareness / situational understanding and decision support
- Decontamination and restoration strategies, equipment, approaches, and sensing following WMD events
- Autonomous, robotic, composable, and artificial intelligence for offsetting human response capabilities
- Survivor-centric technologies

## Secure Land and Maritime Borders

*Track focus: Technologies that enable remote detection of unlawful movement or actions, non-invasive transport screening, and situational awareness in complex environments while allowing efficient lawful trade and travel.*

- Personnel screening
- Container/Compartment/Vehicle screening (Detection, monitoring and tracking)
- Ground surveillance, especially small dark vessel / aircraft detection and interdiction
- Port (land, sea and air) and in-between-port surveillance for situational awareness
- Automated recognition and identification of suspicious objects
- Border security sensor and intelligence integration and data analytics
- Surveillance and communication (especially in remote environments)

## Secure Cyberspace

*Track focus: Technologies to enable rapid and efficient information operations while protecting availability, integrity, and confidentiality of transactions. Technologies that enable identification and apprehension of cyber criminals, characterization of cyber adversaries, and effective cyber control and mitigation.*

- Mobile security technologies
- Cyber and cyber-physical incident response
- Industrial control system / critical infrastructure security
- Security for the Internet of Things, including safety-critical devices
- Integration of mobile and IoT devices with continuous diagnostics and mitigation
- Cloud application and infrastructure security
- Investigations, forensics, malware analysis
- Supply chain security
- Attack and defense modeling and characterization
- Public policy, ethical, legal, privacy, economic and social issues

## Enhance Biometrics & Forensics

*Track focus: Technologies to verify identity and evaluate evidence quickly and accurately.*

### BIOMETRICS

- Biometric recognition based on DNA, voice, fingerprint, iris, face, handwriting, gait, and other modalities
- Statistical estimation of stability and distinctiveness
- Datasets, corpora, and evaluation
- Multimodal biometrics
- New biometrics and novel sensing technologies
- Robust biometrics with respect to standoff, environmental conditions, and channel impairments
- Analysis of biometric applications

### FORENSICS

- Evaluation of the scientific basis, validity, and reliability, and uncertainty of forensic analyses under realistic case scenarios
- Statistical estimation and reporting
- Human observer bias and sources of human error with forensic sciences
- Tools and protocols (automated and manual) for forensic examinations, methods, and practices
- Nationwide and international biometric data interoperability

# Call for Papers and Posters

## Instructions for Paper and Poster Submissions

### **Paper Submissions**

Prospective paper authors are invited to submit one or more detailed **extended abstracts** by **Nov. 1, 2017**. These abstracts are to be **three to seven pages in length** (minimum 12 point font) and will serve as the basis for acceptance of papers for the conference. Authors will be notified of the review result (i.e., acceptance or rejection), with any applicable comments, by **December 15, 2017**. Depending on program needs, some prospective paper authors may be asked to present a poster in lieu of an oral paper presentation. The abstract should include the author(s) title, name, address, phone, email and organizational affiliation within the page limit. Attached to this should be a one page or shorter biography of the presenting author.

A **completed paper**, is required only from authors receiving a notice of acceptance from the conference. This paper should be prepared in standard IEEE format and not exceed seven pages, including all illustrations and references. Technical papers must not substantially overlap with material published at or simultaneously submitted to another venue. Final paper manuscripts must be submitted by **March 30, 2018**

### **Poster Submissions**

Some authors may prefer to present their work as a poster presentation. In this case, an abstract should be prepared and submitted in accordance with the paper submission process and the preference for a poster presentation indicated. Authors will be notified of the review result (i.e., acceptance or rejection) and any applicable comments, by **December 15, 2017**.

**Please note: Accepted paper and poster submissions will require at least one author to register and pay the conference fee.** The organizers of HST, as well as our attendees, expect all accepted papers and posters to be presented at the conference. IEEE reserves the right to exclude a paper from distribution after the conference if the paper is not presented.

All submissions should be made at the following website: <https://cmt3.research.microsoft.com/HST2018>

### Publishing Information

All papers and posters will be published in the conference proceedings and distributed to conference attendees. Extended versions of selected full technical papers that meet the publishing requirements may be published in selected journals and in the IEEE Xplore as part of the IEEE Conference Publication Program.

### Call for Sponsors and Exhibitors

A limited number of sponsorships and exhibit packages are available. To learn more, visit the conference website or contact or [sponsorship@ieee-hst.org](mailto:sponsorship@ieee-hst.org).

**For more information on the conference, see the website, [www.ieee-hst.org](http://www.ieee-hst.org) or email, [information@ieee-hst.org](mailto:information@ieee-hst.org)**