

# May 2017 S<sup>2</sup>ERC SHOWCASE AGENDA

May 24-25, 2017 • Hosted by Georgetown University • Washington, DC

Tuesday, May 23

7:00-9:00 PM

**Meet & Greet Reception** – Georgetown University Hotel & Conference Center (GUHCC), West Lobby  
*Appetizers & Cocktails*

Wednesday, May 24

8:00-9:00 AM

**Registration / Poster Set-Up / Breakfast** – GUHCC, South Gallery

9:00-9:10

**Welcome & Introductions** – GUHCC, Salon H

9:10-9:30

**State of the S<sup>2</sup>ERC** - Wayne Zage, S<sup>2</sup>ERC Director, Ball State University

9:30-9:50

**NSF Program Update & Surveys**

Dmitri Perkins, NSF I/UCRC Program Director  
Rita Rodriguez, NSF Program Director of the Major Research Instrumentation Program  
Vida Scarpello, I/UCRC Assessment Coordinator

9:50-11:30

**Session 1: New Proposals**

- 9:50-10:05 *Data Protection and the Right to Privacy in the IoT Era*  
Clare Sullivan; Georgetown University
- 10:10-10:25 *Automated Software Bug Prediction and Fix Suggestion with Multi-Case Based Reasoning*  
Shaoen Wu; Ball State University
- 10:30-10:45 *Collecting and Analyzing Internal Evidences of Software Services via Model Checking*  
Presenter: Xia Ning; Pls: Rajeev Raje, Ryan Rybarczyk, Xia Ning, IUPUI
- 10:50-11:05 *Cross-site hosted certificate trust*  
Eric Burger; Georgetown University
- 11:10-11:25 *Code Duplication*  
Presenter: Dolores Zage; Pls: Dolores Zage, Wayne Zage; Ball State University

11:30-12:00

**IAB Meeting** – GUHCC, Salon C



12:00-1:00

**Lunch Break** – GUHCC, Faculty Club A and Terrace



1:00-1:15

**Trustworthy and Resilient Real-Time Embedded Systems** – GUHCC, Salon H

Steven Drager, Principal Electronics Engineer  
Air Force Research Lab

1:15-3:00





**Session 2: New Proposals & Status Reports** – GUHCC, Salon H

- 1:15-1:30 *Design and Implementation of an Automated Configuration Auditing Tool*  
Xin Sun; Ball State University
- 1:35-1:50 *Network Diagnosis and Repair*  
Wenchao Zhou; Georgetown University
- 1:55-2:10 *Policy-Based Lifecycle for Programming Language Objects to Improve Data Security and Privacy*  
Eli Tilevich; Virginia Tech
- 2:15-2:30 *Empirical Studies to Discover Vulnerability Analysis Patterns*  
Presenter: Joanna Cecilia da Silva Santos; PI: Mehdi Mirakhorli; Rochester Institute of Technology
- 2:35-2:55 *Compiler Tools for CPI Protection*  
Presenters: Tam Chantem, Eli Tilevich; Pls: Tam Chantem, Eli Tilevich, Charles Clancy; Virginia Tech





3:00-3:30




**IAB Meeting** – GUHCC, Salon C



3:30-4:00	<b>Poster Parade &amp; Snack Break</b> – GUHCC, South Gallery	 
4:00-4:30	<b>Session 3: Status Reports</b> – GUHCC, Salon H 4:00-4:10 <i>Cyber Threat Intelligence Information Exchange Ecosystem (CyberISE): Program Status</i> Presenter: Clare Sullivan; PI: Eric Burger; Georgetown University 4:15-4:25 <i>Development of IoT-Enabled Smart Building Testbed</i> Presenter: Jianan Su; PI: Ryan Gerdes; Virginia Tech	
4:30-5:00	<b>IAB Meeting</b> – GUHCC, Salon C	
6:00-9:00	<b>Cocktails &amp; Banquet Dinner</b> – <i>Ristorante Piccolo, 1068 31<sup>st</sup> Street NW, Washington, DC 20007</i>	

**Thursday, May 25**

8:00-8:45 AM	<b>Registration / Breakfast</b> – GUHCC, South Gallery	Conference Center
8:45-9:45	<b>Session 4: Status Reports</b> – GUHCC, Salon H 8:45-8:55 <i>PSTN Transition Study</i> Eric Burger; Georgetown University 9:00-9:10 <i>Quantifying Software Quality through Rigorous Testing and Test Automation: From Theory to Practice</i> Lan Lin; Ball State University 9:15-9:25 <i>Shared-Memory Middleware</i> Presenter: Travis Miller; PIs: Todor Cooklev and Travis Miller; IPFW 9:30-9:40 <i>Secure Coding</i> Presenter: Jacob Rendall; PIs: Dolores Zage, Wayne Zage; Ball State University	
9:45-10:15	<b>IAB Meeting</b> – GUHCC, Salon C	
10:15-11:30	<b>Session 5: Status &amp; Final Reports</b> – GUHCC, Salon H 10:15-10:25 <i>STIR Implementation – Final</i> Presenter: Matthew Chiang; PI: Eric Burger; Georgetown University 10:30-10:40 <i>Analysis of End-to-End Encrypted Data – Final</i> Presenter: Kara Nance; PI: Charles Clancy; Virginia Tech 10:45-10:55 <i>Common Architecture Weakness Enumerations (CAWE) - Final</i> Presenter: Joanna Cecilia da Silva Santos; PI: Mehdi Mirakhorli; Rochester Institute of Technology 11:00-11:10 <i>Deep Learning for Cognitive RF Systems – Final</i> Tim O'Shea; Virginia Tech 11:15-11:25 <i>Deriving Network Traffic Signatures via Large Graph - Final</i> Ahmed Abdelhadi; Virginia Tech	
11:30-12:00	<b>IAB Meeting</b> – GUHCC, Salon C	
12:00-1:00	<b>Lunch Break</b> – GUHCC, Faculty Club A and Terrace	
1:00-1:30	<b>Closed IAB Meeting</b> – GUHCC, Salon C IAB Members, NSF Representatives, IUCRC Assessment Coordinator	

1:30-2:45	<b>Session 6: Final Reports</b>	
	1:30-1:40	<i>Direction Finding for Multiple Incoming Signals Using Time Modulated Array</i> – Final Presenter: Alan O'Donnell; Pls: Joseph Ernst, Alan O'Donnell; Virginia Tech
	1:45-1:55	<i>Event-driven Probabilistic Anomaly Detection for UAV Security</i> – Final Presenter: Long Cheng; PI: Daphne Yao; Virginia Tech
	2:00-2:10	<i>Exploiting Buffer Overruns in Software Defined Radio</i> – Final Presenter: Seth Hitefield; PI: Michael Fowler; Virginia Tech
	2:15-2:25	<i>Interface between Ball Aerospace COSMOS and MATLAB/STK Simulation Platform</i> – Final Presenter: Dylan Thomas; PI: Jonathan Black; Virginia Tech
2:30-2:40	<i>Mapping Industrial Control Systems</i> – Final Presenter: Murat Kuzlu; Pls: T. C. Clancy, K. Heaslip, M. Kuzlu; Virginia Tech	
2:45-3:15	<b>IAB Meeting – GUHCC, Salon C</b>	
3:15-3:30	<b>Snack Break – GUHCC, South Gallery</b>	
3:30-4:45	<b>Session 7: Final Reports – GUHCC, Salon H</b>	
	3:30-3:40	<i>Near Real-Time Context for Situational Awareness</i> – Final Justus Graham; Virginia Tech
	3:45-3:55	<i>Rural Call Completion</i> – Final Presenter: Andrew Stewart; PI: Eric Burger; Georgetown University
	4:00-4:10	<i>UAV Physical Security Vulnerabilities Remediation</i> – Final Presenter: Dylan Thomas ; PI: Jonathan Black; Virginia Tech
	4:15-4:25	<i>Unmanned System Cyber Data Links Analysis</i> – Final Presenter: Dylan Thomas ; PI: Jonathan Black; Virginia Tech
4:30-4:40	<i>Virtual Browser</i> – Final Eric Burger; Georgetown University	
4:45-5:00	<b>Closing Remarks - Wayne Zage, S<sup>2</sup>ERC Director, Ball State University</b>	
5:00-6:00	<b>Final IAB Meeting – GUHCC, Salon C</b>	

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