# Preliminary Conference Schedule

## Wednesday, September 28, 2016

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td>7:30-8:30</td>
<td>BREAKFAST</td>
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<tr>
<td></td>
<td><strong>CONFERENCE OPENING:</strong> Kimberly Espy, University of Arizona Vice-President for Research; Lisa Ordóñez, Vice Dean, Eller College of Management; Sue Brown, Interim MIS Department Head; Hsinchun Chen, Regents' Professor and Conference Chair</td>
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<td><strong>KEYNOTE SPEAKERS:</strong></td>
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<tr>
<td></td>
<td>• Ann Cox, Program Manager in the Cyber Security Division (CSD) for the Homeland Security Advanced Research Projects Agency at DHS S&amp;T. &quot;DHS’s Internet Measurement and Attack Modeling Program&quot;</td>
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<tr>
<td></td>
<td>• Laretta Bickford, Director of Cybersecurity for US Army NETCOM, &quot;The Risk Management Framework and Big Data Requirements&quot;</td>
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<tr>
<td>8:45-9:45</td>
<td>Session 1: 8:30-9:45</td>
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<tr>
<td></td>
<td><strong>Panel - Compliance &amp; Infrastructure Building</strong></td>
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<td></td>
<td>• Tina Slankas, Cyber Security Program Coordinator for the City of Phoenix</td>
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<td></td>
<td>• Michael Foster and Patrick Cullen, FBI, Tucson. &quot;Computer Network Exploitation (CNEs)&quot;</td>
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<td>• Jason Denno, UA-South. &quot;Cyber Virtual Learning Environment&quot;</td>
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<td>• Joe Valacich, Univ. of Arizona, MIS. &quot;Validating Active Indicators for the Identification of Insider Threats&quot;</td>
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<td>• Laura Brandimarte, Univ. of Arizona, MIS. &quot;How does Government Surveillance Affect Perceived Online Security? Preliminary Evidence from One Year of Tweets&quot;</td>
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<td>• Matt Hashim, Univ. of Arizona, MIS. &quot;Human Exploits in Cybersecurity: A Social Engineering Study&quot;</td>
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<td>9:45-10:40</td>
<td><strong>Session 2: 9:45-10:40</strong></td>
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<td>10:40-10:50</td>
<td>BREAK</td>
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<tr>
<td>10:50-12:05</td>
<td>Session 3: 10:50-12:05</td>
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<td><strong>Panel - Dark Networks and Ideology</strong></td>
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<td>• Al Bergesen, Univ. of Arizona, Sociology. &quot;The Theological Foundations of the Lone Wolf Islamist Terrorist&quot;</td>
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<td><strong>Panel - Cyber Intelligence</strong></td>
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<td></td>
<td>• John Matherly, Shodan. &quot;Conversations with Your Refrigerator&quot;</td>
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<td>• Christian Schreiber, FireEye. &quot;Finding the RIGHT Needle in a Field of Big Data Haystacks&quot;</td>
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<td><strong>Papers: Threat Intelligence</strong></td>
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<td>Darknet and Deepnet Mining for Proactive Cybersecurity Threat Intelligence (Eric Nunes, Paulo Shakarian, Ahmad Diab, Ericsson Marin, Andrew Gunn, Jana Shakarian, John Robertson, Vivin Paliath, Amanda Thart and Vineet Mishra)</td>
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<td>Exploring Key Hackers and Cybersecurity Threats in Chinese Hacker Communities (Zhen Fang, Xinyi Zhao, Qiang Wei, Guoqing Chen, Yong Zhang, Chunxiao Xing, Weifeng Li and Hsinchun Chen)</td>
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<td>Mining Hospital Data Breach Records: Emerging Cyber Threats to U.S. Hospitals (Travis Floyd, Matthew Greco and Edna Reid)</td>
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<td>12:05-1:05</td>
<td>LUNCH</td>
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<tr>
<td>Time</td>
<td>Session 4: 1:05-2:20</td>
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<tr>
<td>A</td>
<td>Panel - Information Sharing and Collaboration</td>
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<td></td>
<td>Frank Grimmelmann, Arizona Cyber Threat Response Alliance. &quot;Cybersecurity’s Human Factor in Operationalizing Threat Intelligence&quot;</td>
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<td>Papers: Data Science &amp; Analytics</td>
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<td>Measuring Online Affects in a White Supremacy Forum (Léo Figea, Lisa Kaati and Ryan Scrivens)</td>
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<td>Identifying Features for Detecting Fraudulent Loan Requests on P2P Platforms (Jennifer Xu, Dongyu Chen and Michael Chau)</td>
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<td>Doctoral Consortium (15 min introductions + 60 mins papers)</td>
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<td>Approaches to Understanding the Motivations Behind Cyber Attacks (Sumeet Kumar, Carnegie Mellon University)</td>
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<td>Modeling Cyber-Attacks on Industrial Control Systems (Vivin Palliate, Arizona State University)</td>
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<td>Using Social Network Analysis to Identify Key Hackers for Keylogging Tools in Hacker Forums (Sagar Samtani, University of Arizona)</td>
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<td>Targeting Key Data Breach Services in Underground Supply Chain (Weifeng Li, University of Arizona)</td>
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**Wednesday, 9/28, cont.**

2:20-2:30 **BREAK**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session 4: 1:05-2:20</th>
<th>Session 5: 2:30-4:10</th>
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<td>Using Cyber Defense Exercises to Obtain Additional Data for Attacker Profiling (Joel Brynielsson, Ulrik Franke, Muhammad Adnan Tariq and Stefan Varga)</td>
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<td>Automatic Detection of Xenophobic Narratives: A Case Study on Swedish Alternative Media (Lisa Kaati, Amendra Shrestha, Katie Cohen and Sinna Lindquist)</td>
<td>Approaches to Understanding the Motivations Behind Cyber Attacks (Sumeet Kumar, Carnegie Mellon University)</td>
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<td>Doctoral Consortium (15 min introductions + 60 mins papers)</td>
<td>Doctoral Consortium (45 mins. papers + 15 mins. mentoring + 40 mins. panel)</td>
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<td>Identifying Features for Detecting Fraudulent Loan Requests on P2P Platforms (Jennifer Xu, Dongyu Chen and Michael Chau)</td>
<td>Soft Computing and Hybrid Intelligence for Decision Support in Forensics Science (Andrii Shalaginov, Norwegian University of Science and Technology)</td>
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<td>Days: Policy and Behavioral Factors</td>
<td>Detecting Radicalization Trajectories Using Graph Pattern Matching Algorithms (Benjamin Hung, Colorado State University)</td>
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<td>The Impact of US Cyber Policies on Cyber-Attacks Trend (Sumeet Kumar, Matthew Benigni and Kathleen M. Carley)</td>
<td>Topic Modeling of Small Sequential Documents: Proposed Experiments for Detecting Terror Attacks (Brandon Jones, University of Central Florida)</td>
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<td>Rights Management to Enable a True Internet of Things (Robert Newman, Pat Doody, Mira Trebar and Uchenna Okeke)</td>
<td>Mentoring session (for selected doctoral students only)</td>
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<td>Trust and Distrust as Distinct Constructs: Evidence from Data Theft Environments (Steven Simon)</td>
<td>Panel - How to Prepare for a Career in ISI as a Doctoral Student?</td>
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<td>Phishing Susceptibility: The Good, the Bad, and the Ugly (Ahmed Abbasi and Mariam Zahedi)</td>
<td>Panelists:</td>
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<td>Hsinchun Chen, Univ. of Arizona</td>
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<td>PhishMonger: A Free and Open Source Public Archive of Real-World Phishing Websites (David Dobolyi and Ahmed Abbasi)</td>
<td>Lisa Daniels, KPMG</td>
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<td>Topic Modelling of Authentication Events in an Enterprise computer network (Nick Heard, Konstantina Palla and Maria Skoularidou) (Short Paper)</td>
<td>Dongwon Lee, National Science Foundation</td>
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<td>SCADA Honeypots: An In-depth Analysis of Conpot (Arthur Jicha, Mark Patton and Hsinchun Chen) (Short Paper)</td>
<td>Richard Frank, Simon Fraser University</td>
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<td></td>
<td>(Short Paper)</td>
<td>Facilitator: Chris Yang, Drexel University</td>
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**Wednesday, 9/28, cont.**

### Session 6: 4:20-5:50

**Panel - Policy and Workforce Development**
- Sy Goodman, Georgia Tech, Sam Nunn School of Intl. Affairs and College of Computing. “Critical Infrastructures and Their Well Being”
- Derek Bambauer, Univ. of Arizona, Law, “Does Cybersecurity Need More Law?”
- Linda Denno, UA South, Govt & Publiv Svc. “U.S. Cyber Deterrence Policy”

**Papers: Threat Intelligence**

- AZSecure Hacker Assets Portal: Cyber Threat Intelligence and Malware Analysis (Sagar Samtani, Kory Chinn, Cathy Larson and Hsinchun Chen)
- Identifying SCADA Vulnerabilities Using Passive and Active Vulnerability Assessment Techniques (Sagar Samtani, Shuo Yu, Hongyi Zhu, Mark Patton and Hsinchun Chen)
- Product Offerings in Malicious Hacker Markets (Ericsson Marin, Ahmad Diab and Paulo Shakarian) (Short Paper)
- Identifying Devices across the IPv4 Address Space (Ryan Jicha, Mark Patton, and Hsinchun Chen) (Short Paper)

**Papers: Data Science & Analytics**

- Effective Prioritization of Network Intrusion Alerts to Enhance Situational Awareness (E Allison Newcomb, Robert Hammell and Steve Hutchinson)
- Surfacing Collaborated Networks in Dark Web to Find Illicit and Criminal Content (Ahmed Zulkarnine, Richard Frank, Bryan Monk, Julianna Mitchell and Garth Davies)
- Identifying Language Groups within Multilingual Cybercriminal Forums (Victor Benjamin and Hsinchun Chen) (Short Paper)
- Poisson Factorization For Peer-Based Anomaly Detection (Melissa Turcotte, Juston Moore, Nicholas Heard and Aaron McPhall) (Short Paper)

6:00-8:00p

**All-Conference Reception at Hall of Champions**

### Thursday, September 29, 2016

#### Session 1: 8:30-9:05

**PLENARY SPEAKER:** Dongwon Lee, NSF, EHR/DGE, SaTC/SFS. "NSF Funding Opportunities on Cybersecurity and Data Science"  

### Session 2: 9:05-10:45

**Panel - Cybersecurity Education**
- Balaji Padmanabhan, Chair, Info Syst Decision Sci. Univ. of South Florida. “A Multidisciplinary Approach to Academic Cybersecurity Programs at USF“
- Roberto Mejias, CIS and Director of the Center for Cyber Security Education and Research (CCSER) at Colorado State University-Pueblo. “Issues, Challenges & Helpful Hints for the New & Rigorous NSA-CAE/CDE Designation Application Process”
- Sidd Kaza, Towson, Computer Science & Cybersecurity.
- Bill Neumann, Univ. of Arizona, GenCyber
- Mark Patton, University of Arizona, Scholarship-for-Service

**Papers: Big Data Analytics**

- Network-Wide Anomaly Detection via the Dirichlet Process (Nick Heard and Patrick Rubin-Delanchy) (Short Paper)
- Parallel Massive Data Monitoring and Processing Using Sensor Networks (Hamid Reza Naji and Najmeh Rezaee) (Short Paper)
- Understanding DDoS Cyber-Attacks using Social Media Analytics (Sumeet Kumar and Kathleen Carley) (Short Paper)
- IoT Security Development Framework for Building Trustworthy Smart Car Services (Jesus Horacio Pacheco Ramirez, Salim Hariri, Shalaka Satam, Clarisa Grijalva and Helena Berkenbrock) (Short Paper)
- Disassortativity of Computer Betworks (Patrick Rubin-Delanchy, Niall Adams and Nicholas Heard) (Short Paper)
### Thursday, September 29, 2016, cont.

#### Session 3: 10:50-12:30

**A**

**Papers: Cybersecurity Education & Workforce**
- An Undergraduate Cyber Operations Curriculum in the Making: A 10+ Year Report (Shiva Azadegan and Michael O'Leary) (Short Paper)
- Engaging Females in Cybersecurity: K through Gray (Xiang Liu and Diane Murphy) (Short Paper)
- Using Eye-tracking to Investigate Content Skipping: A Study on Learning Modules in Cybersecurity (Sagar Raina, Leon Bernard, Blair Taylor and Siddharth Kaza) (Short Paper)
- Cybersecurity Workforce Development: A Peer Mentoring Approach (Vandana Janeja, Carolyn Seaman, Kerrie Kephart, Aryya Gangopadhyay and Amy Everhart) (Short Paper)
- Design and Implementation of a Multi-Facet Hierarchical Cybersecurity Education Framework (Wei Wei, Arti Mann, Kewe Sha and Andrew Yang) (Short Paper)

**B**

**Papers: Data Science and Analytics**
- Bayesian Nonparametric Relational Learning with the Broken Tree Process (Justin Sahs)
- Predictability of NetFlow Data (Marina Evangelou and Niall Adams)
- Shodan Visualized (Vincent Ercolani, Mark Patton and Hsinchun Chen) (Short Paper)
- Activity-Based Temporal Anomaly Detection in Enterprise-Cybersecurity (Mark Whitehouse, Marina Evangelou and Niall Adams) (Short Paper)

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#### 12:30-1:30

**LUNCH**

#### Session 4: 1:30-2:30

**A**

**Panel - Cybersecurity Challenges and Opportunities for Industry**
- Lisa Daniels, Managing Partner, KPMG LLP. “The Consumer Loss Barometer”
- Jason Rader, National Director for IT Security, Datalink.

**B**

**Papers: Cybersecurity Education & Workforce**
- Smart Augmented-Reality Glasses in Cybersecurity and Forensic Education (Nikitha Kommera, Faisal Kaleem and Syed Mubashir Shah Harooni) (Short Paper)
- CySCom: CyberSecurity COMics (Brian Ledbetter, Zach Wallace, Adam Harms and Ambareen Siraj) (Short Paper)
- Challenges, Lessons Learned and Results from Establishing a CyberCorps: Scholarship for Service Program Targeting Undergraduate Students (Shiva Azadegan, Josh Dehlinger, Sidd Kaza, Blair Taylor and Wei Yu) (Short Paper)

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#### 2:30-4:00

**Panel - Women in Cybersecurity: A Day in the Life**
Each woman will address “a day in her life” from a cybersecurity professional perspective as well as a personal one.
- Ann Cox, DHS - Agency
- Lisa Daniels - KPMG - Industry
- Edna Reid - James Madison University - Academia+
- Ambareen Siraj, Tenn. Tech. - Academia
- Tina Slankas - City of Phoenix - Local gov.

**Panel - Cybersecurity Deception: Toward the Development of a Theory That Focuses on the Cognitive Process**
- Tom Holt, Criminology, MSU
- Julian Rrushi, Western Washington University, Computer Science
- Judee Burgoon, UA Professor of Communication, Ctr. for Management of Info.
### Thursday, 9/29, cont.

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<tr>
<td>Intruder Detector: A Continuous Authentication Tool to Model User Behavior (Leslie Milton and Atif Memon) (Short Paper)</td>
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<td>A Non-Parametric Learning Approach to Identify Online Human Trafficking (Hamidreza Alvari, Paulo Shakarian and J.E. Kelly Snyder)</td>
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<td>An Immune inspired Unsupervised Intrusion Detection System for Detection of Novel Attacks (Manjari Jha and Raj Acharya) (Short Paper)</td>
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<td>Discovering Structure in Islamist Postings Using Systemic Nets (Nasser Alsadhan and David Skillcorn)</td>
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<td>Automatic Clustering of Malware Variants (Rima Asmar and Kirk D Sayre) (Short Paper)</td>
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| 5:30-6:00 | Board Mountain View Buses and Travel to Tanque Verde Guest Ranch |
| 6:00-8:15 | All Conference Poster Session, Reception, and Awards Ceremony |
| 8:15-8:45 | Return to Hotel and Campus |

### Friday, September 30, 2016

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<td>• Ahmed Abbasi, Univ. of Virginia, IT/School of Commerce</td>
<td>Social Media Account Linkage Using User-Generated Geo-location Data (Xiaohui Han, Lianhai Wang, Lijuan Xu and Shuihui Zhang)</td>
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<td>• Resha Shenandoah, Univ. of Arizona, School of Information</td>
<td>Chinese Underground Market Jargon Analysis Based on Unsupervised Learning (Kangzhi Zhao, Yong Zhang, Chunxiao Xing, Weifeng Li and Hsinchun Chen)</td>
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<td>• Paul Hu, Univ. of Utah, Operations &amp; Info. Systems</td>
<td>Activity Monitoring Using Topic Models (Boshra Nabaei and Martin Ester)</td>
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| 9:50-10:10 | BREAK |

| Plenary Panel |

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<td>• Richard Frank, Simon Fraser University, Computational Criminology. “Illicit Payments for Illicit Goods – A study of Russian Online Drug Marketplaces”</td>
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<td>• Paulo Shakarian, School of Computing, Informatics &amp; Decision Syst Engin, ASU. “Reducing Risk in the Face of Adaptive Threats in Cyberspace”</td>
<td>• Beichuan Zhang, Univ. of Arizona, Computer Science, “Internet Routing Security”</td>
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<td>• Latifur Khan, Univ. of Texas at Dallas, Computer Science, “Big Data Analytics in Cyber Security”</td>
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| 12:00 | Conference Close and Grab and Go Lunch |