March 16, 2015 (Monday)

8:15am - 8:45am: Breakfast

9:00am - 9:10am: Welcoming Remarks
Zach Tudor, Conference General Chair, SRI International, Arlington, Virginia, USA

9:10am - 10:10am: Keynote Lecture
Transforming Infrastructure Development: From Protection to Resilience
Ruth David, President and CEO, Analytic Services (ANSER), Falls Church, Virginia, USA; and
Former Deputy Director, Science and Technology, Central Intelligence Agency, Langley, Virginia, USA

10:10am – 10:30am: Break

10:30am - 12:00pm: Session 1: Themes and Issues
Chair: Zach Tudor, SRI International, Arlington, Virginia, USA

A Model for Characterizing Cyberpower
Adrian Venables, Siraj Ahmed Shaikh and James Shuttleworth
Coventry University, Coventry, United Kingdom

Cyber Attacks and Political Events: The Case of Occupy Central
Kam-Pui Chow, Ken Yau and Frankie Li
University of Hong Kong, Hong Kong, China

Information Sharing Decomposed
Eric Luijif
Netherlands Organisation for Applied Scientific Research (TNO), The Hague, The Netherlands

12:00pm - 1:00pm: Lunch

1:15pm - 2:15pm: Keynote Lecture
Bolstering Cyber Defenses in an Age of Convergence, Speed and Chaos
Chris Inglis, Robert and Mary M. Looker Distinguished Chair of Cyber Operations, U.S. Naval Academy, Annapolis, Maryland, USA; and Former Deputy Director, National Security Agency, Fort Meade, Maryland, USA

2:15pm - 3:15pm: Session 2: Industrial Control Systems I
Chair: Eric Luijif, Netherlands Organisation for Applied Scientific Research (TNO), The Hague, The Netherlands

Control Variable Classification, Modeling and Anomaly Detection in Modbus/TCP SCADA Networks
Noam Erez and Avishai Wool
Tel Aviv University, Tel Aviv, Israel

Locality-Based Extraction of Flow Whitelists in SCADA Networks
Seungoh Choi, Yeop Chang, Jeong-Han Yun and Woonyon Kim
The Attached Institute of ETRI, Daejeon, South Korea
March 16, 2015 (Monday) (continued)

3:15pm - 3:45pm:  Break

3:45pm - 5:15pm:  Session 3: Risk Assessment and Mitigation
Chair: Stig Johnsen, SINTEF/Norwegian University of Science and Technology, Trondheim, Norway

Using Centrality Measures in Critical Infrastructure Dependency Graphs for Efficient Risk Mitigation
George Stergiopoulos, Marianthi Theocharidou, Panayiotis Kotzanikolaou and Dimitris Gritzalis
Athens University of Economics and Business, Athens, Greece
European Commission Joint Research Center, Ispra, Italy
University of Piraeus, Piraeus, Greece

A System Dynamics Approach for Assessing the Impact of Cyber Attacks on Critical Infrastructures
Bela Genge, Istvan Kiss and Piroska Haller
Petru Maior University, Tirgu Mures, Romania

Assessing the Risk of Cyber Threats Using the CISIA Pro Simulator
Chiara Foglietta, Cosimo Palazzo, Stefano Panzieri and Riccardo Santini
University of Rome TRE, Rome, Italy

5:15pm - 5:45pm:  IFIP WG 11.10 Business Meeting

5:45pm - 8:00pm:  Conference Reception
March 17, 2015 (Tuesday)

8:15am - 8:45am:  Breakfast

8:45am - 10:15am:  Session 4: Cyber-Physical Systems I
Chair: Kam-Pui Chow, University of Hong Kong, Hong Kong, China

A Multi-Layered Kill-Chain-Based Security Analysis Framework for Cyber-Physical Systems
Adam Hahn, Roshan Thomas, Ivan Lozano and Alvaro Cardenas
Washington State University, Pullman, Washington, USA
The MITRE Corporation, McLean, Virginia, USA
Alvaro Cardenas, University of Texas at Dallas, Richardson, Texas, USA

Using Information Flow Methods to Secure Cyber-Physical Systems
Gerry Howser, Kalamazoo College, Kalamazoo, Michigan, USA

Run-Time Integrity for Cyber-Physical Infrastructures
Jonathan Jenkins and Mike Burmester
Florida State University, Tallahassee, Florida, USA

10:15am - 10:30am:  Break

10:30am - 12:00pm:  Session 5: Industrial Control Systems II
Chair: Alvaro Cardenas, University of Texas at Dallas, Richardson, Texas, USA

Modeling Message Sequences for Intrusion Detection in Industrial Control Systems
Marco Caselli, Emmanuele Zambon, Jonathan Petit and Frank Kargl
University of Twente, Enschede, The Netherlands
SecurityMatters, Enschede, The Netherlands
University College Cork, Cork, Ireland
University of Ulm, Ulm, Germany

Constructing Cost-Effective and Targetable Industrial Control System Honeypots for Production Networks
Michael Winn, Mason Rice, Stephen Dunlap and Juan Lopez
Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio, USA

A Symbolic Honeynet Framework for SCADA System Threat Intelligence
Owen Redwood, Joshua Lawrence and Mike Burmester
Florida State University, Tallahassee, Florida, USA

12:00pm - 1:00pm:  Lunch

1:15pm - 2:15pm:  Session 6: Infrastructure Protection I
Chair: Sebastian Hess, NATO Communications and Information Agency, Brussels, Belgium

A Cybersecurity Architecture for Secure Microgrid Deployments
Apurva Mohan, Gregory Brainard, Himanshu Khuranai and Scott Fischer
Honeywell Research Laboratories, Golden Valley, Minnesota, USA
Honeywell Defense and Space, Albuquerque, New Mexico, USA

Evaluation of ITU-T G.9959 Wireless Systems in the Critical Infrastructure
Christopher Badenhop, Jonathan Fuller, Joseph Hall, Benjamin Ramsey and Mason Rice
Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio, USA

2:15pm - 2:45pm:  Break

2:45pm - 3:45pm:  Session 7: Industrial Control Systems III
Chair: Avishai Wool, Tel Aviv University, Tel Aviv, Israel

Enhancing a Virtual SCADA Cyber Security Laboratory Using Simulink
Zach Thornton and Thomas Morris
Mississippi State University, Mississippi State, Mississippi, USA
March 17, 2015 (Tuesday) (continued)

How Industrial Control System Security Training is Falling Short
Jonathan Butts and Michael Glover
QED Secure Solutions, Coppell, Texas, USA
Fox Three, McKinney, Texas, USA

3:45pm - 4:00pm: Break

4:00pm - 5:30pm: Panel: Critical Infrastructure Protection Education and Training
Panel Chair: Richard George, Johns Hopkins Applied Physics Laboratory, Laurel, Maryland, USA
Panelists: Christie Jones, George Mason University, Arlington, Virginia, USA
Mark Troutman, George Mason University, Arlington, Virginia, USA
Alan Paller, SANS Institute, Bethesda, Maryland, USA (Invited)
Eric Luijff, Netherlands Organisation for Applied Scientific Research (TNO), The Hague, The Netherlands
Diana Burley, George Washington University, Washington, DC, USA
March 18, 2015 (Wednesday)

8:15am - 8:45am:  Breakfast

8:45am - 9:45am:  Session 8: Cyber-Physical Systems II
Chair: Thomas Morris, Mississippi State University, Mississippi State, Mississippi, USA

*Industrial Control System Scenario Fingerprint and Abnormality Detection*
Yong Peng, Chong Xiang, Haihui Gao, Dongqing Chen and Wang Ren
China Information Technology Security Evaluation Center, Beijing, China

*Security Challenges for Additive Layer Manufacturing with Metallic Alloys*
Mark Yampolskiy, Lena Schuetzle, Uday Vaidya and Alec Yasinsac
University of South Alabama, Mobile, Alabama, USA
Technical University of Munich, Munich, Germany
University of Alabama at Birmingham, Birmingham, Alabama, USA

9:45am - 10:45am:  Session 9: Infrastructure Protection II
Chair: Marianthi Theoharidou, European Commission Joint Research Center, Ispra, Italy

*A Methodology for Developing Microgrid Cybersecurity Requirements and Mechanisms*
Apurva Mohan and Himanshu Khurana
Honeywell Research Laboratories, Golden Valley, Minnesota, USA
Honeywell Building Solutions, Golden Valley, Minnesota, USA

*Situational Awareness in Critical Infrastructures Using Evidence Discounting*
Antonio Di Pietro, Andrea Gasparri and Stefano Panzieri
Italian National Agency for New Technologies, Energy and Sustainable Economic Development (ENEA), Rome, Italy
University of Rome TRE, Rome, Italy

10:45am - 11:00am:  Break

11:00am - 12:00pm:  Session 10: Emergency Response
Chair: Mason Rice, Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio, USA

*Emergency Response in Multiple-Fire Incidents: Allocation and Scheduling of Firefighting Units*
Khaled Alutaibi, Abdullah Alsubaie and Jose Marti
University of British Columbia, Vancouver, Canada
Ministry of Interior – Kingdom of Saudi Arabia, Riyadh, Saudi Arabia
King Abdulaziz City for Science and Technology, Riyadh, Saudi Arabia

*Regional Response to Large Scale Emergency Events: Building on Historical Data*
Carol Romanowski, Rajendra Raj, Jennifer Schneider, Sumita Mishra, Vinay Shivshankar, Srikant Ayengar and Fernando Cueva
Rochester Institute of Technology, Rochester, New York, USA

12:00pm - 1:00pm:  Lunch