Tenth Annual IFIP WG 11.10 International Conference on Critical Infrastructure Protection

SRI International
1100 Wilson Boulevard, Suite 2800 (28th Floor)
Arlington, Virginia 22209
March 14-16, 2016

March 14, 2016 (Monday)

8:15am - 8:50am: Breakfast

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

9:10am - 10:10am: Session 1: Themes and Issues
Chair: Zach Tudor, SRI International, Arlington, Virginia, USA

Cyberspace and Organizational Structure: An Analysis of the Critical Infrastructure Environment
Michael Quigg, Juan Lopez, Mason Rice, Michael Grimaila and Benjamin Ramsey
Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio, USA

Critical Infrastructure Asset Identification: Policies, Methodologies and Gap Analysis
Christine Izuakor and Richard White
University of Colorado at Colorado Springs, Colorado Springs, Colorado, USA

10:10am - 10:30am: Break

10:30am - 12:00pm: Session 2: Control Systems Security I
Chair: Tor Grøtan, SINTEF Technology and Society, Trondheim, Norway

Lightweight Journaling for SCADA Systems through Event Correlation
Antoine Lemay, Alireza Shadigan and Jose Fernandez
Ecole Polytechnique de Montreal, Montreal, Canada

Timing-Based Side Channel Analysis for Anomaly Detection in Industrial Control Environments
Stephen Dunlap, Jonathan Butts, Juan Lopez, Mason Rice and Barry Mullins
Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio, USA

Division of Responsibilities for Information and Communications Technology Safety and Security between SCADA System Owners and Vendors
Ruth Østgaard Skotnes
International Research Institute of Stavanger, Stavanger, Norway

12:00pm - 1:00pm: Lunch

1:10pm - 2:10pm: Keynote Lecture
Achieving a Secure and Resilient Cyber Ecosystem: A Way Ahead
Peter Fonash, Chief Technology Officer, Cybersecurity and Communications, U.S. Department of Homeland Security, Washington, DC

2:15pm - 3:15pm: Session 3: Protection Frameworks and Tools
Chair: Kam-Pui Chow, University of Hong Kong, Hong Kong, China

A Framework for Designing Resilient Intrusion Detection Systems for Critical Infrastructures
Bela Genge, Piroska Haller and Istvan Kiss
Petru Maior University of Tirgu Mures, Mures, Romania

Critical Infrastructure Protection Tools: Classification and Comparison
George Stergiopoulos, Efstratios Vasilellis, Georgia Lykou, Panos Kotzanikolaou and Dimitris Gritzalis
Athens University of Economics and Business, Athens, Greece
University of Piraeus, Piraeus, Greece

March 14, 2016 (Monday) (continued)

3:15pm - 3:45pm: Break

3:45pm - 4:45pm: Session 4: Incident Response
Chair: Richard White, University of Colorado at Colorado Springs, Colorado Springs, Colorado, USA

Evaluating the Readiness of Cyber First Responders for Critical Infrastructure Protection
Jungsang Yoon, Stephen Dunlap, Jonathan Butts, Mason Rice and Benjamin Ramsey
Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio, USA
QED Secure Solutions, Coppell, Texas, USA

The Community as Responder: A Multidisciplinary Predictive Model for Managing Critical Infrastructure Disruptions
Carol Romanowski, Rajendra Raj, Jennifer Schneider, Sumita Mishra, Bernard Brooks, Jessica Pardee, Bharat Bhole and Nikolaus Robalino
Rochester Institute of Technology, Rochester, New York, USA

4:45pm - 5:30pm: IFIP WG 11.10 Business Meeting

5:30pm - 7:30pm: Conference Reception

March 15, 2016 (Tuesday)

8:15am - 8:50am: Breakfast

9:00am - 10:30am: Session 5: Vulnerabilities, Threats and Resilience in the Oil and Gas Sector
Chair: Sujeet Shenoi, University of Tulsa, Tulsa, Oklahoma, USA

Digital Vulnerabilities of Critical Infrastructures
Janne Hagen and Eirik Albrechtsen
Norwegian Defense Research Establishment, Kjeller, Norway
Norwegian University of Science and Technology, Trondheim, Norway

Hidden, Emergent and Dynamic Threats in the Oil and Gas Sector
Stig Johnsen
SINTEF Technology and Society, Trondheim, Norway
Norwegian University of Science and Technology, Trondheim, Norway

Towards a Resilient Critical Information and Communications Technology Infrastructure
Tor Grøtan
SINTEF Technology and Society, Trondheim, Norway

10:30am - 11:00am: Break

11:00am - 12:00pm: Session 6: Modeling and Vulnerability Analysis
Chair: Bela Genge, Petru Maior University of Tirgu Mures, Mures, Romania

Improving Decision Support Systems with Interdependency Modeling
Stefano Panzieri, Chiara Foglietta, Cosimo Palazzo and Dario Masucci
University of Roma TRE, Rome, Italy

Multi-Graph Critical Infrastucture Model and Vulnerability Analysis
Bernhard Schneidhofer and Stephen Wolthusen
Royal Holloway – University of London, Egham, United Kingdom
Norwegian University of Science and Technology, Trondheim, Norway

12:00pm - 1:00pm: Lunch

1:10pm - 2:10pm: Keynote Lecture
Automating Defenses – Don't Send a Human to do a Machine's Job
Richard Schaeffer, Riverbank Associates, Severna Park, Maryland, USA
Former Director, Information Assurance Directorate, National Security Agency, Fort Meade, Maryland, USA

2:15pm - 3:15pm: Session 7: Risk Analysis I
Chair: Stephen Wolthusen, Royal Holloway – University of London, Egham, United Kingdom

Towards a Comparable Cross-Sector Risk Analysis: RAMCAP Revisited
Richard White, Aaron Burkhart, Randy George, Terrance Boult and Edward Chow
University of Colorado at Colorado Springs, Colorado Springs, Colorado, USA

Towards a Comparable Cross-Sector Risk Analysis: From RAMCAP to LIRA
Richard White, Aaron Burkhart, Terrance Boult and Edward Chow
University of Colorado at Colorado Springs, Colorado Springs, Colorado, USA

3:15pm - 3:45pm: Break

3:45pm - 4:15pm: Session 8: Risk Analysis II
Chair: Stig Johnsen, SINTEF Technology and Society, Trondheim, Norway

A Framework for Incorporating Insurance into Critical Infrastructure Cyber Risk Strategies
Derek Young, Juan Lopez, Mason Rice, Benjamin Ramsey and Robert McTasney
Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio, USA

4:15pm - 5:00pm: Panel: Building Capacity in Critical Infrastructure Protection
Participants: Christie Jones and Mark Troutman, George Mason University, Arlington, Virginia, USA

March 16, 2016 (Wednesday)

8:15am - 8:45am: Breakfast

8:45am - 10:15am: Session 9: Control Systems Security II
Chair: Richard George, Johns Hopkins Applied Physics Laboratory, Laurel, Maryland, USA

Soft Industrial Control System Testbeds: A Simulated Physics and Embedded Virtualization Integration Methodology
Owen Redwood, Jason Reynolds and Mike Burmester
Florida State University, Tallahassee, Florida, USA

Practical Application Layer Emulation in Industrial Control System Honeypots
Kyle Girtz, Barry Mullins, Mason Rice and Juan Lopez
Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio, USA

Forensic Analysis of a Siemens Programmable Logic Controller
Raymond Chan and Kam-Pui Chow
University of Hong Kong, Hong Kong, China

10:15am - 10:30am: Break

10:30am - 11:30am: Session 10: Infrastructure Protection
Chair: Mason Rice, Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio, USA

Legal Aspects of Protecting Intellectual Property in Additive Manufacturing
Adam Brown, Mark Yampolskiy, Jacob Gatlin and Todd Andel
University of South Alabama, Mobile, Alabama, USA

A Multi-Layered Framework for Securing ADS-B
Thabet Kacem, Duminda Wijesekera, Paulo Costa, Marcio Conte and Alexandre Barreto
George Mason University, Fairfax, Virginia, USA
Instituto de Controle do Espaco Aereo, Sao Jose dos Campos, Brazil

11:30am - 12:30pm: Lunch