

**Fourth Annual IFIP WG 11.10 International Conference  
on Critical Infrastructure Protection  
155 Marshall Hall  
National Defense University  
Fort McNair, Washington, DC  
March 15-17, 2010**

**March 15, 2010 (Monday)**

**7:30am: Shuttle leaves from Mandarin Oriental Hotel to Marshall Hall, Fort McNair  
Government-issued photo ID is required to enter Fort McNair**

**8:00am - 8:50am: Breakfast (Marshall Hall)**

**9:00am - 9:10am: Welcoming Remarks**

Robert Miller, Conference General Chair, National Defense University, Washington, DC, USA

Robert Childs, Sr. Director, Information Resources Management College, National Defense University, Washington, DC, USA

**9:10am - 10:00am: Keynote Lecture**

*A Tale of Two Departments – How the Departments of State and Commerce Responded to the Same Nation-State Cyber Attack*

Alan Paller, Director of Research, SANS Institute, Bethesda, Maryland, USA

**10:00am - 10:30am: Break (South Atrium, Lincoln Hall)**

**10:30am - 12:00pm: Session 1: Themes and Issues**

Chair: Tyler Moore, Harvard University, Cambridge, Massachusetts, USA

*Security – At What Cost?*

Neil Robinson and Dimitris Potoglou

RAND Europe, Cambridge, United Kingdom

Delft University of Technology, Delft, The Netherlands

*Governing Foreign Investment and National Security in an Era of Increased Threats to Critical Information Infrastructures*

Dan Assaf

University of Toronto, Toronto, Canada

*An Analysis of the Legality of Government-Mandated Computer Inoculations*

Mason Rice, Jonathan Butts, Robert Miller and Sujee Sheno

University of Tulsa, Tulsa, Oklahoma, USA

National Defense University, Washington, DC, USA

**12:00pm - 1:30pm: Lunch (South Atrium, Lincoln Hall)**

**1:30pm - 3:15pm: Session 2: Control Systems Security**

Chair: Stig Johnsen, SINTEF/Norwegian University of Science and Technology, Trondheim, Norway

*Long-Lived Authentication Protocols for Critical Infrastructure Process Control Systems*

Rasika Chakravarthy, Carl Hauser and Dave Bakken

Washington State University, Pullman, Washington, USA

*A Distributed Critical State Detection System for Industrial Protocols*

Igor Nai Fovino, Marcelo Masera, Michele Guglielmi, Andrea Carcano and Alberto Trombetta

Joint Research Centre of the European Commission, Ispra, Italy

Insubria University, Varese, Italy

*Reducing the Latency of High Integrity Bump-in-the-Wire Devices for Legacy SCADA Systems*

Rouslan Solomakhin, Patrick Tsang and Sean Smith

Dartmouth College, Hanover, New Hampshire, USA

*Modeling Control System Failures and Attacks – The Waterloo Campaign to Oil Pipelines*

Jonathan Butts, Mason Rice and Sujee Sheno

University of Tulsa, Tulsa, Oklahoma, USA

## **March 15, 2010 (Monday) (continued)**

**3:15pm - 3:45pm: Break**

### **3:45pm - 5:00pm: Session 3: Infrastructure Security**

Chair: Leon Strous, De Nederlandsche Bank, Amsterdam, The Netherlands

*Protecting the Food Supply Chain from Criminal Manipulation and Terrorist Attack*

Maria Jesus Alvarez, Ainara Alvaraz, Maria Carla De Maggio, Ainhoa Oses, Marcella Trombetta and Roberto Setola  
University of Navarra, Navarra, Spain

University Campus Biomedica, Rome, Italy

*Breakdown Effects Caused by Information Systems – Economic and Social Impact*

Fabio Bisogni and Simona Cavallini

Formit Foundation, Rome, Italy

*U.S. Federal Regulatory Oversight of Rail Transportation of Toxic by Inhalation Material*

Mark Hartong, Rajni Goel and Duminda Wijesekera

Federal Railroad Administration, U.S. Department of Transportation, Washington, DC, USA

Howard University, Washington, DC, USA

George Mason University, Fairfax, Virginia, USA

**5:00pm - 6:00pm: Tour of Fort McNair**

**6:00pm - 8:30pm: Conference Dinner (South Atrium, Lincoln Hall)**

**Shuttle leaves for Mandarin Oriental Hotel immediately after dinner**

**March 16, 2010 (Tuesday)**

**7:30am: Shuttle leaves from Mandarin Oriental Hotel to Marshall Hall, Fort McNair, Washington, DC**  
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**8:00am - 8:50am: Breakfast (Marshall Hall)**

**9:00am - 10:00am: Keynote Lecture**

*Cyber Security, Crime, Espionage, War or Silo... The Critical Infrastructure Reality*

Mischel Kwon, Vice President, Public Sector Security Solutions, RSA, Bedford, Massachusetts, USA

Former Director, U.S. CERT, Department of Homeland Security, Washington, DC, USA

**10:00am - 10:20am: Break (South Atrium, Lincoln Hall)**

**10:20am - 11:45am: Session 4: Risk Analysis and Management**

Chair: Scott Dynes, Institute for Information Infrastructure Protection, Dartmouth College, Hanover, New Hampshire, USA

*Coupled Petri Nets for Computer Network Risk Analysis*

Matthew Henry, Ryan Layer and David Zaret

Johns Hopkins University Applied Physics Laboratory, Laurel, Maryland, USA

*Resilience in Risk Analysis and Risk Assessment*

Stig Johnsen

SINTEF/Norwegian University of Science and Technology, Trondheim, Norway

*The SEMA Referential Framework: Avoiding Ambiguities in Security and Safety Issues*

Ludovic Piètre-Cambacédès and Claude Chaudet

Electricité de France, Clamart, France

Institut Telecom, Paris, France

**11:45am - 1:00pm: Lunch (South Atrium, Lincoln Hall)**

**1:00pm - 2:00pm: Session 5: Intrusion and Anomaly Detection**

Chair: Sebastian Hess, German Air Force, NATO AWACS, Geilenkirchen, Germany

*Distributed IP Watch List Generation for Intrusion Detection in the Electrical Smart Grid*

Ray Klump and Matt Kwiatkowski

University of Illinois at Urbana-Champaign, Urbana, Illinois, USA

Lewis University, Romeoville, Illinois, USA

Argonne National Laboratory, Argonne, Illinois, USA

*Detecting SCADA Sensor Signal Manipulations in Nonlinear Chemical Engineering Processes*

Thomas McEvoy and Stephen Wolthusen

Royal Holloway, University of London, London, United Kingdom

Gjøvik University College, Gjøvik, Norway

**2:00pm - 3:00pm: Keynote Lecture**

*Keynote Lecture*

Lieutenant General Keith Alexander, Director, National Security Agency; Chief, Central Security Service,

Fort Meade, Maryland, USA

**3:00pm - 3:20pm: Break**

**3:20pm - 4:10pm: Session 6: Tools and Techniques**

Chair: Roberto Setola, University Campus Biomedica, Rome, Italy

*An Information Sharing Tool for Preventing Cascading Failure Effects in Large, Complex Critical Infrastructures*

Claudio Balducelli, Roberto Clemente, Antonio Di Pietro and Giordano Vicoli

Italian National Agency for New Technologies, Energy and Sustainable Economic Development (ENEA), Rome, Italy

Telecom Italia, Rome, Italy

*An Advanced Visual Analytic Decision Support Tool for Electricity Infrastructure Operations*

Yousu Chen, Zhenyu Huang, Pak Chung Wong, Patrick Mackey, Craig Allwardt, Jian Ma and Frank Greitzer

Pacific Northwest National Laboratory, Richland, Washington, USA

## **March 16, 2010 (Tuesday) (continued)**

### **4:10pm – 5:00pm: Session 7: Interdependency Modeling and Propagation**

Chair: Stephen Wolthusen, Royal Holloway, University of London, London, United Kingdom

*Extended Inoperability Input-Output Model – An Agent-Based Perspective*

Gabriele Oliva, Stefano Panzieri and Roberto Setola

University of Rome III, Rome, Italy

University Campus Biomedica, Rome, Italy

*Modeling of Critical Infrastructure Interdependencies and Inoperability Propagation Using Bayesian Networks*

Zaw Zaw Aung and Kenji Watanabe

Nagaoka University of Technology, Niigata, Japan

**Shuttle leaves for Mandarin Oriental Hotel immediately after Session 7**

**March 17, 2010 (Wednesday)**

**7:30am: Shuttle leaves from Mandarin Oriental Hotel to Marshall Hall, Fort McNair, Washington, DC  
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**8:00am - 8:50am: Breakfast (Marshall Hall)**

**9:00am - 10:30am: Session 8: Security Assessment**

Chair: Igor Nai Fovino, Joint Research Centre of the European Commission, Ispra, Italy; Insubria University, Varese, Italy

*A Manufacturer-Specific Security Assessment Methodology for Critical Infrastructure Components*

Thomas Brandstetter, Konstantin Knorr and Ute Rosenbaum

Siemens AG, Munich, Germany

University of Applied Sciences, Trier, Germany

*Security Analysis of the MPLS Label Distribution Protocol*

Daniel Guernsey, Aaron Engel, Jonathan Butts and Sujeet Sheno

University of Tulsa, Tulsa, Oklahoma, USA

*Distributed Interactive Visualization of Interdependencies and Vulnerabilities in Constrained Environments*

Nils Lunden, Robin Sveen, Hans Lund, Nils Svendsen and Stephen Wolthusen

Gjøvik University College, Gjøvik, Norway

Royal Holloway, University of London, London, United Kingdom

**10:30am - 10:45am: Break (South Atrium, Lincoln Hall)**

**10:45am - 11:45am: Session 9: Themes and Issues**

Chair: Neil Robinson, RAND Europe, Cambridge, United Kingdom

*The Need for Critical Information Infrastructure Protection in the Developing World*

Ian Ellefsen and Sebastiaan von Solms

University of Johannesburg, Johannesburg, South Africa

*Applying Public Health Strategies to the Protection of Cyberspace*

Mason Rice, Jonathan Butts, Robert Miller and Sujeet Sheno

University of Tulsa, Tulsa, Oklahoma, USA

National Defense University, Washington, DC, USA

**11:45am - 12:30pm: Lunch (South Atrium, Lincoln Hall)**

**Shuttle leaves for Mandarin Oriental Hotel immediately after lunch**