

**Sixth Annual IFIP WG 11.10 International Conference  
on Critical Infrastructure Protection  
Marshall Hall  
National Defense University  
Fort McNair, Washington, DC  
March 19-21, 2012**

**A government-issued photo ID is required to enter Fort McNair**

**March 19, 2012 (Monday)**

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

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

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

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

*Keynote Lecture*

Lt. General James Kowalski, Commander, Air Force Global Strike Command, Barksdale Air Force Base, Louisiana, USA

**10:10am - 10:30am: Break (Marshall Hall Atrium)**

**10:30am - 12:00pm: Session 1: Infrastructure Security**

Chair: Robert Miller, National Defense University, Washington, DC, USA

*Understanding the Risk to the Internet Infrastructure*

Ginger Armbruster, Barbara Endicott-Popovsky and Jan Whittington  
University of Washington, Seattle, Washington, USA

*On the Classification of Telecoms as Critical Infrastructures*

Fabio Bisogni, Simona Cavallini, Luisa Franchina and Giovanni Saja  
FORMIT Foundation, Rome, Italy

Secretariat for Critical Infrastructures, Presidency of the Council of Ministers, Rome, Italy  
Telecom Italia, Milan, Italy

*Critical Infrastructure Protection in the Dutch Financial Sector*

Matthijs van Oers, Leon Strous and Ron Berndsen  
De Nederlandsche Bank, Amsterdam, The Netherlands  
Tilburg University, Tilburg, The Netherlands

**12:00pm - 1:15pm: Lunch (Lincoln Hall Cafeteria)**

**1:15pm - 3:15pm: Session 2: Cyber-Physical Systems Security**

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

*Analysis of the Requirements for Critical Control Systems*

Cristina Alcaraz and Javier Lopez  
University of Malaga, Malaga, Spain

*Modeling Security in Cyber-Physical Systems*

Michael Burmester, Emmanouil Magkos and Vassilis Chrissikopoulos  
Florida State University, Tallahassee, Florida, USA  
Ionian University, Kerkyra, Greece

*Vulnerabilities and Security Models of Automobile Systems*

Gerry Howser and Bruce McMillin  
Missouri University of Science and Technology, Rolla, Missouri, USA

## **March 19, 2012 (Monday) (continued)**

### **1:15pm - 3:15pm: Session 2: Cyber-Physical Systems Security (continued)**

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

*Agent Interaction and State Determination in SCADA Systems*

Thomas McEvoy and Stephen Wolthusen

Royal Holloway, University of London, London, United Kingdom

Gjøvik University College, Gjøvik, Norway

### **3:15pm - 3:45pm: Break (Marshall Hall Atrium)**

### **3:45pm - 4:45pm: Session 3: Infrastructure Security**

Chair: Barbara Endicott-Popovsky, University of Washington, Seattle, Washington, USA

*Emergency Messages in the Commercial Mobile Alert System*

Paul Ngo and Duminda Wijesekera

George Mason University, Fairfax, Virginia, USA

*Implementing a National Critical Information Infrastructure Protection Structure in Developing Countries*

Ian Ellefsen and Sebastian von Solms

University of Johannesburg, Johannesburg, South Africa

### **5:00pm - 5:45pm: Tour of Fort McNair**

### **5:45pm - 8:15pm: Conference Dinner (Lincoln Hall South Atrium)**

## **March 20, 2012 (Tuesday)**

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

### **8:50am - 10:10am: Session 4: Infrastructure Security**

Chair: Jonathan Butts, Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio, USA

#### *Measuring Name System Health*

Emiliano Casalicchio, Marco Caselli, Alessio Coletta, Salvatore Di Blasi and Igor Nai Fovino

University of Rome Tor Vergata, Rome, Italy

Global Cyber Security Center, Rome, Italy

#### *Enabling the Experimental Exploration of Operating Procedures in Critical Infrastructures*

Christos Siaterlis, Bela Genge, Marc Hohenadel and Marco Del Pra

Joint Research Centre of the European Commission, Ispra, Italy

Polymedia SPA, Milan, Italy

#### *Sparse Space-Time Specification of the Generalized Railroad Crossing*

Michael Gosnell and Bruce McMillin

Missouri University of Science and Technology, Rolla, Missouri, USA

### **10:10am - 11:00am: Keynote Lecture**

#### *Keynote Lecture*

Robert Joyce, Deputy Director, Information Assurance Directorate, National Security Agency, Fort Meade, Maryland, USA

### **11:00am - 11:20am: Break (Marshall Hall Atrium)**

### **11:20am - 12:00pm: Keynote Lecture**

#### *How to Declare War and Win!*

Bobby Rios, Lead Security Engineer, Google, Mountain View, California, USA

### **12:00pm - 1:15pm: Lunch (Lincoln Hall Cafeteria)**

### **1:15pm - 2:00pm: Keynote Lecture**

#### *Why I am Going to Target Your Infrastructure*

Daniel Kuehl, National Defense University, Washington, DC, USA

### **2:00pm - 3:00pm: Session 5: Security Methodologies**

Chair: Bruce McMillin, Missouri University of Science and Technology, Rolla, Missouri, USA

#### *Integrity-Organization Based Access Control*

Abdeljebar Aneziane El Hassani, Anas Abou El Kalam and Abdellah Ait Ouahman

Cadi Ayyad University, Marrakesh, Morocco

Toulouse University, Toulouse, France

#### *Networked Evidence Theory Framework for Critical Infrastructure Modeling*

Chiara Foglietta and Stefano Panzieri

University of Rome Tre, Rome, Italy

### **3:00pm - 3:30pm: Break**

### **3:30pm - 5:00pm: Session 6: Electrical Power Grid Security**

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

#### *Evaluation of the Vulnerability of Phasor Measurement Units to GPS Spoofing*

Daniel Shepard, Todd Humphreys and Aaron Fansler

University of Texas at Austin, Austin, Texas, USA

Northrop Grumman, Parker, Colorado, USA

#### *Effects of Time Delays in the Electrical Power Grid*

Mohammad Hasan Ali and Dipankar Dasgupta

University of Memphis, Memphis, Tennessee, USA

#### *Privacy-Preserving Power Usage Control in the Smart Grid*

Hu Chun, Wei Jiang and Bruce McMillin

University of Science and Technology, Rolla, Missouri, USA

## **March 21, 2012 (Wednesday)**

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

### **9:00am - 10:30am: Session 7: Control Systems Security**

Chair: Igor Nai Fovino, Global Cyber Security Center, Rome, Italy

*Reverse Engineering Industrial Control System Devices*

John Mulder, Moses Schwartz, Michael Berg, Jonathan Van Houten, Mario Urrea and Alex Pease  
Sandia National Laboratories, Albuquerque, New Mexico, USA

*Radio-Frequency-Based Anomaly Detection for Programmable Logic Controllers*

Samuel Stone and Michael Temple

Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio, USA

*Checking Access Control and Authentication Requirements for SCADA Field Devices Using Bloom Filters*

Jeffrey Hieb, Jacob Schreiver and James Graham

University of Louisville, Louisville, Kentucky, USA

**10:30am - 10:45am: Break (Marshall Hall Atrium)**

### **10:45am - 11:45am: Session 8: Control Systems Security**

Chair: Sujeet Sheno, University of Tulsa, Tulsa, Oklahoma, USA

*Behavioral Characterization to Quantify the Resilience of Programmable Logic Controllers against Malicious Exploits*

Henry Bushey, Juan Lopez and Jonathan Butts

Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio, USA

*A Firmware Verification Tool for Programmable Logic Controllers*

Lucille McMinn and Jonathan Butts

Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio, USA

**11:45am - 12:45pm: Lunch (Marshall Hall Atrium)**