

**Fifth Annual IFIP WG 11.10 International Conference  
on Critical Infrastructure Protection  
Filene Auditorium, Moore Hall  
Dartmouth College  
Hanover, New Hampshire  
March 23-25, 2011**

**March 23, 2011 (Wednesday)**

**7:45am: Shuttle leaves the Courtyard by Marriott Hotel for Dartmouth College**

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

**8:50am - 9:00am: Welcoming Remarks**

General Chair: Heather Drinan, I3P, Dartmouth College, Hanover, New Hampshire

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

*Human in the Loop: Remembering the User in Critical Infrastructure Protection*

Shari Lawrence Pfleeger, I3P, Dartmouth College, Hanover, New Hampshire

**10:00am - 10:20am: Break**

**10:20am - 11:45am: Session 1: Infrastructure Protection**

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

*Creating a Cyber Moving Target for Critical Infrastructure Applications*

Hamed Okhravi, Eric Robinson, Stephen Yannalfo, Peter Michaleas, Joshua Haines and Adam Comella

MIT Lincoln Laboratory, Lexington, Massachusetts

Rensselaer Polytechnic University, Troy, New York

*Reactive Defense Strategies for MPLS Service Provider Networks*

Daniel Guernsey, Mason Rice and Sujeet Sheno

University of Tulsa, Tulsa, Oklahoma

*A Web-Based System for Protecting U.S. Chemical Facilities*

E. Douglas Harris, Balaji Varadarajan and Gopal Gupta

University of Texas at Dallas, Richardson, Texas

**11:45am - 1:15pm: Lunch (Occum Commons, Goldstein Hall)**

**1:15pm - 2:15pm: Session 2: Legal Issues**

Chair: John Saunders, National Defense University, Washington, DC

*May the U.S. Government Monitor Private Critical Infrastructure Assets to Combat Foreign Cyberspace Threats?*

Mason Rice, Robert Miller and Sujeet Sheno

University of Tulsa, Tulsa, Oklahoma

National Defense University, Washington, DC

*Docket Analysis of Data Breach Litigation*

Sasha Romanosky, David Hoffman and Alessandro Acquisti

Carnegie Mellon University, Pittsburgh, Pennsylvania

Temple University, Philadelphia, Pennsylvania

**2:15pm - 3:15pm: Session 3: Control Systems Security I**

Chair: Carl Hauser, Washington State University, Pullman, Washington

*A Framework for Analyzing Cyber-Physical Attacks on Networked Industrial Control Systems*

Bela Genge, Igor Nai Fovino, Christos Siaterlis and Marcelo Masera

European Union Joint Research Center, Ispra, Italy

*Mission Assurance for Control Systems: A Compliance-Based Strategy*

Juan Lopez and Jonathan Butts

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

**March 23, 2011 (Wednesday) (continued)**

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

**3:45pm - 4:45pm : Session 4: Novel Techniques**

Chair: Richard Raines, Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio

*A Real-Time Model-Less Architecture for Detecting Malicious Insiders in a Highly Virtualized Environment*

Anyi Liu and Jim Chen

George Mason University, Fairfax, Virginia

*Using Emulation Testbeds for Operational Cybersecurity Exercises*

Christos Siaterlis, Andrez Perez Garcia and Marcelo Masera

European Union Joint Research Center, Ispra, Italy

**5:00pm - 8:30pm: Conference Dinner (Hayward Lounge, Hanover Inn)**

**Shuttle leaves for the Courtyard by Marriott Hotel right after dinner**

**March 24, 2011 (Thursday)**

**7:45am: Shuttle leaves the Courtyard by Marriott Hotel for Dartmouth College**

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

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

*Critical Infrastructure Protection*

Lieutenant General William Lord, Chief, Warfighting Integration and CIO, U.S. Air Force, The Pentagon, Washington, DC

**10:00am - 10:20am: Break**

**10:20am - 11:45am: Session 5: Information Operations and Cyber War**

Chair: Sebastian Hess, NATO Information Assurance Technical Center, SHAPE, Belgium

*A Signaling Framework to Deter Aggression in Cyberspace*

Mason Rice, Jonathan Butts and Sujeet Shenoj

University of Tulsa, Tulsa, Oklahoma

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

*Botnets as an Instrument of Warfare*

Eric Koziel and David Robinson

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

*Using Deception to Shield Cyberspace Sensors*

Mason Rice, Daniel Guernsey and Sujeet Shenoj

University of Tulsa, Tulsa, Oklahoma

**11:45am - 1:10pm: Lunch (Occum Commons, Goldstein Hall)**

**1:10am - 2:10am: Keynote Lecture**

*Exploring Attack and Defense Trade-Offs in Cyber War*

Tyler Moore, Harvard University, Cambridge, Massachusetts

**2:10pm - 3:00pm: Session 6: Control Systems Security II**

Chair: Igor Nai Fovino, European Union Joint Research Center, Ispra, Italy

*A Plant-Wide Industrial Process Control Security Problem*

Thomas McEvoy and Stephen Wolthusen

Royal Holloway – University of London, London, United Kingdom

Gjovik University College, Gjovik, Norway

*Lightweight Intrusion Detection for Resource-Constrained Embedded Control Systems*

Jason Reeves, Ashwin Ramaswamy, Sergey Bratus and Sean Smith

Dartmouth College, Hanover, New Hampshire

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

**3:20pm - 3:45pm: Session 7: Risk Assessment**

Chair: Hamed Okhravi, MIT Lincoln Laboratories, Lexington, Massachusetts

*Analyzing the Intelligence on WMD Attacks against the Critical Infrastructure*

Qi Fang, Peng Liu, John Yen and Frank Ritter

Pennsylvania State University, University Park, Pennsylvania

**3:45pm - 5:00pm: Panel: Information Sharing between Critical Infrastructure Stakeholders**

Moderator: Rajendra Raj, Rochester Institute of Technology, Rochester, New York

**5:00pm - 8:30pm: Conference Dinner (Faculty Lounge, Hopkins Center)**

**Shuttle leaves for the Courtyard by Marriott Hotel right after dinner**

## **March 25, 2011 (Friday)**

**7:45am: Shuttle leaves the Courtyard by Marriott Hotel for Dartmouth College**

**8:00am - 8:45am: Breakfast (Moore Hall)**

### **8:45am - 10:05am: Session 8: Critical Infrastructure Systems**

Chair: Heather Drinan, I3P, Dartmouth College, Hanover, New Hampshire

*Enhancing the Usability of the Commercial Mobile Alert System*

Paul Ngo and Duminda Wijesekera

George Mason University, Fairfax, Virginia

*On Information Security Management Systems*

Sabah Al-Fedaghi

Kuwait University, Kuwait City, Kuwait

*Exploiting the ADS-B Implementation in the FAA's Next Generation Air Transportation System*

Donald McCallie, Jonathan Butts and Robert Mills

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

**10:05am - 10:20am: Break**

### **10:30am - 11:45am: Session 9: Control Systems Security III**

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

*Impact of Virtual Private Networks on Communication Security in Industrial Control Protocols*

Sanaz Rahimi and Mehdi Zargham

Southern Illinois University, Carbondale, Illinois

*An Evidence-Based Bayesian Trust Assessment Framework for Critical Infrastructure Systems*

Yujue Wang and Carl Hauser

Washington State University, Pullman, Washington

*Assessing the Vulnerability of SCADA Devices*

Rebecca Shapiro, Sergey Bratus and Sean Smith

Dartmouth College, Hanover, New Hampshire

**11:45am - 12:30pm: Lunch (Occum Commons, Goldstein Hall)**

**Shuttle leaves for the Courtyard by Marriott Hotel right after lunch**