



Seventeenth Annual IFIP WG 11.10 International Conference on Critical Infrastructure Protection

SRI International
1100 Wilson Boulevard, Suite 2800 (28th Floor)
Arlington, Virginia 22209
March 13-14, 2023

March 13, 2023 (Monday)

8:00am - 8:50am: Breakfast

9:00am - 9:10am: Welcoming Remarks and Logistics

Laura Tinnel, Conference General Chair, SRI International, Arlington, Virginia, USA

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

Toward the Federal Cybersecurity R&D Strategic Plan

Tomas Vagoun, Cybersecurity R&D Technical Coordinator, Networking and Information Technology Research and Development (NITRD) Program National Coordination Office, Washington, DC, USA

10:10am - 10:40am: Session 1

Chair: Laura Tinnel, SRI International, Arlington, Virginia, USA

Revisiting the Definition of Homeland Security

Richard White

University of Colorado Colorado Springs, Colorado Springs, Colorado, USA

10:40am - 11:00am: Break

11:00am - 12:00pm: Session 2

Chair: Richard George, Johns Hopkins Applied Physics Laboratory, Laurel, Maryland, USA

Analyzing Discrepancies in Whole Network Provenance

Raza Ahmad, Aniket Modi, Eunjin Jung, Carolina de Senne Garcia, Hassaan Irshad and Ashish Gehani
DePaul University, Chicago, Illinois, USA

Indian Institute of Technology Delhi, New Delhi, India

University of San Francisco, San Francisco, California, USA

VTEX, Zurich, Switzerland

CrowdStrike, Austin, Texas, USA

SRI International, Menlo Park, California, USA

The Italian National Security Perimeter for Cyber: Assessing and Modeling Cyber Threats in Interdependent Critical Infrastructures with the CISIApro Simulator

Chiara Foglietta, Valeria Bonagura, Stefano Panzieri, Massimiliano Rossi, Riccardo Santini, Monica Scannapieco and Luisa Franchina

University Roma Tre, Rome, Italy

National Cybersecurity Agency of Italy, Rome, Italy

Hermes Bay, Rome, Italy

12:00pm - 1:00pm: Lunch

March 13, 2023 (Monday) (continued)

1:10pm - 2:10pm: Keynote Lecture

Cybersecurity for Space Systems: Leveraging Lessons Learned from Critical Infrastructures

Ulf Lindqvist, Senior Technical Director, Computer Science Laboratory, SRI International, San Luis Obispo, California, USA

2:10pm - 3:10pm: Session 3

Chair: Mason Rice, Oak Ridge National Laboratory, Oak Ridge, Tennessee, USA

Measuring the Impacts of Power Outages on Internet Hosts in the United States

Scott Anderson, Tucker Bell, Patrick Egan, Nathan Weinschenker and Paul Barford

University of Wisconsin, Madison, Wisconsin, USA

A Contextual Integrity Property to Impede the Deployment of IMSI/SUPI Catchers in 5G Networks

James Wright and Stephen Wolthusen

Norwegian University of Science and Technology, Gjøvik, Norway

Royal Holloway, University of London, Egham, United Kingdom

3:10pm - 3:30pm: Break

3:30pm - 5:00pm: Session 4: Special Presentations

Chair: Øyvind Toftegaard, Norwegian Energy Regulatory Authority, Oslo, Norway

Is It Safe to Deploy Unmanned Aerial Vehicle Monitoring Systems at Critical Infrastructure Assets?

Conner Bender and Sujeet Shenoj

University of Tulsa, Tulsa, Oklahoma, USA

How to Attack and Defend Wind Farms I

Jason Staggs, Megan Boscarillo, Oren Hills and Sujeet Shenoj

University of Tulsa, Tulsa, Oklahoma, USA

How to Attack and Defend Wind Farms II

Nathan Crowell and Sujeet Shenoj

University of Tulsa, Tulsa, Oklahoma, USA

5:00pm - 5:20pm: IFIP WG 11.10 Business Meeting

March 14, 2023 (Tuesday)

8:00am - 8:30am: Breakfast

8:30am - 9:30am: Session 5

Chair: David Balenson, University of Southern California Information Sciences Institute, Marina del Rey, California, USA

Practical Deep Network Protection for Unmodified Applications in Intel Software Guard Extension Implementations

Kang Dee Meng, Haadee Faahym, Souhail Meftah, Sye Loong Keoh and Khin Mi Mi Aung

Institute for Infocomm Research, Agency for Science and Technology Research, Singapore, Singapore

University of Glasgow Singapore, Singapore, Singapore

National University of Singapore, Singapore, Singapore

Security-Enhanced Orchestration Platform for a Building Management System

Raymond Chan, Malcolm Low, Wye Kaye Yan and Jung Man Ma

Singapore Institute of Technology, Singapore, Singapore

Firefish Communications, Singapore, Singapore

9:30am - 9:45am: Break

9:45am - 10:45am: Keynote Lecture

Critical Infrastructure Cybersecurity – Achievable Through Partnerships

Michael Dransfield, Operational Technology Subject Matter Expert, Cybersecurity Directorate, National Security Agency, Fort Meade, Maryland, USA

Tony DiPietro Technical Director, Defense Critical Infrastructure, National Security Agency, Fort Meade, Maryland, USA

10:45am - 11:45pm: Session 6

Chair: Raymond Chan, Singapore Institute of Technology, Singapore, Singapore

Smart-Grid-Enabled Business Cases and Consequences of Cyber Attacks

Øyvind Toftegaard, Doney Abraham, Jon-Martin Storm and Bernhard Hämmerli

Norwegian Energy Regulatory Authority, Oslo, Norway

Norwegian University of Science and Technology, Gjøvik, Norway

University of Oslo, Oslo, Norway

Norwegian Water Resources and Energy Directorate, Oslo, Norway

Lucerne University of Applied Sciences, Lucerne, Switzerland

Consequence Verification During Risk Assessments of Smart Grids

Doney Abraham, Øyvind Toftegaard, Sule Yildirim Yayilgan and Alemayehu Gebremedhin

Norwegian University of Science and Technology, Gjøvik, Norway

Norwegian Energy Regulatory Authority, Oslo, Norway

11:45pm - 12:30pm: Lunch

12:30pm - 1:30pm: Keynote Lecture

Adversarial Command and Control in Operational Technology Networks

Mason Rice, Distinguished Researcher and Section Head of Resilient Cyber-Physical Systems, Oak Ridge National Laboratory, Oak Ridge, Tennessee, USA

1:30pm - 3:00pm: Session 7

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

A Cyber Security Analysis Methodology for the Rapid Evaluation of Automobile Risk Exposure

Kameron Tillman, Jason Staggs and Sujeet Shenoj

University of Tulsa, Tulsa, Oklahoma, USA

Real-Time Attack Detection in Modern Automobile Controller Area Networks

Edward Martin and Sujeet Shenoj

University of Tulsa, Tulsa, Oklahoma, USA

Vulnerability Analysis of Machine-Learning-Based Intrusion Detection Systems

Rachida Kone, Otily Toutsop, Chukwumeka Duru, Thierry Wandji and Kevin Kornegay

Morgan State University, Baltimore, Maryland, USA