Eighteenth Annual IFIP WG 11.10 International Conference on Critical Infrastructure Protection

SRI International
1100 Wilson Boulevard, Suite 2800 (28th Floor)
Arlington, Virginia 22209
March 18-19, 2024

March 18, 2024 (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
Hunting Ephemeral Ghosts: Let's Talk About the Technical and Policy Implications of Botnet Disruptions
Adam Maddock, Unit Chief, Technical Operations Unit, Cyber Division, Federal Bureau of Investigation, Washington, District of Columbia, USA
Sean Boyle, Policy Advisor, Cyber Division, Federal Bureau of Investigation, Washington, District of Columbia, USA

10:10am - 10:40am: Session 1
Chair: Laura Tinnel, SRI International, Arlington, Virginia, USA

On the Security of Election Management Systems
Jason Green, Abdolhossein Sarrafzadeh, Ahmad Patooghy and Mahdi Hesar
North Carolina Agricultural and Technical University, Greensboro, North Carolina, USA

10:40am - 11:00am: Break

11:00am - 12:00pm: Session 2
Chair: Jason Staggs, University of Tulsa, Tulsa, Oklahoma, Virginia, USA

A Multiple Bayesian-Network-Based Risk Assessment Technique for Industrial Control Systems
Simone Guarino, Silvia Ansaldi and Roberto Setola
University of Roma, Rome, Italy
Department of Technological Innovations and Safety of Plants, Products and Anthropic Settlements, Rome, Italy

Evaluating Cyber Security Risks and Mitigation Strategies for Smart Grids Based on Business Case Scenarios
Doney Abraham, Sule Yildirim Yayilgan and Mohamed Abomhara
Norwegian University of Science and Technology, Gjøvik, Norway

12:00pm - 1:00pm: Lunch

1:10pm - 2:10pm: Keynote Lecture
A Hippocratic Perspective on Critical Infrastructure Protection
Billy Rios, Co-Founder, QED Secure Solutions, Coppell, Texas, USA

March 18, 2024 (Monday) (continued)

2:10pm - 3:10pm: Session 3
Chair: Gabriela Ciocarlie, University of Texas at San Antonio, San Antonio, Texas, USA

Detection of Control Injection Attacks using Energy Data Anomalies in Computerized Numerical Control Machining
Jeffrey Kimmell, Vladimir Orlyanchik, Logan Sturm, Joel Dawson and Curtis Taylor
Oak Ridge National Laboratory, Oak Ridge, Tennessee, USA
Cybersecurity Manufacturing Innovation Institute, San Antonio, Texas, USA

Security Assessment of an LBP16-Protocol-Based Computerized Numerical Control Machine
Yahya Forihat, Curtis Taylor, Rima Asmar Awad and Irfan Ahmed
Virginia Commonwealth University, Richmond, Virginia, USA
Oak Ridge National Laboratory, Oak Ridge, Tennessee, USA
Cybersecurity Manufacturing Innovation Institute, San Antonio, Texas, USA

3:10pm - 3:30pm: Break

3:30pm - 4:00pm: Session 4
Chair: Richard George, Johns Hopkins University Applied Physics Laboratory, Laurel, Maryland, USA

An End-to-End Framework for Verifying and Validating Manufacturing Design Integrity
Mathew Jablonski, Kyle Everett, Gabriela Ciocarlie, Zoran Duric, Chris Hathhorn, Jeffrey Kimmell, Vladimir Orlyanchik,
John Prevost, Gordon Robertson, Kyle Saleeby, Curtis Taylor and Duminda Wijesekera
Georgia Mason University, Fairfax, Virginia, USA
University of Texas at San Antonio, San Antonio, Texas, USA
Oak Ridge National Laboratory, Oak Ridge, Tennessee, USA
Georgia Institute of Technology, Atlanta, Georgia
Cybersecurity Manufacturing Innovation Institute, San Antonio, Texas, USA

4:00pm - 5:00pm: Keynote Lecture
Exploitation of Weaknesses in Remote-Controlled Medical Devices
Jesse Young, Principal Cybersecurity Researcher, QED Secure Solutions, Coppell, Texas, USA

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

March 19, 2024 (Tuesday)

8:00am - 8:30am: Breakfast

8:30am - 9:30am: Keynote Lecture
Cyber Security Challenges in Major Metropolitan Area Transit Systems
Joel Waugh, Vice President Cybersecurity and Chief Information Security Officer, Washington Metropolitan Area Transit Authority, Washington, District of Columbia, USA

9:30am - 10:30am: Keynote Lecture
Bolstering Critical Infrastructure Cybersecurity Through the Adoption of Innovative Technologies
Tao Jen, Cyber Resilient Systems Program Area Manager, Johns Hopkins University Applied Physics Laboratory, Laurel, Maryland, USA

10:30am - 10:50am: Break

10:50am - 12:20pm: Session 5
Chair: Sujeet Shenoi, University of Tulsa, Tulsa, Oklahoma, USA

Automated Programmable Logic Controller Memory Forensics Using Image Analysis and Deep Learning
Rima Asmar Awad, Michael Sprayberry, Irfan Ahmed, Mike Rogers and Juan Lopez
Oak Ridge National Laboratory, Oak Ridge, Tennessee, USA
Virginia Commonwealth University, Richmond, Virginia, USA
Tennessee Technological University, Cookeville, Tennessee, USA

Improved Topology Generator with Hierarchical Information Overlays
Nataša Gajić and Stephen Wolthusen
Norwegian University of Science and Technology, Gjøvik, Norway

A Fail-Safe Challenge-Response Mechanism for 5G User Equipment to Detect IMSI/SUPI Catchers
James Wright and Stephen Wolthusen
Norwegian University of Science and Technology, Gjøvik, Norway

12:00pm - 1:00pm: Lunch