IoT Sensors Challenges: Joint NIST/IEEE-SC Workshop on Security, Privacy, and Interoperability
August 30, 2017
Red Auditorium, NIST, Gaithersburg, Maryland

<table>
<tr><td>7:30 AM</td><td colspan="2">Registration</td></tr>
<tr><td>8:30 AM</td><td colspan="2">Welcoming Remarks
David Wollman, NIST
Jim St. Pierre, NIST
Gerard Hayes, IEEE-SC
Sri Chandrasekaran, IEEE-SA</td></tr>
<tr><td>8:45 AM</td><td colspan="2">Keynote Address
Scott Streit, Villanova University</td></tr>
<tr><td>9:30 AM</td><td colspan="2">Workshop Overview
Cuong Nguyen, NIST</td></tr>
<tr><td>9:40 AM</td><td colspan="2">BREAK</td></tr>
<tr><td></td><td colspan="2">Breakout Sessions</td></tr>
<tr><td>10:00 AM</td><td>Session 1: Security and Privacy – Apostol Vassilev, NIST
IBM Hyperledge Blockchain – David Noller, IBM
Beyond Blockchain: IoT Blockchain Architectures for High Scalability, Security, and IoT Implementations – David Cohen, IOTA Foundation & Dcntral
Fog Computing and Its Role for Securing IoT – Tao Zheng, CISCO
The speakers will discuss current trends in security approaches for IoT sensors. Discussion will follow the briefings regarding challenges and needs for security in sensors and the areas that require additional R&D.</td><td>Session 2: Interoperability and Standardization – Eric Simmon, NIST
IEEE Smart Transducer Interface Standards for Sensors and Actuators for IoT – Kang Lee, IEEE I&MS TC-9 / Eugene Song, NIST
IEEE Standards for IoT Devices and Systems Harmonization and Interoperability – William Miller, MaCT USA
Testing and Certification – John Schmalzel, Rowan University
The speakers will discuss current activities in interoperability and standardization for IoT sensors. The objective of the session is to provide a high-level environment scan for standards, identify gaps, and provide recommendations for optimization of standardization approaches.</td></tr>
<tr><td>11:30 AM</td><td colspan="2">LUNCH</td></tr>
<tr><td>12:30 PM</td><td colspan="2">Panel on IoT Applications in Industry Sector: IoT in Healthcare – Dr. Phil Laplante, Penn State
The Internet of Things (IoT) promises to deliver leveraging technologies for healthcare that will increase the quality of patient care and reduce cost. But while we hear a great deal about the future of these technologies, what successes have been achieved already? What are the lessons learned from these successes and failures of real,</td></tr>
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<tr><td></td><td colspan="2">implemented systems and what are the challenges and prospects ahead? A distinguished panel of experts will discuss these questions.
Dr. Ben Amaba, Worldwide Executive, IBM
Ken Blount, Infrastructure Project Lead at Program Executive Office Healthcare Management Systems, Department of Defense
Dr. Seth Carmody, Cybersecurity Program Manager, Food and Drug Administration, Department of Health and Human Services
Dr. Mansur Hasib, Cybersecurity Leader, Keynote Speaker, Author, and Media Commentator
Venky Karuppanan, Founder and CEO/Teezle
Marc Wine, Subject Expert Federal Health IT</td></tr>
<tr><td>2:00 PM</td><td colspan="2">BREAK</td></tr>
<tr><td></td><td colspan="2">Breakout Sessions</td></tr>
<tr><td>2:15 PM</td><td>Session 3: IoT Sensors for Smart Grid – Sri Chandrasekaran, IEEE-SA

Importance of Conformity Assessment to ensure interoperability and predictability – Ravi Subramanian, ICAP
Smart Sensor Model and Testbed for Smart Grids – Eugene Song, NIST
NCCoE Energy Sector/Manufacturing Sector Cybersecurity – Harry Perper, Mitre/Mike Powell, NIST
This session will provide examples of current sensor applications and approaches in the energy sector particularly in Smart Grid. Discussions will bring out areas where additional research is needed and possible products that need development.</td><td>Session 4: Smart City IoT Applications – Gerard Hayes, IEEE-SC
A Foundation for a Collaborative Replicable Smart Cities IoT Architecture – Dennis Linders, Montgomery County/Greg Toth, IoT Dev Labs
Lessons Learned Building StormSense: Evaluating Sensor Performance Standards for Street-Level Inundation Modeling – Derek Loftis, Virginia Institute of Marine Science
How to build a secured IoT system to integrate with local transportation system (transit system) – Shivakumar Mathapathi, Dew Mobility
Pivotal Points of Interoperability – Martin Burns, NIST
This session will include a broad perspective on IoT applications in the smart city context. Discussion will include lessons learned and potential areas for research and standardization.</td></tr>
<tr><td>3:45 PM</td><td colspan="2">Review of Breakout Sessions</td></tr>
<tr><td>4:45 PM</td><td colspan="2">Outcomes and Next Steps</td></tr>
<tr><td>5:15 PM</td><td colspan="2">Closing Remarks</td></tr>
<tr><td>5:30 PM</td><td colspan="2">Adjourn</td></tr>
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