IECON 2018
http://www.iecon2018.org/industry_forum.html

IAC involvement:

- Victor Huang - Session 1
- Michael Condry - Session 2 (Panel)

IF Session 1

IF Session Title: **Industrial standards and IoT use cases**
This session highlights industrial standards for sensor networks with use cases in IoT/IIoT applications. The standards family focuses on the IEEE 1451 smart transducer network standards.

IF Session chairs:

- Dr. Eugene Song (NIST), email: Eugene.song@nist.gov
- Dr. Victor Huang (IES), email: v.huang@ieee.org

Speakers:

Talk1: Proposed Architecture of IEEE 1451 Smart Sensor Interface Standards for IoT/CPS

Dr. Eugene Song
Smart Grid & Cyber-Physical System Program Office / Engineering Lab
National Institute of Standards and Technology (NIST)
Email: eugene.song@nist.gov

Talk Summary:

Summary: Internet of Things (IoT) is a network that connects uniquely identifiable Things to the Internet. Cyber-physical systems (CPS) are smart systems that include engineered interacting networks of physical and cyber systems. CPS uses IoT technologies to achieve the collaborative activities of the distributed smart systems. Sensors and actuators are everywhere, which are important components of IoT/CPS. This presentation will address proposed architecture of IEEE 1451 smart sensor interface standards based on the requirements of IoT/CPS, including global identity, timing, and synchronization, cybersecurity, standardized interfaces for network communications and electronic transducer datasheet (TEDS) formats for smart transducers (sensors & actuators) to achieve sensor data interoperability.

Talk2: Using IEEE 1451 to reduce lifecycle costs in industrial automation

Robert Stemp, President
NGC Technologies, LLC
Email: rstemp@ngc-technologies.com

Talk3: Versatile Analog Industrial Sensor Interface utilizing IEEE 1451 Standards

Dr. Darold Wobschall, President
eSensors, Inc.
Email: designer@eesensors.com

Talk4: Smart IoT Waste Bin

Dr. Jonathan Everhart, CEO
Artificial Minds
Email: Jonathan.everhart@artificialmindsiot.com

Dr. K. F. Tsang, VP
Smart City Consortium
Chair, Internet of Things Committee
Email: kf.tsang@smartcity.org.hk

Talk Summary:

For cities around the world, waste management is a large issue due to the fast pace of urbanization. While service levels, environmental impacts, and costs vary dramatically, waste management is arguably the most important city service and serves as a prerequisite for other essential city services. Cities need to embrace a Smart IoT Waste Bin solution, as it is vital to the city's long-term infrastructure. In deploying a Smart IoT Waste Bin solution, factors including reliability, flexibility, wider deployment, and cost of the solution are critical to the project's overall success.

Narrowband-IoT (NB-IoT) is an emerging low power wide area (LPWA) technology developed to enable the deployment of a wide range of smart sensors to the Internet. It enhances system capacity and spectrum efficiency, rendering battery life of 8-10 years. NB-IoT connectivity provides a significant advantage to support these key project areas.

Additional presenter info

Dr. Everhart is the CEO and vision behind the development of Artificial Minds®, an award-winning smart technology platform for Smart City and FinTech applications. He advises U.S. and international government entities on enacting policies governing smart technologies that foster effective policy enactment and continued commercial growth. His expertise spans the intersection of business, technology, and the law. He has a background in business as an entrepreneur and business consultant, in international business and policy, and as a business attorney and professor.

IF Session 2

IF Panel Title: **5G Technologies and Applications**

This session is focused on 5G wireless and how it can impact Industrial Electronics Systems. The session has a brief presentation by each of the speakers followed by a panel session with discussion from the audience as well as the panelists.

IF Panel chair:

- Michael Condry (IES), email: condry@ieee.org

Speakers:

Talk1: 5G and Industrial Solutions

Joseph J. Salvo
Director, GE Research
Email: use LinkedIn

Talk2: 5G and Industrial Electronics Systems

Ashutosh Dutta
Co-Chair IEEE 5G Initiative
Email: ad37@caa.columbia.edu

Talk3: 5G and IES

Prof. Kim Fung Tsang
City University of Hong Kong
Email: ee330015@cityu.edu.hk

Conference Complimentary Registration Requests

Session 1:

- Robert Stemp
- Darold Wobschall
- Jonathan Everhart
- Eugene Song

Session 2:

- Joseph J. Salvo
- Ashutosh Dutta

IF organizers present

- Michael Condry
- Victor Huang
- Stamatis Karnouskos