

**ISA Test & Measurement Division
Directors' Message
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First and foremost, greetings to one and all! Here we are approaching the midway mark of 2017- so what better time than this for a snapshot review of what the ISA Test & Measurement Division (TMD) has been involved in.

**Instrumentation, Sensors, Secure Communications, Drones, IoT:
Technologies Impacting the Automation Industry**

**Sponsoring Organizations: ISA Test & Measurement Division, ISA Communication
Division**

The 2017 “edition” of the International Instrumentation Symposium (IIS) combined with the Communication Division’s ComDiv 2017 – will highlight the instrumentation+communications nexus specifically emphasizing the broad area of the Industrial Internet of Things (IIoT), current trends in industrial communications, and advances in cybersecurity networks and systems most pertinent to Industry. This trajectory includes an expanded focus on applicable science and engineering activities in embedded computing, data analytics, and Internet-based communications and networking with application areas lying (principally) in the automation, energy, buildings, bio/envirosciences, and industrial sectors. IIS+ComDiv 2017 is poised to be the focal gathering point for Shared Spectrum for Industry and Municipalities (SSIM) activities being advanced by the Wireless Spectrum Research and Development (WSRD) Senior Steering Group (SSG).

IIS+ComDiv 2017 emphasized passive wireless sensor technology and instrumentation, communications, networking and computing for Internet-of-Things (IoT) activities with resilience appropriate for the performance demands that accompany sensors and systems to be used in cyber-physical systems for monitoring and control (yes, control). IIS+ComDiv 2017 is not simply a sensors conference, nor is it simply a communications conference. It goes beyond the consumer IoT technology market, to consider the very important evolution and application of sensors, communications, embedded computing, and cloud computing to the control and transaction of energy, the monitoring and diagnostics of equipment, the delivery of services, and the protection of critical infrastructure and people in the modern urban environment.

IIS+ComDiv 2017 will provide a forum for research scientists, engineers, and practitioners to present their latest research findings, ideas, and applications in areas of advanced instrumentation and associated technology. IIS+ComDiv 2017 draws on the convergent technology areas of advancing instrumentation, passive wireless sensors, and spectrum sharing for wireless sensors

and integrated systems and with a focus on IoT applications for the electric grid, buildings, smart cities, and industrial settings. The workshop will include keynote addresses and invited presentations by eminent scientists and engineers.

Past IIS and ComDiv meetings have focused on trends associated with communications, circuit intricacies, and applications of advanced instrumentation. Tracking both the roadmaps of instrumentation development and the analyses of the instrumentation market(s) generated during past workshops has shown a highly accurate prediction of where “future instruments” are heading — both as R&D efforts and commercialization of advanced technologies. IIS+ComDiv 2017 will continue to investigate the trend analysis of future instrumentation in terms of both technology and market, and will focus on:

- The role of intrinsically safe, very inexpensive instrumentation
- Drones and Mobile Platforms for utilities and industrial sites
- Passive Wireless Sensor Technologies and Applications
- Spectrum Sharing for Instrumentation, Telecommunications, and the IoT
- Advancing sensing instrumentation for Leak Detection and Repair
- Crowd sourcing and social network processing of ubiquitous sensors
- The multitude of issues associated with hyper-dense deployments of wireless instrumentation
- Power — or the lack thereof — for advanced instrumentation, and
- Cyber-Physical System Security — it’s not just an “IT issue”

Pop-Up Workshop with IEEE Test & Measurement Division, Capital Section

Sometimes you just **need** to get the information out and discussions begin. In other words, not all meetings have to be formal conferences. In April, the ISA Test & Measurement Division, the ISA Communication Division, and the IEEE Instrumentation and Measurement Division (Capital Section) held a “pop-up” meeting in Washington DC. The topics were drones, sensing, applications, and – of course – cyber security (or more explicitly cyber *physical* security). There were over 70 people at the venue for this Wednesday evening “event”.

We envision placing a few presentations from this – and similar – “pop-ups” on the TMD and ComDiv websites. Stay tuned!



Peter Zuber Nancy E. Kelly-Rodriguez



Drones in Automation..they're coming? No, they're here!