

ISA Announces Wireless Technology and Applications Track at ISA Automation Week 2011

The International Society of Automation

International Society of Automation News Release

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Research Triangle Park, North Carolina, USA (26 September 2011) — The International Society of Automation (ISA) announced today the sessions of its Wireless Technology and Applications Track at ISA Automation Week 2011: Technology and Solutions Event, which takes place in Mobile, Alabama, USA, 17-20 October 2011, at the Arthur R. Outlaw Convention Center.

This track will give in-depth coverage of successful applications of wireless technologies in many important industries, through tutorials, panels and information-packed presentations. Exciting emerging technologies will keep attendees informed of the latest applications in the wireless world. The Wireless Technology and Applications Track sessions include:

- **Wireless Measurement and Control Opportunities** — ISA Fellow and 2010 winner of ISA Life Achievement Award recipient Greg McMillan presents practical ways to maximize reactor control system performance. Also presents Innovative, simple optimization techniques, rules of thumb, key insights for concepts and principles, and checklists. The essential aspects of measurements, valves and proportional-integral-derivative (PID) controllers are covered, and much more
- **Wireless, Cybersecurity and Control Systems** — Offers practical skills and strategies to enhance control system security by examining the interplay of communications and control system design in *supervisory control and data acquisition* (SCADA) architectures. Covers the current state-of-the-art in wireless systems for SCADA and industrial systems. This session also offers discussion of how wireless technology is an important method for data transfer. It also covers the use of wireless in-core detector instrumentation (WIDI) systems with self powered detectors (SPD) to continuously measure the three-dimensional (3-D) core power distribution in nuclear power plants

- Large Scale Sensor Networks — Gives an overview of wireless sensor networks, a look at how sensor technology being deployed is provided and a summary of the WirelessHART and ISA100.11a standards
- Utilize all of the Data from Wireless and Smart Instrumentation — ISA Fellow Ian Verhappen discusses challenges associated with capturing this presently stranded data and turning it into information to enable proactive maintenance practices. Session also gives examples of automating remote sites using low-power radios running on standard, alkaline cells and solar power. Additionally, it provides examples of how to get to the right data, at the right time, delivered to the right person or machine, in the right format, for the right application
- Industrial Wireless Applications — Explores applying IEEE 802.11a/b/g and proprietary frequency hopping wireless technologies to EtherNet/IP based networks for industrial automation systems, particularly oil and gas pipeline applications. The session also gives an overview of ISA100.11, IEC 62591 on WirelessHART, and the progress so far on the merger of these two standards. The session also covers both theoretical and practical considerations involved in delivering "Lick and Stick" low-energy wireless sensors that can be configured to publish data at long intervals, and also efficiently report exceptions on triggering events at a significantly lower cost than today's products
- New Technologies for Wireless Applications — Presents examples of thermal energy harvesting from sources such as hot water and steam pipes, loaded motors, engines and pumps and other locations for better wireless range and as a solution to increased energy demand. Also covers the different types of radios currently in use and how to differentiate one's performance from another's. The session also presents three case studies of the application of Ethernet I/O in SCADA.
- Wireless Applications in Robotics, NC Machines, and Predictive Maintenance — Cites examples of how next-generation wireless emergency switches reduce the risk of collision between man and robot.

Discusses how wireless vibration and wireless process monitoring solutions can be used as a substitute for or to augment wired and portable monitoring options. Introduces MTConnect, which provides a new method of getting data from a multitude of disparate machines throughout the process plant in an open and royalty-free way

- Ask the Wireless Experts — This panel of eight experts with nearly 200 years experience will provide the audience with a forum to get answers to their questions about wireless
- How the Oil and Gas Companies in Saudi Arabia and Northern Alberta are Using Wireless — Describes the wireless environmental-monitoring data

center that contains exploration, disaster prevention and energy-efficiency data. This session also discusses the benefits of consolidating process information management servers onto a virtualization engine from a user prospective. It also gives a comparison of wireless devices to a wired system, with the advantage of mobility, compactness, flexibility, low cost, capability to monitor rotating equipment, ease of installation, high reliability and enhanced electronics support

Complete details of each Wireless Technology and Applications Track session are available [online](#) [2] or at www.isaautomationweek.org [3].

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