

THE 7TH IEEE INTERNATIONAL CONFERENCE ON INDUSTRIAL CYBER-PHYSICAL SYSTEMS ICPS 2024

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Special Session on

Performance Assurance of Industrial Wireless Systems

Organized by

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Deadline

Paper Submission Deadlines: <https://icps2024.ieee-ies.org>

*Please indicate in your submission that you desire your paper to be included in this special session.
For any issues, please contact Kang Lee or Richard Candell.*

Call for Papers

Wireless communications is emerging as an enabling technology for facilitating industrial communications by providing a high degree of flexibility and lower installation costs. However, there are concerns about reliability and latency in industrial wireless networks. Deployments of wireless networks in industrial environments have experienced varying degrees of success. Industrial wireless technologies include IEEE 802.15.4, IEEE 802.11, 3GPP 4G/5G, and many others. The

industrial wireless environments can be harsh and demanding and quite different from the home and office. Moreover, mission-critical industrial applications are distinctive where loss and retransmissions cannot be tolerated. To make wireless a reality in factory and industrial environments and to benefit society as a whole, performance expectations must be managed, quantified, and measured, and solutions must address these expectations. This special session will consider relevant topics for designing, deploying, and evaluating wireless systems for industrial and mission-critical applications. These topics are of great interest IEEE IES Technical Committee on Standards and the IES Technical Committee on Cloud and Wireless Systems for Industrial Applications.

Topics of interest include, but are not limited to:

- Advanced wireless protocols, and reliability and latency enhancements
- Wireless reliability and latency performance evaluation studies
- Industrial Wireless test and evaluation methods
- Wireless platforms for performance testing
- Analysis of measurement data from heterogeneous sensor/actuator sources
- Spectrum capture, monitoring, management, and analysis
- Requirements and use case analysis for industrial scenarios
- Interference measurement, modeling, standardization, and mitigation
- Industrial physical environment representations
- Applicable machine learning (ML) and artificial intelligence (AI) tools
- Deployments for industrial wireless performance evaluation tools
- Real-world industrial wireless testbeds, simulations, and demonstrations

IES Technical Committee Sponsoring the Special Session:

- IES Standards Technical Committee Chair, Allen Chen
- IES Technical Committee on Cloud and Wireless Systems for Industrial Applications Vice-Chair, Zhibo Pang