

Special Session

Code: 992n2

Title

Intelligent Industrial Environments and Cyber-Physical Industrial Systems

Proposer / Main Organizer

[Dr. Thomas Strasser](#)

AIT Austrian Institute of Technology and Technische Universität Wien (TU Wien)
Vienna, Austria
+43 664 2351934
thomas.i.strasser@gmail.com

Thomas Strasser received a master's and a PhD degree from the Technische Universität Wien (TU Wien) and he was awarded with the venia docendi (habilitation) in the field of automation from the same university. For several years, he has been a senior scientist in the Center for Energy of the AIT Austrian Institute of Technology. His main responsibilities involve the strategic development of smart grid automation and validation research projects. He is also active as a docent at TU Wien. He is involved in various IEEE activities like IEEE SMCS VP on SSE, IEEE SMCS Chair TC on Intelligent Industrial Systems.

[Prof. Amro M. Farid](#)

Thayer School of Engineering at Dartmouth
Hanover, NH, USA
+1 603 6461524
mfarid@dartmouth.edu

[Dr. Pavel Vrba](#)

Accenture
Prague, Czech Republic
+42 060 6817182
pavel.vrba1@gmail.com

IEEE Member or SMC Society Member

All organizers are IEEE Members, SMC Society Members and Chairs of the IEEE SMCS TC on Intelligent Industrial Systems

Category

Cybernetics

Number of Expected Paper Submissions:

> 5

Keywords

Agent-Based Modeling, Application of Artificial Intelligence, Computational Intelligence, Cybernetics for Informatics, Distributed Intelligent Systems, Expert and Knowledge-Based Systems, Machine Learning, Neural Networks and their Applications

Brief Description and Justification (200-250 words):

This special is devoted to novel research related to the next generation of intelligent, plug-and-play, cyber-physical industrial systems. The transformation of traditional monolithic, hierarchical, and centralized legacy control and data acquisition systems is supported by the latest initiatives and technologies such as Industry 4.0, Cyber-Physical Systems, Internet-of-Things, Big Data and Internet of Services. This special session provides a venue for knowledge related to the research and application of these new cybernetic methods into various industrial sectors, including production control systems, smart grids and smart cities, water/wastewater treatment, transportation, healthcare and others. A broad range of methodical contributions are encouraged including architectures, algorithms, protocols, and standard, however a clear link to application domain must be identified. We especially encourage validation of developed solutions on physical demonstrators, either in laboratory or real industrial environments.

Similar special sessions have been organized in previous IEEE SMC conferences since the TC on Intelligent Industrial Systems was established in 2015.