1st IEEE International Conference on Industrial Cyber-Physical Systems ICPS2018

Special Session on

"Innovative Computational Intelligence Knowledge-based Solutions for Zero Defect Scenarios on Industrial Cyber-Physical Systems"

organized by

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Call for Papers

Scope of the Special Session:
Nowadays, Cyber-Physical Systems applicability in the industrial domain demands key innovation actions to develop advanced computational solutions with solid background on information, communication, control and automation technologies. This enables the integration of the cyberspace (e.g., algorithms, scripts and data models) and physical devices, such as machines, robots and industrial equipment. In the so-called Industry 4.0 (I4.0), or new industrial revolution, effective solutions are not only focused on huge data volume and high computational capabilities, but they are also concerned on technical excellence, traceability, process knowledge-based decision making, efficiency, safety and security. Furthermore, the growing development of information and communication technologies introduce several new challenges in order to design, implement and deploy CPS solutions based on cloud services, advanced big data analytics, real-time conditioning monitoring & control, and self-adaptive computational intelligence-based actions. In this context, the main objective of the *Special Session on "Innovative Computational Intelligence Knowledge-based Solution for Zero Defect Scenarios on Industrial Cyber-Physical Systems"* is to create an open discussion platform where researchers and industrial partners can share their own perspective and visions on developing

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[1] **A good quality paper may be considered for publication in IEEE Transactions on Industrial Informatics (TII) - subject to further rounds of review**

methodologies, designs and roadmaps to address innovative Industrial CPS solutions in trending areas of interest, such as: virtual modelling, real-time process condition monitoring, machine learning-based solutions, connected CPS sensors, crowdsourcing and crowd cloud computing methodologies based on knowledge representation methodologies for smart manufacturing and/or I4.0 inspired environments.

Topics of interest include:
- ➢ Predictive and prescriptive artificial intelligence architectures for ICPS
- ➢ Real-time machine condition monitoring & diagnostic for global environments
- ➢ Advance knowledge representation methodologies and ontologies
- ➢ Pattern recognition and identification based on big data analytics in ICPS
- ➢ Crowdsourcing and crowd cloud computing methodologies
- ➢ Self-adaptive & self-reconfiguration system development methods
- ➢ Virtual modelling and simulators for zero defect ICPS scenarios
- ➢ Connected ICPS network sensors for smart manufacturing environments
- ➢ Innovative deep learning topologies for ICPS applications

Submissions Procedure: All the instructions for paper submission are included in the conference website **http://icps2018.net/**

Deadlines:

Deadline for submission of papers **extended to:**	February 10, 2018
Notification of acceptance of papers:	March 10, 2018
Final manuscripts due:	March 31, 2018

International Program Committee (Reviewers) for the Special Session

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