

## 1<sup>st</sup> 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 (~200 Words):**

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 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, but are not limited to (~100 Words):**

- 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:	<del>22 Dec 2017</del>	<b>15 Feb 2018</b>
Notification of acceptance of papers:	<del>28 Feb 2018</del>	<b>10 Mar 2018</b>
Final manuscripts due:	31 Mar 2018	

**International Program Committee (Reviewers) for the Special Session**

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