



## Session title: “Should Intelligent Manufacturing Systems be dependable and safe?”

### Organisers :

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- Code = PHMCPS

### Short presentation:

In the actual context of Industry 4.0, Industrial Internet or Industrial Internet of Things (IIoT), Multi-Agent Systems and Service Oriented Architectures have emerged to support Intelligent Manufacturing, Cyber-Physical or Holonic manufacturing Systems.

The aim of this special session is to open up the debate on safe and dependable aspects relative to such CPS. A lot of research works have been done on the “smart” objective of CPS, but very few have been carried out to ensure the safety and the dependability of such future industrial systems. “**Safe**” here is taken in the broad sense, referring for example to the *reliability, availability, security, testability and maintainability dimensions* of products, processes and industrial systems that are evaluated through dependability studies. This dimension aims at ensuring the correct functioning and the permanent safety of these systems. *Robustness* and *resilience* are also relevant concepts when dealing with reaction and adaptation to perturbations during their use, whether localized or more global. Moreover diagnosis and health management of such systems are also new emerging challenges.

In such way, this SS is trying to collect contributions on innovative work that focus particularly the aspects of:

- Original approaches for maintainability and diagnosis for Product Driven Systems or IMS;
- Safe IMS/HMS/CPS architecture;
- Heuristic and algorithms for diagnosis and health management in such systems;
- IoT contribution in PHM and safe IMS;
- Design and Integration of smart and safe strategies in IMS.

**Keywords:** Service Oriented Architecture, Cyber Physical Systems, Holonic Manufacturing Systems, Pronostic Health Management, Safe systems

### Important dates:

- Proposals of Special Sessions: April 30
- Full paper submission: June 20

- Notification of acceptance: July 15
- Final, camera-ready paper submission: August 12
- Early registration and fee payment: August 31

**Recommended reviewers:**

A list of potential 6 reviewers of papers submitted for this Special Session, with e-mail addresses.

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