Call for Papers
SS09 – Industrial Cyber-Physical Systems: new trends in computing and communications

Organized and co-chaired by

Dr. Federico Tramarin
University of Padova, Italy

Dr. Michele Luvisotto, Dr. Zhibo Pang
ABB Corporate Research, Sweden

Dr. Xhiaoling Zhang
Northeastern University, China

✦ **FOCUS**. The rise of the Industry 4.0 framework, as well as the pervasiveness of Information Communication Technologies (ICT) fostered intense research in Industrial Cyber-Physical Systems (ICPSs), like smart factories, smart energy grids, etc. These systems involve several cooperative computational elements controlling time-critical physical entities, and need to face stringent requirements, such as low latency, high reliability, safety, and security.

Innovative computing, communication and intelligence paradigms, such as edge/fog computing and virtualization, cellular and wireless sensor networks and machine/deep learning approaches are hence envisaged to face such challenges to satisfy time– and mission–critical control and automation applications. This special session is targeted at researchers and industrialists to discuss research works related to innovative approaches, theory and methodology of applying the above advancing technologies in industrial domains.

✦ **TOPICS**

•Concepts, Modeling, simulations and validation of ICPS
•Emerging applications of industrial and smart CPS in healthcare, mining, logistics, transportation, energy, manufacturing, etc.
•Cloud, edge and fog computing for ICPS – resource management, network slicing, etc.
•Big data analysis for ICPS real-time control
•Security and safety solutions algorithms for ICPS
•Fog-based deployment and management of AI applications in ICPS
•Machine learning techniques in real-time closed loop control
•Partitioning of machine learning frameworks over fog/edge infrastructure
•Interoperability & standardization for computing, intelligence and communication in ICPS
•Real-time data storage, distribution, and analytics
•Virtualization of computing resources
•High performance industrial wireless and wired communications
•Emerging cellular networks for critical control systems
•Convergence of industrial wired and wireless networks
•Cross layer design of computing and communications with enhanced performance

✦ **AUTHOR'S SCHEDULE (2019)**

❖Regular and special sessions papers
  Submission deadline .... ~~April 1~~ April 22
  Acceptance notification .... ~~May 6~~ May 20
  Deadline for final manuscripts .... ~~June 17~~ June 27