

2020 IEEE International Conference on Industrial Informatics
July 12-15, Guangzhou, China

Special Session on
“Emerging communication and computing technologies for
the Industrial Cyber Physical Systems”

organized by

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Call for Papers

Theme:

Today we see that the rapid proliferation of Information Communication Technologies (ICT) in industry is transforming industrial environments into multifaceted systems featuring tight coordination between the physical and computational elements, resulting in the formation of the so-called Industrial Cyber-Physical Systems (ICPS). Digitalization and interconnection of machines, products, services, enterprises, and humans are expected to generate significant opportunities and benefits, assuming the risks and challenges are properly addressed. These challenges are imposed by different industrial technologies applied in ICPS, such as wireless technologies, cloud/fog communication and computing, and heterogeneous computing for big data analysis, to meet the ultrahigh reliability and ultralow latency requirements as well as security and safety in mission-critical automation and control systems, be it robotic networks and discrete manufacturing or process automation. Therefore, this special session is targeted at researchers and industrialists to present and discuss research work related to innovative approaches, theory and methodology of applying the above advancing technologies in industrial domains.

Topics of interest include, but are not limited to:

- Concepts, methodology and solutions for ultra-reliable and low latency ICPS
- Enhanced industrial network architectures, including the convergence of wired and wireless networks, heterogeneous systems, etc.
- Cloud, edge and fog computing for ICPS, including resource management, network slicing, etc.
- Relay, D2D, Cloud-RAN and cooperative networks for industrial applications
- Big data analysis for ICPS real-time control
- Virtualization of physical components in cloud-ICPS
- Emerging 5G technology for ICPS
- Industrial wireless sensor and actuator network for monitoring and control
- Measurements and channel modelling for various industrial environments
- Modelling, simulations and validation of ICPS
- Energy-efficient data transmission for ICPS
- Application-driven cross-layer optimization of communication layers
- Security/privacy solutions for ICPS

- Microarchitecture design on heterogeneous processor/system

Submissions Procedure: All the instructions for paper submission are included in the conference website <https://indin2020.medmeeting.org/en>

Fast track to transactions: INDIN 2020 presents a unique chance of fast-tracking best papers to IEEE Transactions on Industrial Informatics (TII). Authors intended to use the fast track shall submit papers in the form following the transactions requirements: length up to 8 pages, double-column IEEE format, without authors' names and affiliations. If the paper is accepted and recommended for the transactions' submission, the authors will be asked to:

- 1) Revise the paper according to the reviewers' comments and submit it to the TII with attached point by point summary of revisions. The paper will be then subject to double blind review process of TII.
- 2) Prepare a shortened, 4 page long version for the INDIN proceedings and submit it by the 'final manuscripts due' deadline of INDIN 2020. This version shall include authors names and affiliations as per the usual INDIN template.

Deadlines:

Deadline for submission of papers:	March 07, 2020
Notification of acceptance of papers:	April 18, 2020
Final manuscripts due:	May 09, 2020