# 19th IEEE International Conference on Industrial Informatics INDIN'21

**21-23 July 2021, Palma de Mallorca, Spain**

## Call for Papers

### Track 9 - Real-Time and Networked Embedded Computing, IoT Technologies, and Applications

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❖ **FOCUS**. Real-time systems bring significant challenges and opportunities in embedded computing techniques to speed up industrial and commercial services. The emergence of Internet-of-Things (IoT) – a smart high-level concept of progressing the world through connecting and integrating all things into a huge network - has also been improving the communication efficiency for these services. A networked embedded computing has thus gradually been drawing developers' attention to be widely applied in abundant applications. This track focuses on models, techniques, methods, analysis and applications that are related to real-time and embedded computing and IoT based networking and technologies. General topics that are relevant to this track include, but are not limited to:

❖ **TOPICS**

- Innovations in real-time capable networks
- Software Defined Networks (SDN) and Time-Sensitive Networking (TSN)
- Hard Real-time SOA and RESTful industrial communication
- Real-time issues of distributed control in industrial CPS
- Industrial IoT protocols (OPC UA, DDS, MQTT, AMQP, COAP …)
- Verification, validation of distributed embedded applications
- Security verification of RT(O)S and industrial automation systems
- Distributed control via industrial communication networks
- Factors influencing latencies in emerging industrial comm. systems
- Combining legacy RTN with emerging RT IP-based networks (TSN,SDN)
- Blockchain and distributed ledger technologies in NES and IoT applic.
- Deep learning technologies for distributed real-time embedded systems
- Performance analysis (of distributed real-time systems)
- Emerging real-time operating systems and real-time hypervisors
- Hard real-time services in edge and cloud
- Timing and resource analysis of (distributed) resource-constrained AI
- 5G for industrial applications

### Track Programme Committee

- Luis Almeida, Univ. of Porto, PT
- Mohammad Ashjaei, Mälardalen Univ., SE
- Paulo Bartolomeu, Univ. of Aveiro, PT
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- Alexander Viehl, FZI Forschungszentrum Informatik, DE
- Feisheng Yang , Northwestern Polyt. Univ., CN
- Daesub Yoon, ETRI, KR
- Janusz Zalewski, Florida Gulf Coast Univ., US

❖ **AIM.** IEEE INDIN is a flagship conference of IEEE Industrial Electronics Society providing a forum for presentation and discussion of the state-of-art and future perspectives of industrial information technologies, where industry experts, researchers, and academics share ideas and report on recent developments, deployments, technology trends and research results, as well as initiatives related to industrial informatics and their application.

❖ **CONFERENCE FORMAT**. The conference will include multitrack sessions, for both Regular an Special Session papers, to present significant and novel research results with a prospect for a tangible impact on the research area and potential implementations; Industry Forum sessions, in which invited speakers will present use cases, changes, and challenges faced by industry associated with the technical areas of IES; and Tutorials sessions, in which selected speakers will explain state-of-the-art and ongoing hot research techniques and tools, together with hands-on experiments, aimed at solving problems faced by industrial informatics engineers and researchers.

❖ **AUTHOR'S SCHEDULE (2021)**

❖Regular and Special Session (SS) papers

SS proposals deadline .....January 24
Papers submission deadline .....March 31
Acceptance notification .....June 11
Deadline for final manuscripts .....June 30

❖Tutorials

Tutorial proposals deadline ..... April 23

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