

ICT4I40 2018

1st Workshop on Information and Communication Technologies for Industry 4.0

In conjunction with
23rd IEEE Symposium on Computers and Communications (ISCC 2018)

25-28 June 2018, Natal, Brazil

The ongoing transition towards an ICT-backed automated and interconnected industry has been named “Industry 4.0” and is commonly agreed to represent the fourth stage of industrialization, after the introduction of mechanization, electricity, and digitalization achieved through the first three industrial revolutions. This fourth revolution heavily depends on most recent ICT paradigms (e.g., IoT as well as Cloud, Fog, and mobile-edge computing), integrated Cyber-Physical Systems, as well as Big Data Analytics techniques, and associated technologies. Industry 4.0 is envisioned to potentially disrupt the overall industry scenario at several layers, (e.g., providing extensive automation, fostering cooperation among enterprises along a value chain, and even enabling the transition from a linear value chain to a more complex value network) thus leading to uncover new possibilities as well as raising new challenges. Novel approaches often require to heavily redesign the role of human operators. Together with the new possibilities provided by the aforementioned technological enablers of I4.0, a number of technical issues come, being the more important and limiting as they refer to autonomous machines, manufacturing processes, and value creation networks. Examples of technical issues of recent ICTs of concern for I4.0 pertain to the fields of security (ranging from security of communications and of smart objects, to the protection of intellectual property of communicating enterprises, to privacy preservation of customers whose behavior informs the value network), communication performance (low-latency, high-bandwidth, highly available, wide-coverage, cost-efficient networks), integration (interoperability, standardization), etc. Due to the youth of the I4.0 scenario and the relatively limited real-world applications it has experimented, more challenges are expected to be revealed and addressed.

The goal of this workshop is to provide an inter-disciplinary platform for researchers to exchange ideas, present results, share experience, stimulate new research, and foster collaborations among researchers, professionals, and developers involved in the various aspects of ICTs for the evolving Industry 4.0, including back-end infrastructure such as the Cloud and Fog/Edge networks.

Workshop topics include, but are not limited to:

- Communication/network infrastructures, architectures and protocols for Industry 4.0
- Wireless communications for Industry 4.0
- Quality of experience (QoE) with mobile services/applications
- Security, privacy and trust for Industry 4.0 services/applications
- Computing/storage infrastructures for Industry 4.0, such as clouds and virtualization
- Software, systems and performance engineering for Industry 4.0
- Narrowband technology
- 5G
- Augmented Reality and Virtual Reality
- Power-efficient communication
- Artificial Intelligence for Industry 4.0
- Delay-tolerant, fault-tolerant and reliable communication
- ICTs for Industrial Robotics
- Industry networking, body area networking and cloud-integrated networking
- Smartphones in industrial applications
- Social Networking, Computing and Education in I4.0
- Cloud computing applications for Industry 4.0
- Internet of Things (IoT) applications for Industry 4.0
- Industrial Informatics
- Sensor-based industrial applications
- Proximity-based communication, group communication and social networks
- Software-defined networks and network management
- Network Function Virtualization
- Nanoscale/molecular communications
- Network coding and error detection/correction
- Resilience and robustness
- Ambient intelligence and pervasive computing
- 3D Printing

General Chairs

Antonio Pescapè, University of Napoli Federico II, Italy

Joel J.P.C. Rodrigues, National Institute of Telecommunications, Brazil

Augusto José Venâncio Neto University of Rio Grande do Norte , Brazil

Program Chair

Valerio Persico University of Napoli Federico II, Italy

Important Dates

Workshop paper submission deadline: April 2nd, 2018 April 21st, 2018

Notification of workshop paper acceptance: May 7th, 2018

Submission of camera-ready workshop papers due: May 14th, 2018

Submission Guidelines

All papers should be submitted via EDAS (<https://edas.info/newPaper.php?c=24656>). Authors are required to submit fully formatted, original papers (in PDF format), and should be no more than 6 pages (full papers) or 4 pages (short papers) in the IEEE double column proceedings format, including tables, figures and references. Papers exceeding 6 pages will not be accepted by EDAS. At least one author of each accepted paper is required to register to the workshop and present the paper. Only registered and presented papers will be published in the conference proceedings. **Improved versions of selected workshop papers will be invited for possible inclusion in a Special Issue of Wiley's Internet Technology Letters.**