

12TH ITU ACADEMIC CONFERENCE

ITU KALEIDOSCOPE 2020

*Industry-driven
digital transformation*

7-11 December
ONLINE

CALL FOR PAPERS

Technically co-sponsored by



Supported by



Organized by



ITU KALEIDOSCOPE 2020

Industry-driven digital transformation

CALL FOR PAPERS

Kaleidoscope 2020 – Industry-driven digital transformation is the twelfth in a series of peer-reviewed academic conferences organized by ITU to bring together a wide range of views from universities, industry, and research institutions. The aim of the Kaleidoscope conferences is to identify emerging advancements in information and communication technologies (ICTs) and, in particular, areas in need of international standards to aid the healthy development of the Information Society.

Theme

The Fourth Industrial Revolution has data analytics at its core, and relies on innovations in fields such as robotics, cyber-physical systems, digital twins, virtual simulation, augmented reality, edge computing, artificial intelligence and blockchain – innovations all contributing to digital transformation of industrial processes.

In particular, the manufacturing sector has been an early adopter of new technologies capitalizing on connectivity and intelligence, but these technologies introduce endless possibilities – the automotive, energy, retail and healthcare industries are all moving in this direction.

Objective

Kaleidoscope 2020 calls for original academic papers sharing insight into ongoing projects and research relevant to digital transformation. It targets specialists in the fields of ICT and socio-economic development, including researchers, academics, students, engineers, policymakers, regulators, innovators, and futurists.

Date and venue

Due to COVID-19, Kaleidoscope 2020 will be held exceptionally online from 7-11 December 2020.

Submission of papers

Prospective authors are invited to submit full, original papers. The submission should be within eight pages, including a summary and references, using the template available on the conference's website. All papers will go through a double-blind peer-review process. Submission must be made electronically; see <http://itu.int/go/K-2020> for more details on online submission (EDAS). Paper proposals will be evaluated based on content, originality, clarity, relevance to the conference's theme and, in particular, **significance to future standards**.

Deadlines ^{extended}

Submission of full paper proposals: **29 June 2020**

Notification of paper acceptance: **25 September 2020**

Submission of camera-ready accepted papers: **16 October 2020**

Publication and presentation

Accepted and presented papers will be published in the Conference Proceedings and will be submitted for inclusion in the IEEE *Xplore* Digital Library. The best papers will also be evaluated for potential publication in the IEEE Communications Standards Magazine. In addition, extended versions of selected papers will be considered for publication in the International Journal of Technology Marketing, the International Journal of Standardization Research, or the Journal of ICT Standardization.

Awards

A prize fund totalling CHF 6 000.- will be shared among the authors of the three best papers, as judged by the Steering and Technical Programme Committees. In addition, young authors of up to 30 years of age presenting accepted papers will receive Young Author Recognition certificates.

Keywords

Information and communication technologies (ICTs), standards, digital transformation, manufacturing and energy management, smart manufacturing, software defined networking, cyber-physical systems (CPS), cloud computing, fog computing, edge computing, mobile technologies, wireless networking (5G and beyond), machine-to-machine, 3D printing, advanced robotics, big data analytics, artificial intelligence (AI), machine learning, internet of things (IoT), industrial internet of things (IIoT), RFID technology, cognitive computing, trustworthiness, security, privacy.

Suggested (non-exclusive) list of topics

<p>Track 1:</p> <p>Network and computing infrastructure, architecture</p>	<ul style="list-style-type: none"> • Design principles, architecture and protocols for IIoT and digital twins • Protocols and mechanisms for seamless IoT communications in wireless sensor networks • Mobile and wireless communications • Architecture and protocols for decentralized networking and services • Cloud, fog and edge architectures
<p>Track 2:</p> <p>Applications and services</p>	<ul style="list-style-type: none"> • Smart manufacturing • Infrastructure systems • Verification and testing • Virtual and augmented reality
<p>Track 3:</p> <p>Enabling technologies</p>	<ul style="list-style-type: none"> • AI and machine learning • Intelligent real time data analytics • Data management (analysis, quality, exchange, interoperability and integration prediction)
<p>Track 4:</p> <p>Security, privacy and trust</p>	<ul style="list-style-type: none"> • Security architectures, trust, identity management, protection mechanisms • Threat models and attack strategies • Security applications and management • Lightweight cryptography
<p>Track 5:</p> <p>Social, economic, standards, legal and policy aspects</p>	<ul style="list-style-type: none"> • Regulation and standards for industrial Internet tools and services • Multi-disciplinary standardisation • New business models and multi-stakeholder aspects for digital transformation

Steering Committee

Andy Chen, Catronic Enterprise & REDDS Capital, Canada, and IEEE TEMS

Christoph Dosch, ITU-R Study Group 6 Vice-Chairman; IRT GmbH, Germany

Eva Ibarrola, University of the Basque Country, Spain

Kai Jakobs, RWTH Aachen University, Germany

Gyu Myoung Lee, Liverpool John Moores University, United Kingdom

Mitsuji Matsumoto, Waseda University Emeritus Professor, Japan

Roberto Minerva, Télécom SudParis, France

Mostafa Hashem Sherif, Consultant, United States

Technical Programme Committee

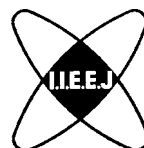
Chairman: Mostafa Hashem Sherif, Consultant, United States

The Technical Programme Committee is composed of over 60 subject-matter experts. Details are available at: <http://itu.int/en/ITU-T/academia/kaleidoscope/2020/Pages/progcom.aspx>

Additional information

For additional information, please visit the conference website: <http://itu.int/go/K-2020>. Inquiries should be addressed to Alessia Magliarditi at kaleidoscope@itu.int.

Partners



Organized by

