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| **Title:** | | | ITU Kaleidoscope 2020 – Industry-driven digital transformation | | |
| **Purpose:** | | | Information | | |
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| **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; |
| **Abstract:** | This document invites TSAG delegates to note that the 12th edition of the ITU Kaleidoscope academic conferences, “Industry-driven digital transformation” will be held online on 7-11 December 2020. Delegates are encouraged to attend and promote the conference among their relevant contacts. |

***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* called for original academic papers sharing insight into ongoing projects and research relevant to digital transformation. It targetsspecialists 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.

**Submitted papers**

Forty-two paper proposals were submitted from 22 countries and have gone through a double-blind peer-review process. Paper proposals are being evaluated based on content, originality, clarity, relevance to the conference’s theme and, in particular, **significance to future standards**.

**Draft programme**

In addition to the selected research papers, this year’s Kaleidoscope will feature Keynote Speeches and Keynote Papers by:

* [Akihiro Nakao](https://www.nakao-lab.org/), Nakao Research Laboratory, The University of Tokyo
* [Roberto Saracco](https://www.comsoc.org/roberto-saracco), President of EIT ICTLABS Italy and Italy Node Director (European Institute of Innovation and Technology)
* [Adam Drobot](https://www.linkedin.com/in/adam-drobot-43a1412a), Chairman, OpenTechWorks, Inc. and Chairman of the IEEE IoT Initiative
* [Thomas Kuhn](https://ieeexplore.ieee.org/author/38667550800), [Fraunhofer Institute for Experimental Software Engineering IESE](https://www.iese.fraunhofer.de/en/competencies.html);

plus an invited paper on “A case study for modelling machine tool systems using standard representations" authored by Maja Barring, Bjorn Johansson (Chalmers University of Technology, Sweden); Guodong Shao, Moneer Helu (National Institute of Standards and Technology (NIST), USA).

There will also be a Special Session on "The role of ICT for future pandemics" which will be joined by the following panellists:

* [Sebastian Garcia Saiso](https://www.linkedin.com/in/dr-sebastian-garcia-saiso-98093080), Pan American Health Organization (PAHO)/World Health Organization (WHO), USA
* [Mohamed-Slim Alouini](https://www.kaust.edu.sa/en/study/faculty/mohamed-slim-alouini), King Abdullah University of Science and Technology (KAUST), Saudi Arabia
* [Jorge García Vidal](http://people.ac.upc.edu/jorge/), Universitat Politecnica de Catalunya, Spain

The 2020 edition of Kaleidoscope will also include a **Networking programme** and a **Demonstration Track** for video contributions relevant to digital transformation. This track is indented to offer students, academics and researchers a means to share their research and ongoing projects to a wider international audience, using on-line tools.

**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.

**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 75 subject-matter experts. Details are available at: <http://itu.int/en/ITU-T/academia/kaleidoscope/2020/Pages/progcom.aspx>.

**Additional information**

Additional information on the programme and registration will be made available on the conference website: <http://itu.int/go/K-2020> in due course. Inquiries should be addressed to Alessia Magliarditi at [kaleidoscope@itu.int](mailto:kaleidoscope@itu.int).

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