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| **Keywords:** | Kaleidoscope; academic papers; ICTs, standardization; communication technologies; artificial intelligence; health; innovation. |
| **Abstract:** | This document provides an overview of the ITU Kaleidoscope academic conference 2019 (K-2019) that will be held in Atlanta, USA, 4-6 December 2019. This document also calls for the next Kaleidoscope conference’s host, and mentions official recognition of the success of the Kaleidoscope conferences (PP relevant Resolutions). |



Introduction

The ITU Kaleidoscope academic conferences aim to increase the dialogue between experts working on the standardization of Information and Communication Technologies (ICTs) and academia. By viewing technologies through a Kaleidoscope, these forward-looking events seek to identify new topics for standardization. The objective is to hold these events once a year in different parts of the world.

Given that the concepts of innovative technologies are normally developed in the academic world, ITU is increasingly looking to attract academics from the world’s universities and R&D institutions, fostering their involvement in the ITU standardization process. There are numerous examples of this policy bearing fruit as many ITU-T Recommendations (international standards) have been heavily influenced by academic involvement.

The Kaleidoscope conferences also provide a venue to facilitate networking and discuss ways forward to enrich the ITU standardization process, both in terms of technical proposals for current work items and in steps to increase participation of academia and research organizations in the ITU standardization work.

Kaleidoscope is organized by an international Steering Committee, with the support of the ITU-T Secretariat, and technically co-sponsored by the Institute of Electrical and Electronics Engineers (IEEE) and the IEEE Communication Society (IEEE ComSoc). The paper selection follows a rigorous double-blind, peer-review process that involves more than 150 subject matter expert reviewers.

Kaleidoscope 2019

This year the ITU Kaleidoscope academic conference will be hosted by the ITU Academia member, Georgia Institute of Technology, Georgia, Atlanta, USA, 4-6 December 2019.

Kaleidoscope 2019 theme is ICT for Health: Networks, standards and innovation. Organized in collaboration with the World Health Organization (WHO), it is technically co-sponsored by the IEEE and IEEE ComSoc, and The Lancet Digital Health.

WHO warns that at least half of the world’s population is still not fully covered by essential health services. In countries with sufficient coverage, caring for an ageing population requires significant expenditure from governments, as well as public and for-profit entities. Moreover, emergency response teams working in distress and disaster situations depend on interoperable and survivable networks and systems to effectively and efficiently rescue individuals and communities at risk.

Digital health is part of the "Fourth Industrial Revolution", where innovative ICT applications are mobilized to revolutionize the health sector – from manufacturing, to research and discovery, and health delivery. It harnesses new applications in ICTs to help tackle the technical and socio-economic challenges we face around health. The use of 5G, machine-to-machine (M2M) communications, cloud computing, the Internet of Things (IOT), etc. will lead the way to new frontiers in health services and towards the goal of universal, quality health coverage. Digital health will place rigorous requirements on communication networks including stricter requirements on service quality, tighter legal protections, and a more active role on the part of public authorities.

Kaleidoscope 2019 targets specialists in the fields of ICT, digital health and socio-economic development, including researchers, academics, students, engineers, computer scientists, policymakers, regulators, innovators, futurists, clinicians and health practitioners.

Accepted and presented papers will be published in the Conference Proceedings and will be submitted for inclusion in IEEE Xplore Digital Library. The best papers are also 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](http://www.inderscience.com/jhome.php?jcode=IJTMKT), the [International Journal of Standardization Research](http://www.igi-global.com/journal/international-journal-standardization-research-ijsr/145878), or the [Journal of ICT Standardization](http://www.riverpublishers.com/journal.php?j=JICTS/2/2/jef). Pre-selected papers have been evaluated for potential publication in [*The Lancet Digital Health*](https://www.thelancet.com/journals/landig/home).

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.

Partners for this year’s edition which supported the promotion of the conference are EURAS, IEICE, IIEEJ, RWTH Aachen University, Universidad del Pais Vasco and Waseda University.

An 11-month, substantial preparatory process is required for this Kaleidoscope edition which involves the efforts and collaboration of dedicated Steering Committee members: Michael Best (Georgia Institute of Technology, USA); Christoph Dosch (ITU-R Study Group 6 Vice-Chairman; IRT GmbH, Germany); Kai Jakobs (RWTH Aachen University, Germany); Mitsuji Matsumoto (Professor Emeritus Waseda University, Japan); Sameer Pujari (World Health Organization (WHO), Rupa Sarkar (The Lancet Digital Health, UK); Daidi Zhong (Chongqing University, China) and Mostafa Hashem Sherif (Consultant, USA), who also chairs the Technical Programme Committee (TPC) of over 66 members (all internationally recognized ICT experts from academia, research institutes and the private sector), ensuring transparency through the double-blind peer-review process.

In addition to the 19 papers selected for presentation at the conference, the programme will feature two invited papers. The first one is authored by Ms Shan Xu from the Smart Health Department of the China Academy of Information and Communications Technology (CAICT). The second one is authored by Markus Wenzel, Fraunhofer Institute for Digital Medicine MEVIS, Germany and Thomas Wiegand, Fraunhofer Institute for Telecommunications Heinrich Hertz Institute, Germany, and is titled: “Towards international standards for the evaluation of Artificial Intelligence for health”.

We are currently in the process of identifying high-level keynote speakers.

We are also looking for sponsors among ITU Sector Members. Taking into consideration the conference objectives, as well as the work of our Sector Members, we believe that this academic conference offers an opportunity for mutual benefit. As a sponsor, the entity will be able to demonstrate its thought leadership, offer its expertise and network with experts, academics and decision makers involved in the standardization process. For more information on the sponsorship packages on offer, including an exhibition space and the possibility to give a keynote speech, please do not hesitate to contact us.

Next Kaleidoscope

# ITU has also initiated the process to select the Host and theme for the next Kaleidoscope edition and welcomes proposals from the ITU Members States by the end of October 2019. The aim is to announce the 12th Kaleidoscope academic conference and launch its Call for Papers in Atlanta, at Kaleidoscope 2019. Kaleidoscope 2020 can be held either in September, October or in the first two weeks of December.

# ITU also welcomes invitations for Kaleidoscope 2021 and beyond. For any additional information, please contact the ITU Kaleidoscope Secretariat.

Official recognition of Kaleidoscope

The success of the ITU Kaleidoscope academic conferences has been acknowledged by PP-18 delegates in the following resolutions:

* RESOLUTION 169 (REV. DUBAI, 2018) - Admission of academia to participate in the work of the Union: “that the Kaleidoscope event, held annually since 2008, is an ITU initiative to strengthen cooperation with academia that **has been highly successful**, and has addressed many topics, including innovations for digital inclusion, new emerging technologies and building sustainable communities”; “instructs the Director of the Telecommunication Standardization Bureau to continue to **organize the Kaleidoscope event annually** on a rotational basis, to the greatest extent possible”; “to **encourage the participation of academia in** various open events and activities organized or co-organized by ITU, such as ITU Telecom World, **ITU Kaleidoscope**, World Summit on the Information Society forums and other workshops and forums”.
* RESOLUTION 198 (REV. DUBAI, 2018) - *Empowerment of youth through telecommunication/information and communication technology: “*recognizing the annual "Kaleidoscope" academic essay competition organized by the ITU Telecommunication Standardization Sector (ITU‑T), targeting young ICT scientists, researchers and engineers;
* RESOLUTION COM5/1 (DUBAI, 2018) - ITU Journal: ICT Discoveries: “that the Kaleidoscope event, held annually since 2008, **has increased dialogue between Academia and ICT standardization experts**, identifying, through original, peer-reviewed papers, areas in need of international standards to assist the development of the information society”.

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