

11TH ITU ACADEMIC CONFERENCE

ITU KALEIDOSCOPE

ATLANTA 2019

*ICT for Health:
Networks, standards and innovation*

4-6 December
Atlanta, USA

CALL FOR PAPERS

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ITU KALEIDOSCOPE

ATLANTA 2019

ICT for Health: Networks, standards and innovation

CALL FOR PAPERS

Kaleidoscope 2019 - ICT for Health: Networks, standards and innovation is the eleventh 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.

This year's conference will be hosted by the Georgia Institute of Technology.

Theme

The World Health Organization 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 expenditures 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.

New applications of information and communication technology (ICT) show great potential to assist in overcoming socio-economic challenges in what is being called "digital health".

Digital health is part of the "Fourth Industrial Revolution" where innovative ICT applications are mobilized to revolutionize the health sector - from the manufacturing of medical devices and systems to medical research, drug discovery and healthcare delivery - leading to increased life expectancy and a greatly enhanced quality of life.

There are many innovations in ICT that will be integrated into digital health such as 5G, machine-to-machine (M2M) communications, cloud computing, the Internet of Things (IOT), big data, artificial intelligence and machine learning, precision medicine, telemedicine and biotelemetry, etc. All these streams of technologies lead to new frontiers in health services, towards the goal of universal health coverage that is efficient and cost-effective while ensuring quality care. Digital health will place rigorous requirements on communication networks in terms of availability, reliability, survivability, and security, including stricter requirements on service quality, tighter legal protections, and a more active role on the part of public authorities.

Objective

Kaleidoscope 2019 calls for original academic papers addressing ICTs' contribution to innovation in healthcare delivery and medicine. In particular, the conference encourages submissions highlighting the role to be played by communication networks and international standards in achieving affordable access to healthcare for everyone, everywhere. This objective is fully in line with the United Nations Sustainable Development Goals.

Audience

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.

Date and venue

4-6 December 2019, Georgia Institute of Technology, Atlanta, Georgia, United States.

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-2019> 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

Submission of full paper proposals extended: **1 July 2019**

Notification of paper acceptance: **23 September 2019**

Submission of camera-ready accepted papers: **14 October 2019**

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*.

Suggested (non-exclusive) list of topics

Track 1:
Technology, network
infrastructure
and architecture
evolution

- Network availability, survivability, security, and management of privacy
- Architecture for remote medical interventions using M2M, IoT, sensor networks
- Wireless sensor and actuator networks for health applications
- Networking technologies and cloud computing for digital health
- Performance aspects, such as reliability, quality of service, and quality of experience
- Interoperability of systems and applications
- Data as a service (DaaS) for digital health, e.g. electronic health records (EHR)
- Requirements for data storage and protection

Track 2:
ICT applications and
services for health

- Telemedicine, telehealth and biotelemetry
- Emergency medical care
- Medical interventions in disaster areas
- Health informatics
- Big data modelling, machine learning, artificial intelligence enabled solutions
- Cloud computing services for digital health
- Data science and analytics for smart hospitals
- Health information exchange, interoperability and data integration
- Technology, standardization and innovation for accessibility and digital health applications
- Medical decision-making
- Interventions in public health
- Precision and personalized medicine

Track 3:
Social, economic,
legal, ethical and
policy aspects of ICT
for health

- Management for electronic and virtual health cards
- Public health policies, such as inclusiveness, affordability and accessibility
- Security, privacy and trust issues
- Digital rights and identity management
- Financing digital health
- Legislative and regulatory frameworks
- Ethical issues
- Training for digital health

General Chairman

Chaouki Abdallah, Executive Vice President for Research, Georgia Institute of Technology, United States

Steering Committee

Michael Best, Georgia Institute of Technology, United States

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

Kai Jakobs, RWTH Aachen University, Germany

Mitsuji Matsumoto, Waseda University Emeritus Professor, Japan

Mostafa Hashem Sherif, Consultant, United States

Daidi Zhong, Chongqing University, China

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

Digital health; healthcare architectures, technologies and services; policies and ethics for digital health; health data storage and protection; information and communication technologies (ICTs); standards for networks; and digital health applications.

Host Committee

Co-chairs: Michael Best and Elizabeth Mynatt, Georgia Institute of Technology, 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 will be available shortly at: <http://itu.int/en/ITU-T/academia/kaleidoscope/2019/Pages/progcom.aspx>

Additional information

For additional information, please visit the conference website: <http://itu.int/go/K-2019>. Inquiries should be addressed to Alessia Magliarditi at kaleidoscope@itu.int