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To:

- ITU Member States
- ITU Sector Members, Associates, Academia and relevant international, regional and national organizations

Subject: **ITU Kaleidoscope 2024 - Innovation and digital transformation for a sustainable world, New Delhi, India (21-23 October 2024)**

Dear Sir/Madam,

1 As part of the Kaleidoscope series of conferences, an initiative of the International Telecommunication Union (ITU) to increase the dialogue between academia and industry R&D, I am pleased to inform you about the fifteenth in a series of forward-looking academic conferences that aim to identify emerging developments in information and communication technologies (ICTs) and, in particular, areas in need of international standards to aid the sustainable development of our interconnected world. *Innovation and digital transformation for a sustainable world* will be held in New Delhi, India from 21-23 October 2024 in parallel with the World Telecommunication Standardization Assembly 2024 (WTSA-24).

2 *Kaleidoscope 2024* calls for original, academic papers exploring technological innovation and digital transformation's implications for policy, regulation, legal and ethical frameworks, the economy, and society. **Emphasis is placed on how international ICT standards contribute to achieving the UN SDGs.** The full text of the call for papers may be found in **Annex 1**. The deadline for submissions is **29 April 2024**.

3 Participation is open to ITU Member States, Sector Members, Associates and Academic Institutions and to any individual from a country which is a member of ITU who wishes to contribute to the work. This includes individuals who are also members of international, regional and national organizations. The event is free of charge.

4 We encourage all ITU members to promote this event within the research community of their countries, including universities, academic institutions, industry R&D, and startups. The programme will also feature a special session focusing on youth and standardization.

5 Detailed information concerning registration and logistics will be available on the event's webpage, <http://itu.int/go/K-2024>, closer to the date of the conference. Please note that pre-registration of participants for this event will be carried out exclusively online.

Yours faithfully,

(signed)

Doreen Bogdan Martin
Secretary-General

Annex: 1

ANNEX

15TH ITU ACADEMIC CONFERENCE

ITUKALEIDOSCOPE NEW DELHI 2024

*Innovation and digital transformation
for a sustainable world*

**21-23 October 2024
New Delhi, India**

CALL FOR PAPERS

Hosted by



Organized by



ITU KALEIDOSCOPE

NEW DELHI 2024

Kaleidoscope 2024: Innovation and digital transformation for a sustainable world is the fifteenth 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 Kaleidoscope is to foster collaboration and discussion on emerging trends in technologies for a digital and sustainable transformation that can benefit humanity.

CALL FOR PAPERS

Preamble

The United Nations (UN) 2030 Agenda for sustainable development, which includes the 17 Sustainable Development Goals ([SDGs](#)), recognizes that “*the spread of information and communication technology and global interconnectedness has great potential to accelerate human progress, to bridge the digital divide and to develop knowledge societies, as does scientific and technological innovation across areas as diverse as medicine and energy*”.

The UN Secretary-General’s vision on the future of global cooperation puts forward an upgraded UN that can offer more relevant, system-wide, multilateral and multi-stakeholder solutions to better respond to humanity’s most pressing challenges, focusing significantly on innovation and digital transformation.

Sustainable digital transformation and universal connectivity are ITU’s main goals, as indicated in the Union’s Strategic Plan, which put forward a clear vision for “*an information society, empowered by the interconnected world, where telecommunication/information and communication technologies (ICTs) enable and accelerate social, economic and environmentally sustainable growth and development for everyone*”.

Theme

The theme of the fifteenth edition of the ITU Kaleidoscope academic conference captures the ongoing global efforts to harness the power of technology for positive and sustainable change.

The landscape of innovation and digital transformation is evolving at an unprecedented pace, influencing every aspect of our lives, and profoundly impacting global development. As we strive to achieve the SDGs and address pressing societal and environmental concerns, the role of ICTs becomes pivotal.

The conference invites contributions that delve into cutting-edge research, transformative technologies, and innovative practices that underpin the digital revolution with a focus on sustainability and standardization. From the fundamental restructuring of network infrastructures to the applications shaping sustainable development, and the enabling technologies driving these advancements, we seek to explore the multidimensional facets of innovation and digital transformation.

Objective

The fifteenth Kaleidoscope conference calls for original, academic papers exploring technological innovation and digital transformation’s implications for policy, regulation, legal and ethical frameworks, the economy, and society. **Emphasis is placed on how international ICT standards contribute to achieving the UN SDGs.**

Audience

Kaleidoscope 2024 targets specialists in the fields of ICT and socio-economic development, including researchers, academics, students, engineers, policymakers, regulators, and innovators.

Date and venue

21-23 October 2024, in conjunction with the World Telecommunication Standardization Assembly 2024 (WTSA-24), 15-24 October - www.itu.int/wtsa/2024/

Submission of papers

Submission of full, original papers should be within eight pages, including a summary and references, using the template available on the event website. All papers will go through a double-blind peer-review process. Submission must be made electronically; see <http://itu.int/go/K-2024> for more details on online submission (EDAS). Paper proposals will be evaluated according to content, originality, clarity, relevance to the conference's theme and, in particular, significance to future standards.

Deadlines

Submission of full paper proposals: **29 April 2024**

Notification of paper acceptance: **12 July 2024**

Submission of camera-ready accepted papers: **2 August 2024**

Publication and presentation

Accepted and presented papers will be published in the Conference Proceedings.

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

Artificial intelligence, cloud computing, digital transformation, extended reality, green communications, human-oriented technologies, Internet of Things, machine learning, metaverse, mobile and wireless communications, regulation and standardization, security and privacy in cyberspace, technological innovation, UN agenda for sustainable development.

Suggested (non-exclusive) list of topics:

Track 1

Technology, next-generation network architectures

Future mobile and wireless communication networks and network infrastructures (5G and beyond)
Energy-efficient cloud computing and sustainability
Cyber-physical systems for environmental monitoring and management
System architectures for extended Reality (XR), metaverse, and Immersive Live Experience (ILE)
Security, privacy, and trust in decentralized and distributed systems
Edge computing and fog computing for real-time applications
Machine learning and AI-driven optimization in sustainable solutions: Quality of Service (QoS), Quality of Experience (QoE) and performance
Network resilience in disaster relief and recovery systems
Quantum communication for secure and resilient networks
Optical and wireless communication convergence system
Long-distance and ultra-high-speed transmission network systems (terabit, exabit)
Efficient communication and design in IoT and sensor networks
Circular economy approaches in ICT waste management

Track 2

Applications and services for sustainable development

AI-driven personalized e-services for health and well-being
IoT applications for water quality monitoring and sanitation
Sustainable energy services
Smart transportation and urban mobility applications
Data analytics for monitoring and assessing development goals
Robotics and drones for eco-friendly applications
Technology for aging in place and ambient assistive living
Sustainable smart cities and communities
Provision of adequate security and privacy services

Track 3

Enabling technologies

Data processing, management and analytics
Interoperability in decentralized and distributed systems
Next-generation human-computer interaction
Location-based services and spatial registration technologies
Semantic computing and communications
Service chaining, orchestration and federation
Technology convergence: computing network convergence, IT/OT (operational technology) convergence, etc.
Modelling and simulation for digital twins and digital humans
Emerging AI techniques and algorithms including Generative AI
Edge intelligence with on device AI
Blockchain/distributed ledger technologies with incentive and consensus mechanisms
Technologies for quality and sustainable online education
Alternate technology options for rural connectivity
Integration of existing mechanisms to provide for security and privacy

Track 4

Social, economic, environmental and policy aspects for sustainable development

Standards and regulations for sustainable development and sustainable ICT solutions

ICT strategies for sustainable development

Regulatory mechanisms under the convergence paradigm

Environmental implications of cloud computing services

Accessibility and usability in technology solutions

Engineering education for sustainable development

Modelling of the role of technology in society

Intellectual property rights in the digital era

Conformance and interoperability for global technology adoption

Regulation to enforce adequate security and privacy mechanisms

Generating a sustainable echo-system for the Startups

Steering Committee

Christoph Dosch, Former Chairman of ITU-R Study Group 6; ARD, Germany

Debkumar Chakrabarti, Ministry of Communications, India

Eva Ibarrola, University of the Basque Country, Spain

Kai Jakobs, RWTH Aachen University, Germany

Gyu Myoung Lee, Liverpool John Moores University, United Kingdom

Tiziana Margaria, University of Limerick, Ireland

Mitsuji Matsumoto, Waseda University Emeritus Professor, Japan

Roberto Minerva, Télécom SudParis, France **Vishnu Ram OV**, Independent Consultant, India **Mostafa**

Hashem Sherif, Consultant, United States **Atul Sinha**, Ministry of Communications, India

Technical Programme Committee

Mostafa Hashem Sherif, Consultant, United States

The Technical Programme Committee is composed of international subject-matter experts. Details will be available shortly at <http://itu.int/en/ITU-T/academia/kaleidoscope/2024/Pages/progcom.aspx>.

Additional information

For additional information, please visit the conference website: <http://itu.int/go/K-2024>. Inquiries should be addressed to Alessia Magliarditi at kaleidoscope@itu.int.
