



总秘书处 (SG)

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致:
- 国际电联各成员国
- 国际电联各部门成员、部门准成员、学术成员和相关国际组织、区域性组织和国家组织

事由: **2021年国际电联大视野会议 – 连接现实世界与虚拟世界**
2021年12月6-10日 (在线)

尊敬的先生/女士,

1 我高兴地向您通报, 将举办第十三次具有前瞻性的系列学术大会, 作为大视野系列会议活动的一部分, 这是国际电联为增进与学术界和研究机构的合作而开展的举措, 目的在于确定信息通信技术 (ICT) 的新兴发展状况, 尤其是那些需要国际标准来帮助我们互连世界中可持续发展的领域。由于新冠疫情 (COVID-19) 的原因, “2021年国际电联大视野会议 – 连接现实与虚拟世界” 将于2021年12月6-10日例外地在线举办。

2 2021年大视野会议征集原创学术论文, 以分享对于正在进行的项目和与持久的虚拟现实和定制的计算机生成环境的开发相关的研究的见解。会议尤其鼓励针对实现这一转型所需的网络和服务的技术标准提交论文, 包括对社会和道德影响方面的考虑。论文征集函全文见附件1。论文提交截止日期为2021年6月27日。

3 国际电联成员国、部门成员、部门准成员和学术机构以及愿参加此工作的来自国际电联成员国的任何个人均可参加。这里所指的“个人”亦包括作为国际、区域和国家组织成员的个人。会议免费参加。

4 我们鼓励所有国际电联成员在各自国家的科研界推广此重大活动。

顺致敬意！

[原件已签]

秘书长
赵厚麟

附件：1件

13TH ITU ACADEMIC CONFERENCE

ITU KALEIDOSCOPE

ONLINE 2021

*Connecting physical and
virtual worlds*

6-10 December 2021
ONLINE

CALL FOR PAPERS

Partners



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ITU KALEIDOSCOPE

ONLINE 2021

Kaleidoscope 2021 “Connecting physical and virtual worlds” is the thirteenth 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 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.

Call for papers

Theme

The pace of digital transformation continues to erode the barriers between the physical and virtual worlds. Things, places and people are being mirrored in a parallel virtual world. At the same time, our communications experiences are moving beyond communications through screens to become immersive experiences, creating a continuum of human-to-human, human-to-things and things-to-things interactions.

The COVID-19 pandemic, with its requirements of social distancing, has accelerated this shift towards immersive experiences to optimize interactions in business and education as well as fields such as healthcare, engineering, product development, automotive, logistics, retail and entertainment.

The ICT industry has two key roles to play in supporting very stringent communications requirements and creating a “networked” infrastructure for supporting ubiquitous services that can be on devices, at the edge of the network, in the core or in large datacentres. Emerging ICTs are blurring the borders between computing, storing and communications capabilities, creating gigantic distributed programmable environments. How can technical standards policies and regulations pave the way to a hyperconnected future? Would such a future be desirable in the first place? How can we ensure that this shift is human centred? Is the society ready for this change?

Objective

Kaleidoscope 2021 calls for original academic papers sharing insight into ongoing projects and research relevant to the development of persistent virtual realities and customized computer-generated environments, as well as new possibilities and associated challenges appearing on the horizon. Particularly, this conference encourages submissions on technical standards for networks and services required to enable this transformation, including considerations on social and ethical implications.

Audience

Kaleidoscope 2021 targets specialists in the fields of ICT and socio-economic development, including researchers, academics, students, engineers, policymakers, regulators and innovators.

Date and venue

Due to COVID-19, Kaleidoscope 2021 will be held exceptionally online from 6-10 December 2021.

Suggested (non-exclusive) list of topics

- Track 1:**
Network infrastructure and architecture enabling ubiquitous communications
- Design, requirements, architectures and protocols for immersive systems
 - System architectures for virtual reality (VR), augmented reality (AR), mixed reality (MR), extended reality (XR), and immersive live experience (ILE)
 - Future mobile and wireless communications (5G and beyond)
 - Networking and multimode connectivity
 - Integration/exchangeability of processing storage and communication
 - Real-time performance and network latency aspects
- Track 2:**
New spatial applications and services
- Ubiquitous communications in arts, gaming, leisure, sports, and entertainment
 - Immersive live experience in business, education, healthcare, commerce and entertainment
 - Evolution of manufacturing and industrial production systems
 - Urban planning and ecosystem services
- Track 3:**
Enabling technologies
- Artificial intelligence (AI) and machine learning
 - Data processing and management (analysis, quality, exchange, interoperability and integration prediction)
 - Video coding and streaming
 - Omnidirectional, 360-deg, immersive video, spatial audio
 - Conversational and speech interfaces
 - Visualization techniques, display technologies (e.g. head-mounted displays, eyewear, smart watches, projectors)
 - Touch, tangible and gesture interfaces
 - Digital twins, spatial computing
 - Multimodal input and output, localization, spatial registration and tracking
 - Quality of experience (QoE) aspects and assessment
- Track 4:**
Security, privacy and trust, including socio-economic and ethical aspects
- Security architectures, trust, identity management, privacy preserving mechanisms
 - The ergonomics of cyberattacks and security threats
 - Emerging privacy and security threats in cyber spaces
 - Threat models and attack strategies
 - Security applications and management
 - Standards, regulations and policies
 - Evolution of standardization for the new realities
 - Ethical and legal issues in the new realities (VR, AR, MT, XR, ILE)
 - Socio-economic implications

Additional information

For additional information, please visit the conference website: <http://itu.int/go/K-2021>. Inquiries should be addressed to Alessia Magliarditi at kaleidoscope@itu.int.

Submission of papers

Prospective authors from ITU Member States 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-2021> 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: **27 June 2021**
- Notification of paper acceptance: **1 October 2021**
- Submission of camera-ready accepted papers: **15 October 2021**

Submit your paper at <https://edas.info/N28293>

Awards

A prize fund totaling 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, 5G and beyond networks, ultra-low latency, resilience, reliability, virtual reality (VR), augmented reality (AR), mixed reality (MR), extended reality (XR), immersive live experience (ILE), spatial computing, smart systems, cyber physical systems (CPS), digital twins, virtual command centers, data privacy, information security, surveillance, panopticon, cyber threats and attacks, trustworthiness

Publication and presentation

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

Steering Committee

- 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
- Tiziana Margaria, University of Limerick, Ireland
- 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 international ICT experts. Details are available at: <http://itu.int/en/ITUT/academia/kaleidoscope/2021/Pages/progcom.aspx>.

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