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MONTREAL, CANADA - 12-14 OCTOBER



# Call for Papers

## SYMPOSIUM ON CONNECTING THE UN/UNDER-CONNECTED IN 5G AND FUTURE NETWORKS (CTU)

### SYMPOSIUM CO-CHAIRS

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### SCOPE AND MOTIVATION

There are numerous projects and initiatives ongoing around the world, however these are fragmented and lack the critical mass and coordination to be able to impact the future standards, product development, and cost of deployment otherwise achievable by volume. The workshop aims to bring all those activities together in a single event to discuss the challenges, solutions, and potential for collaboration opportunities while influencing the network service providers, manufacturers and the governments around the world to raise the issues to the forefront.

While technologies are available today, they need to be customized and optimized at the systems level to bring down the cost of network in order to be affordable. In addition, the content needs to be relevant and in local languages to be of useful, not to mention the need to offer innovative human-computer interaction (HCI) solutions (that are not text based) so that people who are not literate or digitally savvy can easily use the devices and consume services. Another important requirement is of flexible spectrum allocation regime at the lower range of the spectrum to increase reach and coverage. Use of renewable energy sources will enable deployment in remote areas where there is lack of power grid or it is intermittent. In short, this workshop will highlight a number of technology gaps that should be addressed in 5G and B5G networks, such that access is affordable and content and services are actually consumed by the target set of users. Technology aside, need to develop innovative business models is a must so that the solutions are commercially sustainable in the long-term. A number of such models, especially designed for the rural population, will be discussed, such as Village Level Entrepreneur (VLE), Freemium (Free + Premium), revenue sharing among the cascade of service providers, subsidized billing by USOF (Universal Service Obligation Funds). Finally, the workshop aims to summarize the state-of-the-art from today to 3 years, 5 years and 10 years.

## TOPICS OF INTEREST

We invite submissions on a wide range of research topics, spanning both theoretical and systems research, including results from industry and academic/industrial collaborations, related but not restricted to the following topics:

### *Technological Issues*

- 3GPP releases and equipment timelines as related to the goals of CTU
- Coverage and power issues
- Backhaul networks – terrestrial and non-terrestrial
- Content storage and distribution
- Infrastructure pooling and security
- Network architectures
- Role of IoT and machines in rural and remote communities
- Human-computer interaction
- Authentication, security and privacy in the context of digitally illiterate users

### *Advanced Applications and Services*

- Different Classes of Services
- QoS and application interfaces commensurate with user capacities

### *Economic Factors*

- Cooperative Business Models

- Novel business models that are affordable
- Enablement of vertical industries
- Cost of connectivity
- User ownership
- Micro-operator eco-system

### *Legal and Regulatory*

- Spectrum usage
- Revenue sharing models
- GDPR
- Access to Data
- Data Ownership

### *Availability, Reliability and Liability*

#### *Deployment issues*

- Rural / Low-population density areas
- Scalability issues

#### *Financing issues*

- Infrastructure investments
- Coordination and Co-investment
- Institutional facilitation

## TPC MEMBERS

Sandeep Agrawal  
Daniel Altanirano  
Mohamed-Slim Alouini  
Josef Noll  
Marvin Arias Olivas  
Abhishek Thakur  
Anuj Agrawal  
Vimal Bhatia  
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Matogoro Jabhera  
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Netta Iivari  
Marcos Katz  
Atte Kinnula  
Harri Oinas-Kukkonen  
Ian Oppermann  
Ella Peltonen  
Volker Ziegler

## IMPORTANT DATES

Paper Submission: **21 August 2022 (firm)**  
Notification: Rolling basis until 31 August 2022  
Camera Ready: 7 September 2022

## HOW TO SUBMIT A PAPER

All papers for technical symposia should be submitted via [EDAS](#).

Full instructions on how to submit papers are provided on the IEEE FNWF 2022: <https://fnwf.ieee.org/>

