



Workshop on Intelligent and Cloud-based RAN



General Co-chairs

- **Qi Sun**
China Mobile Research Institute, China
- **Yongming Huang**
Southeast University, China
- **Nurit Sprecher**
Nokia Standards, Israel

Main contact

sunqiyjy@chinamobile.com
huangym@seu.edu.cn
nurit.sprecher@nokia.com

Important Dates

- ❖ Paper submission deadline:
January 20, 2022
- ❖ Notification of acceptance:
March 06, 2022
- ❖ Camera-ready papers:
March 15, 2022

Submission link

<https://edas.info/N28800>

Webpage link

<https://sites.google.com/view/iccovicom2021/home>

Scope

Driven by the diversified scenarios and services, as well as exponentially increasing mobile traffic, 5G networks are becoming more agile, software driven and virtualized. Building a highly competitive 5G with a large number of antennas and extremely flexible physical layer processing, supporting various spectrum bands, and deployment scenarios will add complexities and cost challenges. To manage this complexity, deliver services with agility and speed, and ensure economic sustainability, 5G networks design needs to embrace new cutting-edge technologies. Intelligence and cloudification are widely recognized as key driving forces in the evolution of 5G radio access networks. Wireless big data combined with AI/ML enables automation of the networks operations and allows building networks that support self-configuration, self-monitoring, self-healing and self-optimization without further human intervention. This will lead to significant reduction of OPEX and improvements in network performance and resource efficiency. Cloudification enables agile and on-demand placement, deployment, activation, scaling, de-activation and decommissioning of functional components (ideally lightweight, disaggregated into microservices) and rich platform services that can be used by applications (e.g., ML, big data). Furthermore, this will help speed-up innovation and open 'beyond connectivity' growth opportunities by intelligently connecting enterprise/vertical/OTT applications and communication service providers' services.

This workshop explores the intelligent and cloud-based RAN. The proposed half-day workshop is to bring together researchers and experts from academia and industry to share the latest challenges, technologies, solutions, techniques and fundamentals pertaining to this cutting-edge research topic.

Topics

We seek original completed and unpublished work not currently under review by any other journal/magazine/conference. Topics of interest include, but are not limited to:

- AI/ML empowered RAN Intelligent optimization use cases, including but not limited to QoS/QoE optimization, mobility optimization, load balancing, dual connectivity, interference management, scheduling optimization
- Architecture supporting
 - ✓ Autonomic, cognitive and intent-based autonomous RAN
 - ✓ RAN data management framework
 - ✓ Advanced AI/ML technologies, federated learning
 - ✓ Interaction, coordination and conflict resolution between the automation processes
 - ✓ Integration within the E2E network and service automation
 - ✓ RAN as a Service for vertical industries
- Cloud-native based RAN
- Openness
- Security aspects
- Gaps, challenges and opportunities with AI/ML in intelligent RAN
- Industry landscape and Standardization efforts for intelligent and cloud-based RAN
- Testbeds/ PoC/Experimentation to validate or support the intelligent and cloud-based RAN

Paper Submission

The workshop accepts only novel, previously unpublished papers. The page length limit for all initial submissions for review is SIX (6) printed pages (10-point font) and must be written in English. All final submissions of accepted papers must be written in English with a maximum paper length of six (6) printed pages (10-point font) including figures. No more than one (1) additional printed page (10-point font) may be included in final submissions and the extra page (the 7th page) will incur an over length page charge of USD100. For more information, please see IEEE ICC 2022 official website: <https://icc2022.ieee-icc.org/authors>