



ISWCS 2019

16th International Symposium on Wireless Communications Systems

27-30 August
Oulu Finland

Technically co-sponsored by IEEE ComSoc, VTS and Eurasip

Workshop organizers:

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Harri Saarnisaari, CWC, University of Oulu, Finland
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RANGE



Important Dates

Full paper submission: **May 17, 2019**
(extended)
Acceptance notification: **June 14, 2019**
Camera-ready paper: June 28, 2019
Author registration: June 28, 2019

Workshop: August 27, 2019

Call for Workshop Papers

WS01: 5G for Remote Areas including the Arctic (5G-RAA)

Most of telecommunications companies and research communities have not yet paid much attention to provide broadband Internet access for the 4 billion people who live in rural areas. Indeed, there are many technological, regulatory and business-related challenges to make a remote area broadband reality. 5G-RANGE project (<http://5g-range.eu/>) proposes to leverage on the opportunistic usage of TVWS in the VHF and UHF bands. Opportunistic usage of TVWS requires combined spectrum sensing and database approach as well as novel solutions to the cognitive MAC layer. Attention must also be paid to design of advanced coding, flexible waveform, MIMO and beamforming techniques. The network architecture solution must be designed in an economically feasible manner and the integration of satellite networks as a backhaul for remote areas base stations needs to be addressed. Due to low density of users in the target areas, new business models need to be discovered in comparison to traditional mobile network scenario in urban areas. There are also regulatory related challenges since long-range links may need higher transmit power values which are not currently allowed to be used, e.g., at UHF TV bands. The goal of the workshop is to get together the experts working with the described challenges, and to explore the state-of-the-art in the development of solutions to enable the 5G (and beyond) networks to provide an economically effective solutions for Internet access for remote areas including the Arctic.

The workshop solicits original unpublished contributions on the following areas in the context of 5G-RAA:

- PHY layer solutions to improve communication range and reliability
- Channel models and measurements for rural area
- Spectrum sensing
- Cognitive MAC layer solutions
- Networking (NET layer) solutions
- Wireless backhaul solutions
- Fog computing
- Satellite networks and 5G integration
- Novel applications and use cases
- Business models
- Demonstrations and trials
- Regulatory aspects and standardization

Submission Guidelines

Only full papers are considered. The length should not be longer than five A4 pages (in IEEE two-column format, 10pt, according to the IEEE template). Papers must be submitted via [EDAS](#).



UNIVERSITY OF OULU

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