3rd International Workshop on 5G RAN Design
in conjunction with IEEE ICC 2017, May 25 2017, Paris, France

A workshop jointly organized by the 5G-PPP projects: METIS II, FANTASTIC-5G, mmMAGIC, 5GXCrosshaul the integrated fronthaul/backhaul, Flex5Gware

Workshop Call for Papers — http://www.5G-RAN-design.org

While 5G research has already started some years ago, with large collaboration projects such as METIS initially paving the ground by aligning views on key use cases and requirements, and by identifying and researching key technology components for 5G, there is still a long way to go before the successful roll-out of commercial 5G deployments. In particular, there is still the need to find consensus on key design aspects in 5G, as for instance how tightly novel air interfaces variants in 5G will be integrated with each other and with legacy technology, and to which extent functionality on different protocol stack layers can be harmonized for all bands, services and cell types. The 5G PPP projects METIS-II, FANTASTIC-5G, mmMAGIC, 5G-CROSSHAUL and Flex5Gware all have the aim to take the 5G design one step further in level of detail, find consensus on key design aspects such as mentioned above, and prepare a smooth start of 3GPP study items in 2016 and work items in 2017.

The workshop will build upon its very successful predecessors, focus on the 5G RAN design and provide the opportunity to share and discuss final results from the mentioned projects or other 5G research activities. The workshop organizers solicit original, unpublished technical papers in particular in the following fields:

- **Physical layer and hardware implementation concepts related to 5G**, as for instance
  - waveforms, synchronization, numerology, unified frame structure concepts
  - effect of hardware impairments on the PHY design
  - means for ultra low-latency and ultra high-reliability, native support of D2D V2X and multi-cast
  - low-complexity massive MIMO solutions and related enablers
  - solutions for contention-based acces (TDD/FDD, pilot contamination, antenna correlations etc)
- **MAC, RLC, PDCP and RRC concepts**, in particular related to a an efficient integration of multiple novel 5G air interfaces among each other, and with evolved legacy technology. Examples:
  - Novel resource management concepts, tailored to support a wider range of service and QoS requirements and novel communication forms such as D2D, or spectrum sharing (LSA, ASA)
  - Novel initial access and mobility concepts, in particular in the context of the integration and co-location of multiple novel and legacy air interface in 5G
  - Novel multi-connectivity approaches and related system enablers
- **Backhaul/fronthaul design** and capabilities for multi-tier ultra-dense heterogeneous small cell networks
  - Joint design and optimization of radio access and backhaul/fronthaul networks
  - Optimized backhaul/ fronthaul integration (wireline or wireless) and control
  - Backhauling and fronthauling options for a split control and data plane
- **RAN Architecture concepts** associated to the overall control plane and user plane design such as
  - E2E Network slicing, in particular its impact to the RAN
  - Novel 5G RAN Interfaces, CN/RAN interface, functional placement
  - Concepts associated to the impact of SDN/NFV to the 5G RAN design
- **Energy efficiency** assessment of the 5G RAN
- **Business models** and techno-economic assessment for the 5G RAN

WORKSHOP ORGANIZERS:

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To be confirmed

IMPORTANT DATES:

Paper submission: **Nov 18, 2016**
Author notification: Feb 17, 2017
Camera-ready: March 10, 2017

PAPER SUBMISSION:

Papers should follow the 2-column IEEE conference template and not exceed 6 pages (one additional page is possible for an extra fee of USD 100 upon acceptance), and be submitted through the EDAS paper submission website. Accepted papers will be available at IEEEXplore. At least one author of accepted papers is required to register at the full workshop rate.