Special Session on Innovative Architectures, Wireless Technologies and Tools for High Capacity and Sustainable 5G Ultra-Dense Cellular Networks

Organizers: Marco Di Renzo, Paris-Saclay University / CNRS (Paris, France)
John Vardakas, IQUADRAT (Barcelona, Spain)
Yves Lostanlen, SIRADEL (Rennes, France)

Call for Papers
The fifth-generation (5G) is coming. Quo vadis 5G? What architectures, network topologies and technologies will define 5G? Are methodologies to the analysis, design and optimization of current cellular networks still applicable to 5G? Most likely, no single architecture and technology will be capable of meeting all the requirements of 5G networks, as a function of the requested quality of service, user-experience, desired performance, hardware and signal processing complexity constraints and channel conditions. In the light of that, and in stark contrast with previous generations of cellular networks that were characterized by fixed radio parameters and spectrum blocks, 5G networks will be allowed to opportunistically utilize never used frequency bands and to exploit multiple technologies for guaranteeing the best delivery of services to the end users. As such, there is general consensus that 5G will not be a mere evolution (just another generation) of the status quo, but it will need radical and disruptive changes in its architectures, topologies and technologies. Such a fundamental and radical paradigm-shift in network design and architecture requires cross-sectoral skills and background, which can very unlikely be realized by researchers that have not received personalized training on innovative technologies and adequate methodological tools to their analysis.

The fundamental objective of this Special Session is to gather innovative papers that are aimed to critically illustrate and discuss essential and enabling 5G technologies, including (but not limited to):

- 5G network architectures
- Ultra-dense heterogeneous cellular networks
- 5G channel models
- Massive MIMO
- Millimeter wave communications
- System-level analysis and modeling
- 5G Testbeds and simulators
- Wireless power transfer
- Energy harvesting
- Relaying and full-duplex
- Cognitive radio and device-to-device communication
- Resource sharing and network virtualization
TPC Members

- George Agapiou, OTE, Greece
- Gunnar Bark, Ericsson, Sweden
- Beatriz Bedia, TTI NORTE S.L., Spain
- Emil Björnson, Linköpings Universitet, Sweden
- Yoann Corre, SIRADEL, Spain
- Antonio Pascual Iserte, Universitat Politècnica de Catalunya, Spain
- Eduard Jorswieck, Technische Universität Dresden, Germany
- Erik G. Larsson, Linköpings Universitetet, Sweden
- Yves Lostanlen, SIRADEL, Spain
- Josep Vidal Manzano, Universitat Politècnica de Catalunya, Spain
- Kostas Ramantas, Iquadrat, Spain
- Cheng-Xiang Wang, Heriot-Watt University, UK

Important Dates

Paper submission: **June 15th, 2015, July 1st, 2016**

Notification of acceptance: **July 15th, 2016**

Final paper submission: **August 1st, 2016**

Submission Guidelines

Manuscripts must be prepared in English with a maximum paper length of six (6) printed pages (following the standard IEEE 2-column format) and submitted via the [EDAS link](#).