

IEEE ICC 2012 Workshop on Small Cell Wireless Networks (SmallNets)

Workshop Chairs

Giuseppe Caire
USC

Merouane Debbah
SUPELEC

Reinaldo Valenzuela
Bell Labs, Alcatel-Lucent

Walid Saad
University of Miami

Mehdi Bennis
University of Oulu

Call for Paper

The ever-increasing need for higher data rates and multimedia services leads to stringent requirements on the bit rate/km² that next-generation cellular wireless networks are expected to deliver. This increasing trend has urged mobile operators to examine new ways for improving their coverage, boosting their network's capacity, and lowering their capital and operating expenditures (CAPEX and OPEX). A promising approach to solving this problem is through the deployment of Small Cell Networks (SCNs), which represent a novel networking paradigm based on the idea of deploying short-range, low-power, and low-cost base stations operating in conjunction with the main macro-cellular network infrastructure. The use of SCNs is envisioned to enable next-generation networks to provide high data rates, allow offloading traffic from the macro cell and provide dedicated capacity to homes, enterprises, or urban hotspots. SCNs are also envisioned to pave the way for a plethora of new wireless services. SCNs encompass a broad variety of cell types, such as micro, pico, femto cells, as well as advanced wireless relays, and distributed antennas.

This workshop is expected to bring together academic and industrial researchers in an effort to identify and discuss the major technical challenges and recent results related to small cell networks. Topics of interest include but are not limited to the following:

- Interference analysis, avoidance, and mitigation.
- Power control and power saving mechanisms.
- Synchronization issues for small cell networks.
- Cognitive radio techniques for small cell networks.
- Game theoretical techniques for small cell deployment.
- Co-existence between femtocells and macro-cells.
- Trade-offs between femtocells, picocells, advanced relays, and distributed antenna systems.
- Flexible relaying in interference-limited SCNs.
- Mobility management and handoffs.
- Backhaul and networking issues.
- Open and closed access operation modes
- Self-configuration, -optimization, and -healing mechanisms for SCNs.
- Economics of femtocells.

The IEEE ICC SmallNets 2012 will feature keynote addresses by **Jeffrey G. Andrews** (UT Austin) and **Tamer Başar** (UIUC). In addition, panelists **Tom Marzetta** (Bell-Labs), **Sundeep Rangan** (NYU Poly), and **Thierry Lestable** (Sagemcom) will be discussing the paradigm "**The Way Towards The Future: Dense or Massive?**"

The workshop accepts only novel, previously unpublished papers. All submissions should be written in English with a maximum paper length of five (5) printed pages (10-point font) including figures without incurring additional page charges (maximum 1 additional page with over-length page charge if accepted) <http://www.ieee-icc.org/2012/submguide.html>

Workshop information: <http://www.cwc.oulu.fi/smallnets>

Technical Program Committee

Tansu Alpcan, Technical Univ. of Berlin

Gunther Auer, DOCOMO Labs

Elena Veronica Belmega, ETIS/ENSEA

Leonardo S. Cardoso, SUPELEC

Vikram Chandrasekhar, Texas Instruments

Klaus Doppler, Nokia Research Center

Lorenza Giupponi, CTTC

Ismail Guvenc, DOCOMO USA Labs

Zhu Han, University of Houston, USA

Marios Kountouris, SUPELEC

Matti Latva-aho, University of Oulu

Inkyu Lee, Korea University

Dusit Niyato, Nanyang Technological University

David Lopez Perez, King's College

Babis Papadopoulos, DOCOMO USA Labs

Tony Q.S. Quek, Institute for Infocomm Research

Oswaldo Simeone, New Jersey Inst. of Tech

Antonia Tulino, Alcatel-Lucent, Bell-Labs

Important Dates

Paper Submission: 30 November 2011

Acc. Notification: 20 January 2012

Camera Ready: 25 February 2012

Workshop: 11 June 2012