

CALL FOR PAPERS

COST IC1004 + iPLAN Joint Workshop on

“Small Cell Cooperative Communications”

May, 2, 2012; Lyon, France

Scope and topics of interest:

Mobile Internet Traffic today exceeds the total Internet traffic of 10 years ago. 3GPP Cellular networks have succeeded in offering sufficient coverage and capacity up to now, but the exponential current increase in mobile data traffic has opened a new challenge: providing high data rates in densely populated areas with limited spectrum availability, quite insufficient to cover the increasing demand. With radio access systems offering performance close to the Shannon limit, the addition of more cells in Radio Access Networks, combined with a tighter interference control is essential to continue increasing capacity. Small cells, pico- and femtocells are playing a key role in the current evolution of Cellular Networks, providing improved scalability, automated configuration and optimisation, rapid and cost effective deployment, efficient use of available backhaul, and high capacity density and enhanced user experience.

The European COST Action IC1004 addresses research issues in the field of cooperative radio communications to make communications in smart environments (SEs) cleaner, safer, and more energy efficient. SEs are areas populated by many devices, not only phones or tablets, but also machines, sensors, vehicles, connected by wireless networks, resulting in a high spatial data density environment to be served by radio access technologies. In SEs, small cells will be crucial to reach the mentioned objectives of energy and spectrum efficiency and to cope with the future data density demand.

The iPlan FP7 project addresses the problem of developing efficient Radio Access Network (RAN) Planning and Optimization (P&O) tools:- Research and develop fast and accurate radio propagation models that can be used for indoor radio network planning and optimisation.

- Investigate various issues arising from the use of femtocells, for example, the study of interference between femtocells, between femto and outdoor macrocells.
- Investigate how to effectively reduce power usage and radio wave pollutions in indoor environment.
- Develop an automatic indoor radio network planning and optimization tool suite that will fill the gap in the indoor RAN P&O market.

This workshop is intended to serve as a discussion framework on advances on smalls cells technologies, including not only indoor residential femtocells but also rural, enterprise or picocells systems.

Topics of interest for the workshop include:

- Radio propagation simulation tools: indoor, outdoor and hybrids
- Measurements, trials and demonstrators for small cells
- Broadband Femtocell Network architectures
- 3GPP LTE HetNets
- Coexistence between macrocellular and femtocell networks
- Cooperative femtocell networks
- Enterprise femtocells
- Indoor radio propagation models
- Interference management and coordination: (e)ICIC
- Interference modelling, analysis, avoidance, and mitigation
- Mobility support and handover
- PHY/MAC design for 3G, WiMAX, and LTE small cells systems
- Power saving and energy efficient mechanisms in small cells
- Radio network planning tools
- Regulatory aspects
- Resource allocation (RRM)
- Routing algorithms
- Self-organising femtocell networks
- Backhaul load reduction, including distributed compression and network coding
- Trade-offs between femtocells, picocells, relaying and DAS systems

Important Dates:

- Submission of papers: **27 February 2012**
- Notification of acceptance: 30 March 2012
- Final version of papers ready: 18 April 2012
- Workshop: 2 May 2012

Details on paper submission template and registration are posted at www.ic1004.org

Committee

Workshop Chairs:

Prof. Narcis Cardona, iTEAM, U.P. Valencia, Spain
Prof. Jean-Marie Gorce, INSA-Lyon, France

Steering Committee (alphabetic order):

Prof. Alister Burr, U. of York, UK
Dr. Nikolai Lebedev, Ranplan Ltd, UK
Prof. Christoph Meckenblauer, T.U.Vien, Austria
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