



Call for Papers
WCNC 2012 - International Workshop on
Broadband Femtocell Technologies
Paving the way to Heterogeneous Cellular Networks

Chairs:

Thierry Lestable

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Heterogeneous cellular networks (HetNet), in which a large number of low-power nodes such as picocells, femtocells and relay nodes overlay traditional macrocell networks, have been heralded as the most promising way to enhance network performance and meet future customer needs. By deploying more network infrastructures, cellular networks will be made closer to end-users, thus enhancing radio link quality and spatial spectrum reuse in a cost-effective manner. Among the lower-power nodes, femtocells play a key role due to their user-deployed, low-cost, low-power and low electromagnetic (EM) exposure characteristics, as well as their advantages in providing indoor coverage. Hence, femtocell technologies may accelerate the cost-effective provision of ubiquitous broadband services by convergence between fixed and wireless broadband. This full day workshop aims to bring together internationally leading academic and industrial perspectives, and discuss recent progress in femtocell technologies. The list of promising new developments includes cooperative networks for interference mitigation in heterogeneous networks made of macro/pico/femto cells, extending the classical concept of indoor femtocells to outdoors, e.g., fixed relays in macrocells for enhancing coverage and cell-edge capacity, mobile femtocells in public transports, and self-organising (SON) techniques for high capacity and optimum use of transmit power whilst minimising OPEX and simplifying complexity for remote network management.

Steering Committee:

Atta Quddus

Univ. of Surrey, UK

Xiaoli Chu

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Josep Vidal

UPC, Spain

Mischa Dohler

CTTC, Spain

Scope and Objectives:

In view of current standardization activities in 3GPP and IEEE, changing regulatory landscape and impetus from industrial bodies such as Femto Forum, this workshop focuses on presenting and debating advanced femtocell technologies that have the potential to be considered in future standards such as LTE-A to make the radio access solutions highly efficient with major leapfrog in spectral-efficiency per unit area, while minimizing transmit power. Specifically, but not exclusively, the workshop proposes to address the following issues:

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| <ul style="list-style-type: none"> ▪ Femtocell network management and architectures ▪ Closed-access, open-access, and restricted-access ▪ Self-configuration and self-optimization techniques ▪ Outdoor femtocells ▪ Mobile femtocells in transportation services, e.g., buses, trains, airplanes ▪ Cognitive femtocells ▪ Cooperative femtocells ▪ Modelling, simulation and key performance indicators for heterogeneous cellular networks ▪ Coexistence between macrocell, picocell, relay node and femtocell networks ▪ Decentralized & distributed smart interference | <ul style="list-style-type: none"> management ▪ New generation of base-band and radio frequency techniques ▪ Enhanced inter-cell interference coordination (eICIC) methods ▪ Mobility management and load balancing among different types of cellular nodes ▪ Offloading techniques ▪ Timing synchronization ▪ Back-hauling solutions ▪ Field Trials / Test-beds / Regulatory issues ▪ Power saving mechanisms in heterogeneous cellular networks |
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Important Dates

Extended Paper submission: 24 October 2011

Notification of Acceptance: **6 January 2012**

Camera-Ready paper: **30 January 2012**

Workshop date: **1 April 2012**

EDAS will be used both for initial paper submission and for submission of the final version of accepted 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 overlength page charge if accepted). Note that the maximum number of pages for a paper is 6; 5 pages **plus 1 additional page allowed with a charge for the one additional page of USD100** if accepted. Papers exceeding 6 pages will not be accepted on EDAS, nor reviewed at all. Standard IEEE conference templates for LaTeX formats are found at here: http://www.ieee.org/conferences_events/conferences/publishing/templates.html. You can also use the sample template for Microsoft Word: A4, US letter. Only PDF files will be accepted for the review process and all submissions must be done through EDAS.