

The 7th International WDN Workshop on Cooperative and Heterogeneous Cellular Networks (WDN-CN2014)

Call for Papers

Scope and Topics of Interest

The enormous increase in the mobile connected equipment and mobile subscribers number, in addition to the emergence of data-centric standards such as 3GPP's LTE-A raises an urgent call to find sustainable solution that permits to fulfil data rate, spectrum, and coverage requirements. However, resources are scarce and the frequency spectrum availability is limited. To address these issues, coordinated multi-point (CoMP) transmission/reception and heterogeneous networks (HetNet) play a key role for future cellular networks. In the HetNet, low power base stations of smaller coverage are deployed inside the conventional macrocells for traffic offloading. Furthermore, base stations clustering and coordination has been studied as a mean for improving the network energy efficiency, users' quality of experience, and for delivering cloud services by pooling computational and communication resources. Regarding CoMP, HetNet, beside researches activities in academia, there are considerable industry-wide standardization efforts in 3GPP RAN working groups and IEEE. While industry efforts have also targeted efficient operation of CoMP and HetNet, fundamental research on the cost-performance tradeoffs of each of these deployments are certainly desirable for both academia and industry. This workshop is co-located with the IEEE Personal Indoor and Mobile Radio Communications Conference 2014 (<http://www.ieee-pimrc.org/>). The main objective of the workshop is to offer an opportunity for academic and industrial researches for spreading and sharing the latest results and understanding for making communication networks more energy efficient and more area spectrally efficient.

TOPIC AREAS:

- Heterogeneous cellular networks (HetNet)
- Cloud radio access networks (C-RAN)
- Cloud services integration in HetNet
- Energy efficiency vs. QoS tradeoffs in HetNet
- Small cell clustering for services delivery
- Resource allocation techniques for HetNet
- Cell range expansion (CRE) and traffic off-loading
- Enhanced inter-cell interference coordination techniques (eICIC)
- Self-organizing networks (SON) and reinforcement learning
- Phantom cell, soft cell, and multi-flow carrier aggregation
- 3GPP, WiFi, and WiGig interworking
- Open and closed access operation modes
- Game theoretic techniques for future HetNet
- Coordinated multi-point transmission (CoMP) techniques
- Distributed antenna systems (DAS)
- Limited feedback techniques for CoMP

- Cell planing and antenna design for CoMP
- Large scale CoMP for HetNet and dense small cells networks
- Massive MIMO, active antenna systems and dynamic cell structuring
- Enhanced channel models for CoMP
- Backhaul (wired, wireless, millimeter wave, etc.) and networking
- Cellular topology considering Remote Radio Head (RRH)
- Cloud-based support for HetNet
- Splitting of user- and control-planes for HetNet
- Mobility management and handoffs for HetNet
- Energy efficient algorithms and green wireless for HetNet
- Network load balancing and smart information storage for C-RAN
- Cognitive, cooperative, and reconfigurable networks
- Analysis of future trends for HetNet
- Low electromagnetic exposure in cellular networks
- Regulation and standardization for cooperative HetNet
- Storage and computation capability of small cells

Paper Submission Guidelines

The workshop accepts novel and previously unpublished papers. Papers should not exceed 5 double-column pages, and should follow IEEE templates as indicated [here](#). Submitted papers will be subject to a peer-review process. All accepted papers will be included in the PIMRC conference programme and will be published by the IEEE Xplore. Papers should be submitted through [EDAS](#).

Important Dates

Submission deadline: May 20, 2014

Notification of acceptance: June 10, 2014

Camera-ready deadline: June 27, 2014

Workshop date: September 2, 2014

Workshop organisers & Contact Information

Dr. Emilio Calvanese Strinati, CEA-LETI, France

Email: emilio.calvanese-strinati@cea.fr

Dr. Mehdi Bennis, University of Oulou, Finland

Email: bennis@ee.oulu.fi

Prof. Kei Sakaguchi, Tokyo Institute of Technology, Japan

Email: sakaguchi@comm.eng.osaka-u.ac.jp