Important dates

Paper submission:
January 14th, 2011

Acceptance notification:
May 6th, 2011

Final papers:
June 10th 2011

Call for Papers

A Special Issue of Physical Communication on "Location Enabled Communications"

Recently, there has been increasing interest in utilizing location information to improve the performance of communications systems; and even to add green dimension in terms of power saving. The up-to-date location information can be provided by emerging augmented reality applications, the communication system itself, or localization systems such as GPS or UWB.

For example, knowing the current coordinates of the wireless terminals in the system allows the deployment of Beamforming or SDMA (Space Division Multiple Access) systems that can direct energy toward or away from specific terminals based on decisions as to which of them should have possibly concurrent access to the wireless sources and how we can optimize capacity or fairness. Furthermore, well localised mobile terminals in a network help to improve the performance by improving synchronisation, channel estimation, and facilitating the use of adaptive MTMR techniques.

Wireless scheduling can also take advantage of location information to allocate resources without the need of increased overhead and can exploit future predictions of data rate based on reference data rates achieved by previous visitors to a locality.

Geo-location information can serve as complementary data to estimate and predict critical parameters for improving wireless communication networks. In cognitive radio networks, geo-location and context-aware algorithms can support sensing methods to overcome e.g. the hidden node problem. Relaying and routing can also benefit from such information.

Cooperative Communications and Relaying are enabling technologies that exploit spatial diversity for enhancing physical layer communications; and considered technologies for introducing power saving in future emerging wireless technologies. However, significant challenges still lie ahead that includes how to ensure stable cluster formation; node mobility prediction; and the joint application of Distributed MIMO with cooperation among others, where positioning information could have the answer.

This special issue is dedicated to recent advances in location enabled communication. Papers describing theoretical analysis, applications, protocols, simulation and evaluation methods, and experimental studies are solicited.

About the Topics of Interest

In particular, the topic of interest includes **location enabled physical layer communications**, but is not limited to

- **Location assisted scheduling and resource allocation**
- **Cognitive Radio**
- **Geo location relaying and routing**
- **Applications**
- **Location aided handover and network MIMO**
- **Car to Car communications**
- **Cooperative Communications and Relaying**
- **Location based cross-layer information**
- **Adaptive Channel estimation and MTMR**
- **Predictive Synchronization strategies**
- **Interference Cancellation**
- **Multihop networks**

Submission Format and Guideline

All submitted papers must be clearly written in excellent English and contain only original work, which has not been published by or is currently under review for any other journal or conference. Papers must not exceed 25 pages (one-column, at least 11pt fonts) including figures, tables, and references. A detailed submission guideline is available as “Guide to Authors” at www.elsevier.com/locate/phycom.

All manuscripts and any supplementary material should be submitted through Elsevier Editorial System (EES). The authors must select as “SI – XXXXXXXXXX” when they reach the “Article Type” step in the submission process. The EES website is located at: http://ees.elsevier.com/phycom/

All papers will be peer-reviewed by three independent reviewers. Requests for additional information should be addressed to the guest editors.