Call for Papers

A Special Issue of Physical layer Communication on “Advances in MIMO-OFDM”

The combination of Orthogonal Frequency Division Multiplexing (OFDM) and Multiple Input – Multiple Output (MIMO) techniques is instrumental for achieving the high spectral efficiency required for the evolution of mobile communication systems. The implementation of such systems will require advances in waveform design and development of algorithms for correction of impairments such as phase noise; receiver chain imbalance; peak-to-average-power ratio (PAPR); and I-Q imbalance, all of which affect the implementation cost. Channel estimation and synchronization techniques must be designed to work in fast-fading and low SNR channel conditions. These techniques in combination with strategies to manage or limit feedback information and overhead will allow for the adaptation of the transmitted signal to the changing conditions.

The challenges faced when implementing these techniques in the presence of multiple users increase, but also the benefits. Multi-user and multi-cell interference arise and resource allocation becomes crucial. Several approaches have been recently developed to improve the performance of MIMO-OFDM in multi-user and multi-cell environments, enhancing the data rates and/or the expanding the coverage. Cooperative communications, the use of relays and coordinated base station transmission are amongst them.

We are seeking innovative ideas for the design and implementation of MIMO-OFDM based transceivers and networks that will meet the requirements of future generations of mobile communications as well as new applications that can benefit from the multipath resilience and high throughput offered by these techniques.

Important dates
Manuscript Due January 15, 2011
Decision March 15, 2011
Publication Date May 1, 2011
About the Topics of Interest

In particular, the topics of interest include (but are not limited to):

- Synchronization and channel estimation
- PAPR reduction
- Waveform design
- Precoding techniques and adaptive modulation
- Mitigation of intercarrier interference
- Limited feedback strategies
- Multiuser MIMO-OFDM and resource allocation
- OFDM-based cooperative and relay networks
- Coordinated multicell processing or network MIMO
- Real-time implementation of MIMO-OFDM
- Applications including underwater, cellular, and millimeter wave band

Submission Format and Guideline

All submitted papers must be clearly written in English and contain only original work, which has not been published in and is not 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 the Elsevier Editorial System (EES). The authors must select “SI – Advances in MIMO-OFDM” 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.