

IET Communications Call for Papers

SPECIAL ISSUE ON: Evolution of Air-Link Technologies for Futuristic Wireless Communications

The technical advantages provided by 4G wireless communication systems include 1 Gbps downlink bit transmission rate, 10 milliseconds radio access network round-trip delay, enhanced IP-based network architecture, and low operating costs. To achieve the goals of the 4G systems, some improvements should be made on the air-link technologies, including the physical and medium access control layers, e.g., beamforming and MIMO transmission, multiple user/cell interference suppression and coordination, multiple user diversity and radio resource scheduling and link adaptation. The evolved air-link technologies are anticipated to meet requirements for the communications of air-to-air, air-to-ground, automation and sensor interlink in 4G systems. Furthermore, some novel applications and services for passengers and pilots should be supported as well. The aim of this Special Issue is to provide readers with an up-to-date view of current developments in the enhanced air-link technologies in wireless communication systems, with a focus on the principles, algorithms, protocols, and standards.

Topics to be covered include, but are not limited to:

- enhanced beamforming and MIMO technologies, such as polarisation beamforming, single and dual-layer adaptive beamforming, precoding schemes with limited/non-ideal feedback, nonlinear MIMO signal detection algorithms, joint antenna and baseband MIMO processing, multi-use beamforming.
- coordinated multi-point transmission and reception techniques, such as coordinated beam switching, common reference signal design, joint coordination MIMO and inter-cell interference cancellation.
- cooperative relay, such as the directional relay, heterogeneous relay, Type I/Type II relay, network coded relay, radio resource management in OFDMA based relay systems.
- advanced carrier aggregation (CA) techniques, such as asymmetric CA in uplink and downlink, continuity guarantee in handover, interference management and coordinated multiple point CA, and multi-component synchronisation for CA.
- enhanced scheduling schemes for joint optimisation of the time, frequency, space, and power resources.
- air-link technologies and protocol design for high speed train, distributed multi-medium sensor network, wireless smart grid network, and mobile social network.

All papers must be submitted through the journal's Manuscript Central system:
<http://mc.manuscriptcentral.com/iet-com>

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**Deadline for submission of
papers:** 01 November 2010

**Authors to receive a
1st decision by:**

31 January 2011

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31 May 2011

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Q2/Q3 2011

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