

CALL FOR PAPERS

IEEE Journal on Selected Areas in Communications

Spectrum and Energy Efficient Design of Wireless Communication Networks

Spectrum and energy efficiencies are among the most important venues for technological advances in current and emerging wireless communication networks. The past decade has witnessed tremendous efforts and progress made by both the industry and academia for improving spectrum efficiency. We foresee that the emerging cognitive and self-organizing networks will further increase spectrum efficiency. In recent years, energy and power efficiencies of wireless networks have become more crucial because of the steadily rising energy cost and environmental concerns. While there has been a paradigm shift from improving spectrum efficiency to reducing energy consumption, a dilemma also arises as some energy efficiency criteria are in conflict with the spectrum efficiency objectives. Thus, there is an urgent need to *jointly* address spectrum and energy efficiencies, which will be the focus of this special issue.

In this special issue, we solicit high-quality research articles addressing key challenges and state-of-the-art solutions for *joint* spectrum and energy efficient design (SEED) and optimization of wireless communication networks. Topics of interest include, but are not limited to:

- System modeling, performance evaluation and measuring techniques for joint spectrum and energy efficiencies of wireless networks
- Spectrum and energy efficient architectures and topologies for wireless networks
- Cognitive and cooperative communication technologies for effective spectrum access and sharing
- Adaptive cell-size adjustment techniques based on user density, traffic load, spectrum/ energy-efficiency requirements
- Self-organization and self-optimization techniques for spectrum and energy efficient wireless networks
- Spectrum and energy efficient link adaptation and resource allocation
- Multiuser/single-user MIMO techniques for spectrum and energy efficiencies
- Cross-layer protocols and algorithms for joint spectrum and energy efficient optimization
- Signal processing challenges for spectrum and energy efficient wireless networks
- Spectrum and energy efficient test-beds, experimental results, prototypes, devices

Submission Guidelines

Prospective authors should prepare their manuscripts in accordance with the IEEE J-SAC format described at <http://www.jsac.ucsd.edu/Guidelines/info.html>. Authors should submit a PDF version of their complete manuscript to <http://www.edas.info>.

Important Dates

Manuscript submission due:	April 1, 2012
First reviews due:	September 1, 2012
Second reviews due and acceptance notification:	November 1, 2012
Final manuscript due and materials to publisher:	January 1, 2013
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