

Call For Papers for the IEEE Journal on Selected Areas in Communications

Femtocell Networks

The demand for mobile data access is intense and will continue to increase exponentially in the foreseeable future as smart phones, personalized video traffic, and other bandwidth intensive applications continue to proliferate in unexpected ways and are straining current networks to a breaking point. The only clear way to increase the capacity by the orders of magnitude required over the next decade is by adding more network infrastructure. These trends demand fundamentally new network approaches to deploying such infrastructure in a cost-effective manner.

A key recent trend in this regard is the use of femtocells overlaid throughout the traditional tower-based network. These small, inexpensive and short-range access points can be deployed either by the end user or the service provider, and typically occupy licensed spectrum and have an IP backhaul. This special issue aims to bring together research articles on femtocell networks from a wide range of perspectives in different research and industrial communities. The goals are to advance our understanding of the challenges faced over the next decade, to solidify accepted models and metrics, and to catalog a number of innovative approaches to designing and deploying these wireless networks. Original research papers are solicited in the following sub-topics, and must be closely related to femtocell networks or they will be considered out of scope.

- Novel mathematical models and metrics
- Distributed antenna systems vs. femtocells
- Video streaming /high-bandwidth applications
- Information theoretic results
- Interference analysis, avoidance, and cancellation
- Backhaul and networking issues
- Open and closed access models, including security considerations
- Prototyping, deployment, and implementation
- Energy conservation
- Spectrum and power allocation; scheduling
- Multi-antenna considerations
- Self-organizing networks
- Mobility management and handoffs
- Coexistence and coordination between femtocells and macro-cellular base stations

In addition to technical research results, we invite high quality submissions of a tutorial or overview nature, or in relevant subtopics not mentioned here, as long as they are explicitly related to femtocell networks. Prospective authors are invited to contact Prof. Andrews to ascertain interest in such cases. Papers will be submitted through EDAS (<http://www.edas.info>) starting Dec. 1 2010 and must meet JSAC submission guidelines: as specified by <http://jsac.ucsd.edu/Guidelines/info.html>. The tentative timeline is as follows.

Submission:	Mar. 1, 2011	Final Decisions:	Oct. 15, 2011
Round 1 decisions:	July 1, 2011	Final Paper Due:	Nov. 1, 2011
Revisions due:	Sept. 1, 2011	Publication	April 2012

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