

Call for Papers
IEEE Signal Processing Society
IEEE Journal of Selected Topics in Signal Processing

**Special Issue on Signal Processing in Heterogeneous Networks for Future
Broadband Wireless Systems**

With the increase in data traffic driven by a new generation of wireless devices, data is expected to overwhelm cellular network capacity in the next few years. Heterogeneous networks are a comprehensive approach to provide high cellular network capacity, especially for indoor users. A generalization of the conventional macrocell cellular architecture, heterogeneous networks combine architectural features such as small cellular access points (picocells and femtocells), low power fixed relays, and distributed antennas. Heterogeneous networks inspire new signal processing challenges in the design of cellular systems. They introduce additional interference that can be coordinated, avoided, canceled, or managed; require decentralized algorithms and autonomous operation of nodes; and inspire new physical layer algorithms and network analysis to evaluate their performance.

We invite original and unpublished research contributions in all areas relevant to signal processing in heterogeneous networks. The topics of interest include, but are not limited to:

- Downlink and uplink PHY/MAC design
- Energy efficient algorithms and green wireless for heterogeneous networks
- Interference coordination, avoidance, alignment, and mitigation
- Self organizing networks, game theoretic methods, and reinforcement learning
- Decentralized resource allocation and power control algorithms
- Restricted access, open-access, and hybrid access femtocells/picocells
- Time synchronization, position estimation, mobility support, cell selection, and handover
- Fixed relays, mobile relays, relay transmission techniques, and distributed antennas
- Limited feedback techniques including channel state and network state feedback

Prospective authors should visit <http://www.signalprocessingsociety.org/publications/periodicals/jstsp/> for information on paper submission. Manuscripts should be submitted using the Manuscript Central system at <http://mc.manuscriptcentral.com/jstsp-ieee>. Manuscripts will be peer reviewed according to the standard IEEE process.

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