

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

### Theories and Methods for Advanced Wireless Relays

The demand for wireless access continues to increase rapidly in both military and civilian communities. The modern internet and modern personal-area devices have made billions of users around the world accustomed to data hungry applications such as videos. This has an inevitable effect on the users' desire for the same through wireless media. Wireless access will always be a bottleneck in the world of information. As the radio spectrum becomes more crowded each year, new technologies must be developed to increase the network-wise spectral efficiency. One approach to achieving this goal is to reduce the size of wireless cells through infrastructure redevelopment. But the pace and/or the cost of such redevelopment may not be able to match the users' needs. A faster, often more economical and/or complementary alternative to achieving the same goal is to deploy advanced wireless relays. Unlike traditional wireless repeaters, advanced wireless relays should be channel aware, cognitive of their environments, cooperative with neighboring nodes, inflict minimum interference to the network, and utilize advanced technologies of signal processing, antenna and chip designs. The topics of interest for this special issue include all layers of design for wireless relays, i.e., physical layer design (such as systems of radio frequency frontend and digital signal processing), MAC layer design and networking layer design. Theories and methods of intellectual and/or practical significance are a necessary requirement. Examples of the topics of importance to this issue include:

- MIMO (or multi-antenna) relays
- Full-duplex relays
- Cooperative relays
- Relay channel estimation
- Relay channel coding and modulation
- Relay channel scheduling
- Networking issues of relays
- Security issues of relays
- RF/DSP system design of relays

Papers on any other topics for advanced wireless relays are welcome. In addition to papers with novel research results, we invite submissions of high-quality review papers. Papers will be submitted through EDAS (<http://www.edas.info>) and must meet JSAC submission guidelines: as specified by <http://jsac.ucsd.edu/Guidelines/info.html>. The timeline is as follows.

Initial paper submission: 8/15/2011

Final to publisher: 5/1/2012

First reviews complete: 12/15/2011

Publication: 3rd Quarter 2012

Second reviews complete/decision made: 2/15/2012

Guest Editors:

Yingbo Hua (Lead Editor), University of California at Riverside, USA, [yhua@ee.ucr.edu](mailto:yhua@ee.ucr.edu)

Dan Bliss, MIT Lincoln Laboratory, USA, [bliss@ll.mit.edu](mailto:bliss@ll.mit.edu)

Saeed Gazor, Queens University, Canada, [s.gazor@queensu.ca](mailto:s.gazor@queensu.ca)

Yue Rong, Curtin University, Australia, [Y.Rong@curtin.edu.au](mailto:Y.Rong@curtin.edu.au)

Youngchul Sung, Korea Advanced Institute of Science and Tech (KAIST), Korea, [ysung@ee.kaist.ac.kr](mailto:ysung@ee.kaist.ac.kr)

Mats Viberg, Chalmers University, Sweden, [viberg@chalmers.se](mailto:viberg@chalmers.se)