

Call for Papers

IEEE Journal on Selected Areas in Communications

“Cooperative Networking – Challenges and Applications”

Cooperative networking has received significant attention recently as an emerging network design strategy for future wireless networks. In cooperative networking, individual network nodes can cooperate to implement network goals in a coordinated way, and the cooperation can take place in a cross-layer fashion. Successful cooperative networking can prompt the development of advanced wireless networks to cost-effectively provide multimedia services and applications such as telecommuting, video conferencing, interactive media, real-time Internet games, etc., anytime, anywhere. However, the impact and challenges of cooperative networking on the cross-layer design beyond cooperative transmissions are not well-understood yet. Some fundamental aspects requiring immediate studies include: theoretical tools to guide the design of cooperative networking systems, effective incentive mechanisms for cooperation, new protocol design for cooperative networking, and compatible deployment of cooperative networking over the existing infrastructure.

This special issue aims at reporting the state-of-the-art research and development on cooperative networking. Original, unpublished contributions and invited articles, reflecting various aspects of cooperative networking are encouraged. The topics of interest for the special issue include, but are not limited to:

- MAC/link layer issues such as adaptive access connection and scheduling;
- Cooperative routing at the network layer, transport layer issues such as multi-homing transport layer protocols, end-to-end flow and congestion control;
- Application layer such as peer-to-peer system design over cooperative networks;
- Cross layer design and optimization, and heterogeneous QoS provisioning;
- Topology control and mobility management;
- Resource management;
- Security support to complement/enhance cooperative networking;
- Information theoretic aspects, asymptotic performance analysis, coding schemes and scaling law;
- System modeling and experimental study such as those in cellular network, vehicular network, femtocell, and ad hoc/mesh network;
- System level topics such as incentive for cooperation, and economics issues related to cooperative networks.

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>. The timetable is as follows:

- Manuscript submission: February 1, 2011
- First reviews complete: June 1, 2011
- Second reviews complete/all acceptance letters sent: August 1, 2011
- Materials to publisher: October 1, 2011
- Publication: 1st Quarter 2012

The Guest Editors for this issue are:

Xuemin (Sherman) Shen, xshen@bcr.uwaterloo.ca
P.R. Kumar, prkumar@uiuc.edu
Zhu Han, zhan2@mail.uh.edu

Qian Zhang, qianzh@cse.ust.hk
Are Hjörungnes, arehj@unik.no