

# Call for Papers

A Special Issue of IEEE Journal on Selected Areas in Communications

## Network Coding for Wireless Communication Networks

In wireless communication networks, network performance is largely affected by various network characteristics, such as limited channel bandwidth, unstable signal transmission, severe power constraint, high node unreliability, and easy interception of wireless signals. Network coding has recently emerged as a new coding paradigm that has demonstrated a wide range of potential applications for improving network performance in wireless communication networks. The core notion of network coding is to allow the information (or data) received from multiple links to be mixed at intermediate network nodes for subsequent transmissions so that the amount of data transmitted in the network is reduced and the network performance in terms of network throughput is improved. This notion can also be applied to the data received on a single link within a single stream or across different streams, and even to the physical layer, where different signals can be combined for further transmission. In contrast to traditional network operations that try to avoid collisions of data streams through resource management, this elegant principle not only provides a new way to improve network throughput but also brings us a plethora of other surprising benefits such as energy efficiency, network robustness, and network security. Owing to its wide range of potential applications, network coding has recently received increasing attention from the research community. To better exploit this promising coding paradigm in wireless communication networks, many technical issues remain to be studied, which has invigorated a considerable amount of research activities in the area.

The aim of this special issue is to present a collection of high-quality research papers that report the latest research advances in the application of network coding in wireless communication networks. We are soliciting original contributions that have not been published and are not currently under consideration by any other journals. The topics of interest include, but are not limited to:

- Network architectures for network coding
- Algorithms and protocols for network coding
- Network coding for network throughput
- Network coding for unicasting, multicasting and broadcasting
- Network coding for energy efficiency
- Network coding for data aggregation
- Network coding for network robustness
- Network coding for network security
- Joint source coding and network coding
- Physical layer network coding
- Practical network coding

Prospective authors should prepare their manuscript 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> according to the following timetable:

Manuscript Submission:	August 1, 2008
Acceptance notification:	December 15, 2008
Final manuscript due:	February 15, 2009
Publication date:	2nd quarter, 2009

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