

CALL FOR PAPERS
IEEE Journal on Selected Areas in Communications
MULTIUSER DETECTION FOR ADVANCED
COMMUNICATION SYSTEMS AND NETWORKS

Potential for improved performance through joint detection of multiuser signals, coupled with associated challenges in achieving this potential at affordable receiver complexity, has motivated significant amount of research to be carried out in the area of multiuser detection (MUD) in CDMA in the past decade. More recently, there has been immense interest and rapid progress in the theory, design, analysis and implementation of modern communication systems and networks, employing advanced physical layer techniques such as MIMO, OFDM/OFDMA, UWB, cooperative and opportunistic communications, both in cellular as well as ad-hoc networks. MUD techniques have a significant role to play in efficient detection of signals in these advanced systems, where interference can often arise due to several reasons (e.g., due to transmissions from multiple signal sources, channel effects, imperfect synchronization at the receiver, etc.). Consequently, the theory and practice of multiuser detection continue to be vital components of current research and development in both academia as well as industry. This special issue aims to capture the latest developments/advancements in multiuser detection theory and practice in modern communication systems and networks. We solicit papers that present original and unpublished work on topics including, but not limited to, the following:

- MUD in MC-CDMA, OFDMA, UWB
- MUD in multiuser MIMO
- MUD in cooperative communications
- MUD in wireless ad-hoc networks
- MUD in cross-layer designs
- MUD and coding, Multi-rate MUD
- MUD in narrowband systems (TDMA)
- Analytical tools for design/analysis of MUD
- Iterative techniques in MUD
- MUD techniques using lattice/sphere decoding
- Interference pre-cancellation in multiuser MIMO
- Joint channel estimation/MUD
- Recent MUD implementations

Papers should be concisely written and be no longer than 20 double-spaced pages, excluding figures and tables, in IEEE JSAC manuscript format described in <http://www.jsac.ucsd.edu/Guidelines/info.html>. Prospective authors should submit an electronic version of the manuscript (in PDF format only) through EDAS¹ <http://edas.info/> following the time table given below.

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