Special Issue on Signal Processing Techniques for Space-Time-Coded Transmissions

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Space-time coding (STC) has emerged over the past few years as a new paradigm for optimally combining modulation, coding, and diversity gains over wireless links. It is ideal for improving the downlink performance (which is the bottleneck in asymmetric applications such as Internet browsing and downloading) while keeping user terminals lightweight and cost effective.
STC was originally developed for frequency-flat quasi-static fading channels. Extensive recent research has focused on extending it to frequency-selective and time-selective fading channels.

Detection of space-time-coded signals presents a significant signal processing challenge as multiple coded, distorted, and faded copies of the desired signal are superimposed at each receive antenna and corrupted by noise, multi-user interference, and synchronization errors.
Original research as well as tutorial papers are solicited in the general area of signal processing techniques for space-time-coded transmission. Specific topics will include, but will not be limited to the following:

Suggested Topics:
- Channel Estimation (training-based, semi-blind, and blind)
- Equalization and Efficient Decoding
- Interference Suppression and Beamforming for STC
- STC for Time-Varying Channels (channel tracking)
- Synchronization Techniques
- STC and Multiple Access (OFDM, CDMA, TDMA)
- Turbo Techniques
- Capacity and Performance Limits
- High-Rate Layered Space-Time Methods (such as BLAST)
- Differential Space-Time Methods
- Prototyping Efforts

Schedule :
Manuscript submission deadline : September 30, 2001 (early submission is encouraged)
Notification of acceptance   : March 30, 2002
Final manuscript due   : June 30, 2002
Tentative publication date   : October 2002

Submission procedure:
Authors should prepare their manuscripts according to the guidelines provided in the Information for Authors as published in any recent issue of IEEE Transactions on Signal Processing. Manuscripts should be submitted **electronically** only to Dr. Naofal Al-Dhahir (at the email address given above) in postscript or pdf format. Please do not submit your manuscript to the IEEE Publications Office.