Call for Papers
Journal of Communications Software and Systems *(JCOMSS)*
Special issue on
CHANNEL CODING IN WIRELESS SYSTEMS

In the present scenario of telecommunication applications, wireless systems play a prominent role. Compared to the competing wired systems, they offer a number of practical advantages, like easy installation and maintenance, flexibility and reconfigurability, mobility, low cost components, and others. On the other hand, the performance required to new wireless systems are very high: they must guarantee extremely low error rates, to face the poor error resilience of commercial source coding schemes, and large spectral efficiencies, to allow transmission rates as much great as possible. The achievement of these objectives implies the adoption of very efficient error correcting schemes. Following the invention of the "turbo principle" in 1993, a number of turbo-like codes have been proposed, able to approach the theoretical Shannon limit. These codes include parallel concatenated block and convolutional codes, serially concatenated codes, product codes, generalized repeated accumulate codes, and their numerous variants. Low Density Parity Check (LDPC) codes also belong to this class: even if their origin is different, their decoding is based on "message passing" methods, whose rationale is identical to that of turbo codes.

All these codes are potentially suitable for application in the wireless framework. In fact, the number of international standard adopting iteratively decoded schemes is increasing and already includes CCSDS recommendation for telemetry from space, UMTS cellular phones, DVB-S broadcast digital television, and many others.

A huge body of literature already exists for the analysis and characterization of these code families. Anyway, lot of topics very important for wireless applications, are still open. Among them we can mention: scheme design and comparison under wireless system constraint, low complexity encoding/decoding techniques, low error rate analytical performance evaluation, adaptation to multi-level modulation schemes, and others. This Special Issue aims to collect the most recent progresses of the research in the field, looking at either theoretical or practical aspects concerning the analysis and usage of these codes in practical implementations.

High-quality, original, unpublished contributions will be considered for the issue. Authors wishing to submit papers should send an electronic version (PDF or postscript file only), written following the "Instructions for Authors" of the journal, with a separate cover letter which contains the paper title, authors with affiliations, and up to 200 words abstract, to one of the Guest Editors:

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Topics include but not limited to these, associated with wireless communication:

Code design for wireless applications
Comparison between different schemes under the wireless scenario
Encoding/decoding techniques
Complexity evaluation
Minimum distance and error floor analytical estimation
Practical implementations, FPGA and ASIC realizations
Impact of codes on wireless systems standards

The issue will include also a limited number of tutorial papers, written by international recognized experts, reviewing the state-of-the-art on particular topics.

Note: An earlier notification of intent to submit proposal would be appreciated.

IMPORTANT DATES

Submission deadline	April 1, 2006
Notification of acceptance	May 1, 2006
Final manuscript due	July 1, 2006
Special issue published	September 2006

JCOMSS is a high-quality quarterly archival journal, published by the Croatian Communication and Information Society (CCIS), the Sister Society of the IEEE ComSoc, in cooperation with University of Split. JCOMSS fosuses on high-quality, internationally reviewed papers, that advance the state-of-art and applications in communications software engineering and communications systems particularly including new techniques, reports on experiments with analysis of performances, and prototypes. The subjects covered by this journal include all aspects in communications software and systems in wired and wireless ommunications and multimedia technologies.

More information about the JCOMSS including details on the submission process and authors kit is available on the website:

http://www.ccis.hr/JCOMSS