

Call for Papers
IEEE Signal Processing Society
IEEE Journal of Selected Topics in Signal Processing

Special Issue on New Subjective and Objective Methodologies for Audio and Visual Signal Processing

Since humans are the final consumers of almost all processed audio and visual signals, it is beneficial to use a perceptual criterion in system design/optimization. Human perception has unique characteristics due to the underlying physiological/psychological mechanisms. The demand for perceptual control is accelerated with rapid immersion of multimedia services in increasing forms, platforms, channels and applications.

This proposed issue aims at addressing the challenges in perceptual audio and visual signal processing. We invite original submissions for manipulating speech, music, audio, image, video and graphics according to the human hearing and visual properties. We welcome papers for joint audiovisual models, to exploit the inherent correlation and interaction of different media (whether naturally captured or computer-generated). Our attention is also directed by the recent interests in 3D audio, 3D/multiview/free-view video, and mobile/social/Internet/interactive media. In addition, application-oriented experiments and processing algorithms are sought. Topics of interest include, but are not limited to:

- New psychophysical experiments
- Subjective evaluation for emerging signal forms
- Joint audiovisual experiments and databases
- Application-oriented scenarios (interactivity, intelligibility and utility)
- Research for reducing experimental effort
- Cross-database validation
- Related standardization
- Perceptual auditory, visual & joint audiovisual processing
 - content rendering/synthesis
 - signal denoising and enhancement
 - compression and transmission
 - super-resolution construction
 - high dynamic range imaging
 - active content presentation/display
- Perception-based applications
 - surveillance
 - gaming and e-learning
 - telepresence/telecollaboration/e-healthcare
 - Interactive TV

Prospective authors should visit <http://www.signalprocessingsociety.org/publications/periodicals/jstsp/> for information on paper submission. Manuscripts should be submitted using the Manuscript Central system at <http://mc.manuscriptcentral.com/jstsp-ieee>. Manuscripts will be peer reviewed according to the standard IEEE process.

Manuscript submission due: **November 1, 2011**
First review completed: February 20, 2012
Revised manuscript due: April 1, 2012
Second review completed: July 1, 2012
Final manuscript due: August 1, 2012

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