

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

Special Issue on Visual Signal Processing for Wireless Networks

Recent development of mobile computing technology and wireless communications brought into focus a new paradigm of visual signal transmission via wireless channels. With the emergence of smartphones and continued growth of laptops, netbooks and tablets, there is a huge increase in a number of mobile devices able to support new video applications. However, conveying visual information to mobile devices over cellular or mobile broadband networks confronts many challenges, such as limited channel bandwidth, constrained computational and energy resources, high required quality and reliability, or tight latency requirements. This special issue is aiming at providing a platform for discussion on recent research in visual signal processing for wireless networks and possible emerging techniques with a potential to further improve the performance, or to lead to new solutions, algorithms or applications.

We invite original and unpublished research contributions relevant to the following areas:

- ***Visual coding and transmission techniques for wireless transmission***
Coding and transmission of visual (image, video or multiple view video) signals for wireless technology that take into account specific characteristics and requirements of modern wireless communications, such as time-varying channel constraints, streaming to clients with heterogeneous connectivity conditions, limited power consumption, guaranteed quality of reconstruction, user-interactivity and transmission latency.
- ***Theoretical foundations***
Contributions to theoretical foundations of visual signal processing for wireless communications. Specific topics of interest include distributed signal processing, compressive sensing and wireless visual sensor networks.
- ***Adaptation of video coding algorithms to advanced wireless networks***
Design of new visual compression, retrieval and recognition algorithms and adaptation and applications of existing ones to actual advanced wireless communication technologies and protocols, such as WiMAX, WLAN, MIMO, LTE, 4G and beyond.
- ***Applications***
Implementing the solutions from visual signal processing for wireless communications into specific applications, such as visual surveillance and monitoring, video-on-demand, free viewpoint television, mobile multimedia analytics, etc. Also, extensions to popular frameworks, such as smart cities, mass data sensing, sending and processing, machine-to-machine communications, health monitoring, smart grid and energy monitoring, environmental monitoring, transportation and traffic monitoring, biomedical applications, etc., with a focus on visual processing algorithms for wireless communications.

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 November 15, 2013
First review completed:	February 1, 2014
Revised manuscript due:	April 1, 2014
Second review completed:	May 15, 2014
Final manuscript due:	July 1, 2014

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