Special Issue on
Wireless Video

Call for Papers

Motivation

Video transport is becoming increasingly important for a large variety of applications and networks. Wireless information exchange will be dominated by basic human communication such as messaging, voice, and video communication. Because of its typically large bandwidth requirements, video communication will emerge as the dominant and most critical form of traffic in and beyond 3G/4G wireless systems. Digital video transmission over wireless connections has proven to be a challenging task, given the hostile communication environment, characterized by unpredictable connection quality and significant error rates, a limited available bandwidth, and severe energy constraints. When developing a reliable and effective video transmission system over a wireless-based network, many different technical problems must be addressed, some of which may be application- or network-specific.

This special issue will focus on the most recent advances in applications involving video communication over wireless links. For example, P2P or multicast streaming applications will be addressed, in which the scalability characteristics of the audiovisual codecs may be exploited to define new scheduling and prioritization algorithms for the efficient delivery of time-sensitive traffic. Video transmission over wireless LANs with critical bandwidth requirements and severe energy constraints, such as sensor networks, will also be addressed.

List of Topics

Papers on the following and related topics are solicited:

- Video coding for wireless transmission
  - Advanced video coding algorithms
  - Distributed video coding
  - Error resilience and error concealment techniques
  - Joint source-channel coding
  - Joint restoration and coding
- Video distortion estimation and quality assessment for wireless transmission
- Multiple access for wireless video
- Adaptive techniques for video delivery over wireless networks
- Cross-layer design and optimization techniques for wireless video transmission
- Quality of service support for video delivery over wireless networks
- Wireless video protocols and standards
- DVB-H and mobile TV
- Distributed wireless video communications
- Wireless P2P video streaming

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