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Special Issue on
Multimedia Computing and Communications

The growing momentum behind the deployment of broadband networks worldwide and the convergence of voice, image, video, and data offer unprecedented opportunities for various modern multimedia applications and services such as mobile TV, video conferencing, Internet gaming, interactive TV, IPTV, Open Internet video and multimedia visualization, navigation, search and retrieval. Also, the rising demand for quality service by consumers has expedited the advance of numerous new technologies for computing and communication over wired and wireless networks, ranging from video coding, communication infrastructure, content distribution protocols, quality of service (QoS) management, visual content analysis, post-processing, to interactive models. Novel video source and channel coding techniques such as scalable video coding, multiple description codes, transcoding, and network coding can certainly improve the efficiency of video transmission over the Internet. New communication architectures such as overlay network, content delivery network (CDN), peer-to-peer (P2P) distributed network can further improve video distribution and enable new services. On the other hand, IPTV over managed IP networks not only holds the promise for high quality video viewing experience that is at least as good as what is offered by today's cable/satellite TV, but also introduces new service functionalities such as time-shift viewing and interactivity. In addition, the IP Multimedia Subsystem (IMS) provides a unified framework for multimedia service creation and deployment and supports interoperability and network convergence. Last but not the least, new wireless network technologies and video delivery mechanisms such as IEEE 802.11 (Wi-Fi) and the 3G and 4G cellular systems become strong alternatives to their wired counterparts, allowing users to access and produce video at any time and from anywhere.

In view of these advances in modern multimedia applications and services, this special issue is soliciting papers with fundamental contributions to multimedia computation and communications, in particular those addressing the challenges due to the limited computation power of client devices, the explosive growth of rich media, the complexity of content analysis and understanding, and the heterogeneity of the transport network. Topics covered include, but are not limited to, the following:

- Multimedia coding, streaming, and networking
- Multimedia transmission networks, systems, and applications
- Novel Internet architectures, protocol and algorithms for video distribution
- P2P multimedia coding, architecture, and networks
- Innovative Internet video, mobile video, and IPTV services
- IPTV architectures and standards
- QoS management for video streaming and IPTV
- Video coding, transcoding, and multiview coding
- Joint source-channel video coding
- Video quality assessment
- Multimedia content analysis, representation, and understanding
- Multimedia indexing and retrieval
- Multimedia summarization and abstraction
- Multimedia and multimodal signal processing, user interfaces, and interaction models

Important Dates:

Submission deadline	September 1, 2009
Author notification	November 15, 2009
Final manuscript due	January 15, 2010
Tentative publication date	2Q, 2010

Submission:

Authors are invited to submit original and unpublished papers. Submissions should follow the author guidelines of Journal of Communications and the complete instructions for prospective authors can be found at http://www.academypublisher.com/jcm/forauthors.html. For further questions or inquiries, please contact the corresponding guest editor (fzhai@ti.com).

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