



## Call for Papers

### Special Issue on QoE Management for Multimedia Services

---

Quality of Experience (QoE) has received much attention over the past years and has become a prominent issue for delivering services and applications. A significant amount of research has been devoted to understanding, measuring, and modelling QoE for a variety of media services. The next logical step is to actively exploit that accumulated knowledge to improve and manage the quality of multimedia services. Moreover, with many different players involved in the end-to-end service delivery chain, identifying the root causes of QoE impairments and finding effective solutions for meeting the end users' requirements and expectations in terms of service quality is a challenging and complex problem.

QoE, as a topic, sits at the confluence of a variety of disciplines, ranging from signal processing, to networking, to human-computer interaction. The aim of this special issue is to bring together researchers and practitioners from these fields, with novel ideas on how to optimize and manage the QoE of existing and emerging multimedia services (e.g., audiovisual streaming, gaming, multi-sensory immersive applications, Web- and cloud-based applications, etc.). To-date, QoE management has been addressed from multiple, often complementary, perspectives. QoE-driven application management has primarily addressed control and adaptation on the end-user and application host/cloud level, often studied in the context of optimizing the quality of Over-The-Top services. On the other hand, network providers commonly rely on performance and traffic monitoring solutions deployed within their access/core network to obtain insight into impairments perceived by end users, thus attempting to identify root causes of potential problems. QoE-driven network and system management mechanisms have thus focused on the network provider point of view and considered control mechanisms such as optimized network resource allocation and efficiency, admission control, QoE-driven routing, etc. Solutions for monitoring and managing QoE are especially critical for wireless and mobile networks, characterized by variable resource availability and inherent resource limitations. Studies have shown that further potential lies in integrated and cross-layer approaches combining both application and network management mechanisms. With services being delivered via a chain of different providers, challenges lie in specifying the underlying business models and Service Level Agreements crucial to meeting end-to-end user quality requirements.

The proposed special issue will solicit novel contributions to multimedia research focusing on the key challenges related to managing QoE for a wide range of multimedia services. We are particularly interested in effective and scalable solutions leveraging on new and emerging networking paradigms for the purposes of controlling and optimizing QoE. Focus will further be on specifying and exploiting QoE models and on the proposal of scalable monitoring solutions that are inherently needed to manage QoE. The topics covered by the special issue will include, but are not limited to:

- Cross-layer optimization of multimedia services
- QoE-driven network and service management
- QoE-driven multimedia service adaptation
- QoE-aware resource management in cloud-based multimedia services
- QoE-aware multimedia communications

- QoE management in the context of emerging networking paradigms
- Large-scale QoE monitoring, active/passive QoE measurements
- QoE data analytics: big-data collection tools and techniques, implications for service and network management
- QoE modeling techniques and use cases: real-time QoE models, multi-sensory QoE models, multi-dimensional QoE models
- QoE from a business and economic perspective
- Pitfalls and fallacies in QoE studies

## Important dates

- Submission Deadline: ~~May 15, 2017~~ **June 15, 2017**
- Decision notification: ~~Aug. 31, 2017~~ **Sept. 30, 2017**
- Revision due: ~~Oct. 31, 2017~~ **Nov. 15 2017**
- Acceptance notification: **Dec. 31, 2017**
- Camera ready version due: **Jan. 31, 2018**
- Online Publication: **March 2018**

## Review process

The review process will comply with the standard review process of the ACM Transactions on Multimedia Computing, Communications and Applications (ACM TOMM) journal. Each paper will receive at least three reviews from experts in the field.

## Submission instructions

Prospective authors are invited to submit their manuscripts electronically after the “open for submissions” date, adhering to the ACM Transactions on Multimedia Computing, Communications and Applications (ACM TOMM) journal guidelines (see <http://tomm.acm.org/authors.cfm> ). Please submit your papers through the online system and be sure to select the special issue.

Manuscripts should not be published or currently submitted for publication elsewhere. Submitted manuscripts should not have been published previously, nor be under consideration for publication elsewhere. If the submission is an extended work of a previously published conference paper, please include the original work and a cover letter describing the changes that have been made. According to ACM TOMM publication policy previously published conference papers can be eligible for publication provided that at least 25% new material is included in the journal version.

## Guest editors

### Lea Skorin-Kapov

Univ. of Zagreb, Croatia  
[lea.skorin-kapov@fer.hr](mailto:lea.skorin-kapov@fer.hr)

### Martín Varela

EXFO, Finland  
[martin@varela.fi](mailto:martin@varela.fi)

### Tobias Hoßfeld

Univ. of Duisburg-Essen, Germany  
[tobias.hossfeld@uni-due.de](mailto:tobias.hossfeld@uni-due.de)

### Kuan-Ta Chen

Academia Sinica, Taiwan  
[swc@iis.sinica.edu.tw](mailto:swc@iis.sinica.edu.tw)