Mobile Extended Reality in 5G and Beyond

In recent years, a tremendously increasing interest in immersive mobile multimedia applications and services has been observed. The different levels of computer-generated virtual worlds are supported by novel human-machine interfaces (HMIs) and head-mounted displays (HMDs). In particular, the paradigm of extended reality (XR) captures all real-and-virtual combined environments generated by computers including virtual reality (VR), augmented reality (AR), and mixed reality (MR) as well as 360-degree video streaming.

Furthermore, fifth generation (5G) mobile networks and beyond will be essential enablers to carry mobile XR beyond video gaming to the general consumer and industry markets. 5G and future mobile networks are being developed to also cater for ultra-reliable low-latency communications such as mobile XR (360-degree video, VR, AR, and MR).

The main goal of this Special Session on Mobile Extended Reality in 5G and Beyond is to bring together researchers and scientists from academia and industry that work in this exciting field to present and discuss their latest research results, explore new ideas and solutions, and to facilitate networking among colleagues.

Special Session Co-Chairs

Hans-Jürgen Zepernick
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Topics
(Include but not limited to the following)
- Fundamentals of audio, visual, and audio-visual perception in mobile XR
- Experimental design methodologies for mobile XR
- Psychophysical, psychophysiological, and behavioral studies for mobile XR
- Image processing, video processing, and computer vision for mobile XR
- 3D audio and sound for mobile XR
- HMIs, HMDs, haptics, and wearables for mobile XR
- Power supplies and green mobile XR
- Big data, machine learning, AI, and analytics for mobile XR
- Mobile computing platforms for mobile XR
- Advanced on-device processing versus mobile edge/fog/cloud computing
- Security and privacy issues in mobile XR
- Quality of Service (QoS) and Quality of Experience (QoE) for mobile XR
- Objective perceptual quality metrics for mobile XR
- Annotated databases for mobile XR
- Immersive applications and services for mobile XR
- Prototypes and testbeds for mobile XR
- Standardization activities for mobile XR

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Acceptance notification: 30 June 2019
Registration and camera-ready version: 15 July 2019
Conference date: 25-27 September 2019

Technical Program Committee
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