

# Immersive Multimedia for Extended Reality

## Important dates

Paper submission: ~~10<sup>th</sup> of May~~ 14<sup>th</sup> of June, 2020 -- **EXTENDED**

Notification of paper acceptance: 27<sup>th</sup> of July, 2020

Camera ready paper due: 16<sup>th</sup> of August, 2020

Conference: 21<sup>st</sup> – 23<sup>rd</sup> of September, 2020

## Scope and topics

One current big technology trend is Immersive Multimedia (IM), which includes 360-degree video, up to six degrees of freedom, spatial audio, interactivity, multi-sensory processing (vision, hearing, tactile, olfaction, and gustatory) among the others. User experiences range from Virtual Reality (VR) where the content becomes reality for the user, to Mixed Reality (MR) to Augmented Reality (AR) where the content is blended into the real world of the user. The wide spectrum of these experiences is often referred to as Extended Reality (XR). The application of immersive multimedia technologies for extended reality experiences is abbreviated as IMXR.

The combination of several heterogeneous IMXR technologies poses several challenges. For example, IMXR experiences are more critical to delay and synchronization, and generally demand more resources from end devices and within the system (CPU, GPU, storage and network bandwidth). As a consequence, there are numerous open issues in the whole delivery pipeline from capture to rendering, including processing of a multitude of sensor information (audio, video, haptics, motion, location, etc.), streaming and visualizing different IMXR streams. Measuring the QoE of such new applications and services is also a totally new territory. In this session, we would like to discuss those issues, connecting a broad and interdisciplinary field of research areas, including signal processing, transport protocols, streaming, architectures, standardization, quality of experience and applications from a range of domains, including entertainment, industry and others.

The topics of the special session include (but are not limited to):

- Innovative IMXR applications, software architectures, and systems design
- Streaming of IMXR content up to 6 degrees of freedom
- Low-delay delivery of conversational IMXR applications
- Representation, storage and delivery of indoor spatial data for IMXR
- QoE assessment of IMXR experiences, including multi-sensory experiences
- Metadata and mapping of media and objects into IMXR experiences (e.g., scene description).
- Multi-sensory signal processing
- IMXR signal processing in different domains (e.g., health, education, entertainment, gaming, telepresence, industrial, etc.)
- Standardization of IMXR technologies