

Special Session 10: Recent Advances in Immersive Imaging Technologies

The emergence of 360°-video capture devices, light field camera arrays and head-mounted displays (HMDs) has created a completely new opportunity for content creators for delivering truly immersive experiences to audiences (e.g. the 5-minutes 360° light field video “Hallelujah”, captured with the Lytro Immerge camera).

However, handling the sheer amount of data in all processing steps of light field imaging, 360-video and/or volumetric video from capture to display is a major challenge. Especially, the streaming of the data to the audiences in high quality is still an unsolved problem. Furthermore, technical limitations of the capture devices, like incorrect 3D-to-2D mapping and optical distortions in omnidirectional image acquisition, optical distortions or low spatial and angular resolution of light field images as well as segmentation or time-consistent 3D reconstruction in dynamic volumetric video reduce the quality of experience on the consumer side.

The special session is dedicated to recent advances in immersive imaging technologies, in particular in (but not limited to):

- Capturing, processing and rendering of light fields, 360° content and/or volumetric video
- Coding and streaming of light fields, 360° content and/or volumetric video
- Visual attention/ saliency in light fields, 360° content and/or volumetric video

Organizers:



Martin Alain

Trinity College Dublin, Ireland



Cagri Ozcinar

Trinity College Dublin, Ireland



Sebastian Knorr
Technical University of Berlin, Germany