Multi-Party 3D Tele-immersive Environments

Tele-immersive 3D multi-camera, multi-display room environments are the next generation emerging cyber-physical spaces with many new challenging research questions. One important question is how to organize the large amount of visual data being captured, processed, transmitted and displayed, and their corresponding resources over current off-the-shelf computing and networking infrastructures so that “everybody” would be able use tele-immersive environments for collaborative physical activities. In this seminar, we will present our view-based overlay network framework design that aims for (1) effective and soft QoS-enabled management and delivery of tele-immersive visual streams to remote rooms, and (2) effective view-casting model for different view disseminations in the multi-party 3D tele-immersive environments.

The current experiments within our testbed, called TEEVE (Tele-immersive Environments for EVErybody), between UIUC and UC Berkeley show that we can sustain strong interactive communication for dance-like applications.