**Title:** Vision-based interaction techniques for controlling AR object

**A**ugmented Reality (AR) is a technology which allows virtual graphic imagery to exactly overlay physical objects in real time. Recently developed tracking and interaction methods in AR allow users to work with and examine the real physical world, while controlling augmented objects in the system more feasible fashion. In this talk, I’ll present some case studies of vision-based approaches to control augmented object in a dynamic fashion. Firstly, a vision-based hand mouse to manipulate virtual objects in a marker-less AR system is introduced. In order to provide more feasible and effective manipulations in a marker-less AR system, human’s stretched left hand played a role of the marker and the right hand is developed as a vision-based hand mouse. Secondly, a vision-based hand haptic interaction technique is introduced. In this work, a virtual hand haptic interaction mechanism between a user and augmented objects without using a haptic device in AR is explained. Instead of using a real haptic device, the user’s hand plays a role of the haptic device in the proposed method. In addition, some practical cases of vision-based interaction with AR object are introduced.