

**Prof. Farzad Safaei**

Director ICT Research Institute,  
University of Wollongong

**Title:** The challenge of compressive sampling for free viewpoint video

**Abstract:** Free Viewpoint Video (FVV) represents a paradigm shift away from the traditional model of looking at an array of multiple camera outputs associated with a scene by fusing these into a unified 3D environment that can be observed from any viewpoint. Future TV programs may be offered using this technology, enabling the viewer to navigate through the 3D digital scene (audio and video) of the whole environment using a suitable interface device such as a game controller, the same way that the current game players navigate through the artificial environment of the game.

The key research challenges in enabling such a service include: (i) optimal scene acquisition, that is sampling the scene with minimum number of cameras, (ii) efficient transmission of myriad samples to end-users, and (iii) real-time rendering of arbitrary viewpoints from the acquired samples. In this talk, I will describe some of our existing work in this area and also highlight potential collaborative opportunities with CSSM