

# Technology and Standard for Virtual-view 3D Systems

by

Prof Hsueh-Ming Hang

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9:00am - 12:00pm

Dewan Persidangan Universiti (DPU), Universiti Sains Malaysia (Main Campus)

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## Abstract

3D video products are aggressively growing recently. One step further, the virtual viewpoint (or free viewpoint) video becomes the research focus. It is also an on going standardization item in the international ITU/MPEG Standards. In addition to the movie special effects, one application of virtual view system is the multi view auto stereoscopic (glasses free 3D) display. Typically, a densely arranged camera array is used to acquire input images and a virtual view picture is synthesized using the depth image based rendering (DIBR) technique.

Three essential components are needed for building a virtual view system: depth estimation, data compression, and view synthesis. The ITU/MPEG standard committee is now in the process of defining the data compression (delivery format) of the virtual view system. The committee also provides non normative depth estimation and view synthesis tools. The entire set of standard specifications is to be done this year. We will summarize the recent progress and technology trend on this subject.

## Biography

Hsueh-Ming Hang received the B.S. and M.S. degrees from National Chiao Tung University, Hsinchu, Taiwan, in 1978 and 1980, respectively, and Ph.D. in Electrical Engineering from Rensselaer Polytechnic Institute, Troy, NY, in 1984. From 1984 to 1991, he was with AT&T Bell Laboratories, Holmdel, NJ, and then he joined the Electronics Engineering Department of National Chiao Tung University (NCTU), Hsinchu, Taiwan, in December 1991. From 2006 to 2009, he took a leave from NCTU and was appointed as Dean of the EECS College at National Taipei University of Technology (NTUT). He is currently the Dean of the ECE College, NCTU. He has been actively involved in the international MPEG standards since 1984 and his current research interests include multimedia compression, image/signal processing algorithms and architectures, and multimedia communication systems.

Dr. Hang holds 13 patents (Taiwan, US and Japan) and has published over 190 technical papers related to image compression, signal processing, and video codec architecture. He was an associate editor (AE) of the IEEE Transactions on Image Processing (1992-1994, 2008-2012) and the IEEE Transactions on Circuits and Systems for Video Technology (1997-1999). He is a co-editor and contributor of the Handbook of Visual Communications published by Academic Press in 1995. He is currently a Distinguished Lecturer and Board Member of the Asia-Pacific Signal and Information Processing Association (APSIPA) (2012-2013, 2013-2014). He is a recipient of the IEEE Third Millennium Medal and is a Fellow of IEEE and IET and a member of Sigma Xi.

## Agenda

9:00am-9:30am	Registration & Networking
9:30am-11:00am	Technical Talk
11:00am-11:30am	Q&A Session
11:30am-12:00pm	Refreshment & Networking

## Registration

<http://techtalk.dreamcatcher.asia>

For further enquiries please contact:

DreamCatcher (leroy@dreamcatcher.asia)  
 USAINS (ong@uicoe-ee.com)  
 USM Admin (syazira@usm.my)  
 IEM Admin (eetd.iem@gmail.com)

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