USC Viterbi
School of Engineering
*Ming Hsieh Department
of Electrical Engineering*

Seminar
Announcement

Perceptually Motivated Multimedia

Anup Basu, PhD
University of Alberta

Thursday, January 3, 2019
10:00 am - EEB 248

Abstract: In this talk we will discuss how biological motivation can help develop better and more robust image processing and computer vision algorithms. More specifically we will outline multi-camera motion estimation, active camera calibration, foveated image/video/3D compression, and the role of spatially varying sensing in 3D perception and depth reconstruction. We will also try to draw similarities between these algorithms and biological processing and understanding of images. We will also briefly discuss some of the recent research in our lab in medical imaging, surgical planning and other application areas.

Biography: Anup Basu received his Ph.D. in CS from the University of Maryland, College Park, USA. He originated the use of foveation for image, video, stereo and graphics communication in the early 1990s; an approach that is now widely used in industrial standards. He also developed the first robust (correspondence free) 3D motion estimation algorithm using multiple cameras, a robust (and the first correspondence free) active camera calibration method, a single camera panoramic stereo, and several new approaches merging foveation and stereo with application to 3D TV visualization and better depth estimation. His current research applications include 3D/4D Image Processing and Visualization especially for medical applications, Multimedia in Education and Games, and Wireless 3D Multimedia transmission. He has been a Professor in the CS Department at University of Alberta since July 1999. He has also been a Visiting Professor, at University of California, Riverside; Guest Professor, at Technical University of Austria, Graz; Director, Hewlett-Packard Imaging Systems Instructional Lab.; Visiting Prof. in INSA, Lyon and Telecomm Paris; and an NSERC-AITF Research Chair.

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