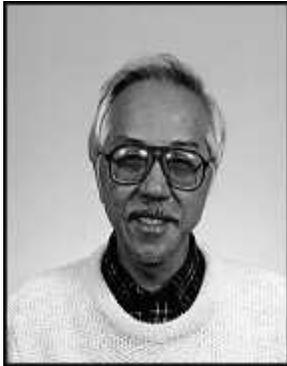


DISTINGUISHED LECTURE SERIES
RECENT ADVANCES IN IMAGE/VIDEO/MULTIMEDIA RESEARCH



T. S. Huang

The opportunities created by Multimedia databases are exciting for both scientific and business communities. Two distinguished and renowned researchers will present their novel techniques for Multimedia Processing and Content Based Image Retrieval in a tutorial style.



Sanjit K. Mitra

Lecture 1

Friday, September 20, 2002, 9:00-12:00

MULTIMEDIA SIGNAL PROCESSING, PROF T.S. HUANG

Multimedia includes text, graphics, images, video and audio; and multimodalities include vision, hearing and touching etc. Although multimedia has many important aspects, this lecture will concentrate on Multimedia Signal Processing especially pattern detection and recognition. Main applications of interest are in Multimodal Human Computer Interaction, and Multimedia Databases. Multimedia Signal Processing tasks can be classified into 4 categories depending on the numbers of media in the input and the output, respectively: *Conversion (one medium in, one out)*, *Fusion (several in, one out)*, *Diffusion (one in, several out)* and *Confusion (several in, several out)*. These categories will be explained using one or more examples. Some challenging research problems will also be described.

Lecture 2

Friday, September 20, 2002, 13:30-16:30

EFFICIENT NONLINEAR IMAGE PROCESSING ALGORITHMS, PROF S. K. MITRA

Two-dimensional quadratic Voleterra operators developed for edge enhancement are reviewed. A number of practical image processing applications of these filters are then considered and the proposed algorithms are outlined. These applications include image contrast enhancement, impulse noise removal, image zooming, image half-toning, and image coding. In each of these applications, it is shown that the processed images appear perceptually much better in quality than those obtained using many other well-known methods.

Registration

Student CAN \$75
Regular CAN \$150

Registration covers tutorial materials, lunch and refreshments.

Please make your cheque/money order payable to "The IEEE Student Branch, Ryerson University" and mail it to

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Registration details can also be faxed to
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Email: dls@ee.ryerson.ca

Or visit the web site

www.ee.ryerson.ca/~dls

Thomas S. Huang is the William L. Everitt Distinguished Professor of Electrical and Computer Engineering, Research Professor at the Coordinated Science Laboratory, and Head of the Image Formation and Processing Group at the Beckman Institute for Advanced Science and Technology. He is also Co-Chair of the Institute's major research theme Human Computer Intelligent Interaction. He has published 14 books and over 500 papers in Network Theory, Digital Filtering, Image Processing, and Computer Vision. He is the recipient of many research awards, including the coveted IEEE Jack S. Kilby Medal. In 2001, he was inducted into US Academy of Engineering. He initiated International Picture Coding Symposium in 1969, the first International Workshop on Very Low Bit-rate Video Coding in 1993 and International Conference on Automatic Face and Gesture Recognition in 1995.

Sanjit K. Mitra is Professor of Electrical and Computer Engineering at the University of California. He served as the President of the IEEE Circuits and Systems Society in 1986 and as a Member-at-Large of the Board of Governors of the IEEE Signal Processing Society from 1996-99. He has published over 550 papers in signal and image processing, twelve books, and holds five patents. Dr. Mitra is recipients of many awards including F.E. Terman Award 1973, AT&T Foundation Award of the American Society of Engineering Education 1985, Mac Van Valkenburg Society Award of the IEEE Circuits and Systems Society and IEEE Signal Processing Society Award 2002. Dr. Mitra is a Fellow of the IEEE, AAAS, and SPIE, and a member of EURASIP and ASEE.