COMPUTER VISION DISTINGUISHED SPEAKER SERIES

School of Electrical Engineering and Computer Science
University of Central Florida

The Perception of Surfaces and Materials

Dr. Edward Adelson
Massachusetts Institute of Technology

When we look at the world, we see objects, and these objects are made of materials. Many researchers study the perception of objects but only a few study the perception of materials. On the other hand, people in computer graphics are obsessed with materials, because they know how important they are to human viewers. One reason that material perception is under studied is that it is just plain hard. Understanding the statistics of natural scenes turns out to be crucial. This means characterizing the patterns of light in the world surrounding a surface as well as understanding the way the surface interacts with that light. We are reconsidering this problem using techniques from machine learning and multiscale image decomposition (e.g., wavelets). We are also probing the human visual system with illusions to uncover some of the principles it uses in evaluating surface properties.

2:00pm, Thursday, January 18, 2007
Garden Room, Marketplace Dining Hall
http://www.eecs.ucf.edu/~vision

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BIOGRAPHY



Edward (Ted) Adelson is Professor of Vision Science at the Department of Brain and Cognitive Sciences, Massachusetts Institute of Technology, and is a member of the Computer Science and Artificial Intelligence Lab. He has a B.A. in Physics and Philosophy from Yale University, and a Ph. D. in Experimental Psychology from the University of Michigan. After a post-doc at NYU, he worked on human and computer vision at RCA Sarnoff Labs in Princeton. He joined the MIT Media Lab in 1987, and moved to the Department of Brain and Cognitive Sciences in 1995. He has published numerous papers in the fields human and machine vision, image coding, and computer graphics. He holds a 13 patents on image processing and video coding. His work has been honored with the Optical Society of America¹s Adolph Lomb Medal, the Rank Prize in Electro-optics, and IEEE Computer Society's Longuet-Higgins Prize ("For Outstanding Contributions to Computer Vision that have Stood the Test of Time"). He was recently elected to the National Academy of Sciences.