



The Information Science & Technology Center ...at Colorado State University  
Colorado State University's Information Science and Technology Center (ISTeC)

*presents two lectures by*



**Dr. Edward Delp**

The Silicon Valley Professor of Electrical and Computer Engineering  
and Professor of Biomedical Engineering  
Purdue University

## **ISTeC Distinguished Lecture**

**in conjunction with the Computer Science Department Seminar Series**

**“Are You Stealing Content?  
Multimedia Security: The Good, The Bad, and The Ugly:  
We are Going to Catch You!”**

**Friday, March 24, 2006**

Reception: 3:30 pm

Lecture: 4:10 to 5:00 pm

Guggenheim 107

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**Electrical and Computer Engineering Department Seminar**  
sponsored by ISteC

**“Network-Driven Wyner-Ziv Video Coding  
Using Forward Prediction”**

**Friday, March 24, 2006**

Lecture: 10:00 to 11:00 am

Glover 201

## ABSTRACTS

### **“Are You Stealing Content?**

#### **Multimedia Security: The Good, The Bad, and The Ugly: We are Going to Catch You!”**

In this talk, I will describe issues related to securing multimedia content. In particular, I will discuss why traditional security methods, such as cryptography, do not work. I believe that perhaps too much has been promised and not enough has been delivered with respect to multimedia security. I will overview research issues related to data hiding, digital rights management systems, and media forensics, and describe how various application scenarios impact security issues.

### **“Network-Driven Wyner-Ziv Video Coding Using Forward Prediction”**

In some video applications such as video surveillance, a simple encoder is preferred with the computationally intensive tasks left to the decoder. The Wyner-Ziv Theorem showed that this goal is achievable by exploiting video source statistics at the decoder. In many existing Wyner-Ziv video coding schemes, many frames have to be intra coded so that the decoder can derive sufficiently accurate side information from the frames. In this paper we present a new network-driven Wyner-Ziv method using forward prediction. The basic idea is to perform motion estimation at the decoder and send the motion information back to the encoder through a feedback channel. Experimental results show that our proposed approach can improve coding efficiency by up to 5dB.

**Dr. Edward Delp** was born in Cincinnati, Ohio. He received the B.S.E.E. (cum laude) and M.S. degrees from the University of Cincinnati, and the Ph.D. degree from Purdue University. From 1980-1984, Dr. Delp was with the Department of Electrical and Computer Engineering at the University of Michigan, Ann Arbor, Michigan. Since August 1984, he has been with the School of Electrical and Computer Engineering at Purdue University, West Lafayette, Indiana, where he is a Professor of Electrical and Computer Engineering.

His research interests include image and video compression, multimedia security, medical imaging, multimedia systems, communication and information theory. Dr. Delp has also consulted for various companies and government agencies in the areas of signal and image processing, robot vision, pattern recognition, and secure communications. He has published and presented more than 250 papers and has received research funding from NSF, NIH, DARPA, ONR, AFOSR, IBM, AT&T, Lucent, Rockwell, Conexant, Kodak, Intel, Texas Instruments, and GE.

In 1990 he received the Honeywell Award and in 1992 the D. D. Ewing Award for excellence in teaching. In 1990 he received a Fulbright Fellowship to visit the Universitat Politecnica de Catalunya in Barcelona, Spain. During the summers of 1998 and 1999 he was a Visiting Professor at the Tampere International Center for Signal Processing at the Tampere University of Technology in Finland. Dr. Delp is a registered Professional Engineer.

**To arrange a meeting with the speaker**, please contact MaryAnn Stroub at (970) 491-2708 or [mstroub@engr.colostate.edu](mailto:mstroub@engr.colostate.edu)

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