

THURSDAY
NOVEMBER 13, 2003

Scaife Hall Auditorium
Room 125

4:00 PM
Refreshments—3:30 PM



Jelena Kovacevic

DEPARTMENTS OF BME AND ECE

Jelena Kovacevic (S'88-M'91-SM'96-F'02) received the Dipl. Electr. Eng. degree from the Electrical Engineering Department, University of Belgrade, Yugoslavia, in 1986, and the Master of Science and Ph.D. degrees from Columbia University, New York, NY, in 1988 and 1991, respectively.

Dr. Kovacevic received the Belgrade October Prize, highest Belgrade prize for student scientific achievements awarded for the Engineering Diploma Thesis in October 1986 and the E.I. Jury Award at Columbia University for outstanding achievement as a graduate student in the areas of systems, communication or signal processing. She is the Fellow of the IEEE and the Editor-in Chief of the IEEE Transactions on Image Processing. She served as an Associate Editor of the IEEE Transactions on Signal Processing, as a Guest Co-Editor (with Ingrid Daubechies) of the Special Issue on Wavelets of the Proceedings of the IEEE, and as a Guest Co-Editor (with Martin Vetterli) of the Special Issue on Transform Coding of the Signal Processing Magazine. She is a Member at-Large of the IEEE Signal Processing Society Board of Governors and serves on the IMDSP Technical Committee of the IEEE Signal Processing Society. She was the Co-Chair (with Vivek Goyal) of the DIMACS Workshop on Source Coding and Harmonic Analysis and a General Co-Chair (with Jan Allebach) of the Ninth Workshop on Image and Multidimensional Signal Processing.

For more information:

<http://www.ece.cmu.edu/seminar>

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PHOTO-TO-GRANDMA PROBLEM: COMPRESSION MEETS THE NETWORK

In communications, separating source coding from channel coding is a standard form of modularization. It makes things simple for us, and furthermore, Shannon's Separation Principle allows us to feel that we are not going to suffer for it. For practical purposes, separation leads to big toolboxes of reusable tools.

I will examine certain communication scenarios and draw conclusion on the existing toolboxes. I'll show that there is life beyond multiresolution. In particular, in some communication scenarios, the information available at the source decoder is a subset of a small number of chunks of data. Then, the right tools for source coding are not the conventional ones, but rather multiple description codes. I will conclude with demonstrations of multiple description speech and audio coders. 