



## CCECE 2001 Tutorial: "MPEG-4 for Multimedia Streaming"

**Date:** Sunday May 13, 2001  
**Time:** 1:00 PM – 5:00 PM  
**Place:** Delta Chelsea Hotel  
 Downtown Toronto,  
 Ontario, Canada  
**Student Fee:** \$ 50  
**Member Fee:** \$ 75  
**Non-Member Fee:** \$150



**Dr. Wael Badawy,**  
 Department of Electrical and  
 Computer Engineering  
 University of Calgary, Calgary,  
 Canada

Dr. BADAWEY's research interests are in the areas of: video coding for low-bit rate applications, digital video processing, video library, watermarking, spatial database, low power, design methodologies, microelectronics, and VLSI prototyping. His research involves designing new models, techniques, algorithms, architectures and low power prototype for MPEG-4 consumer products.

Dr. Badawy is honored with the "1998 Upsilon Pi Epsilon Honor Society and IEEE Computer Society Award for Academic Excellence in Computer Disciplines"

<b>Outline:</b>	Brief introduction to MPEG MPEG-4 scope and structure MPEG-4 Version 1 and 2 tools Visual Audio Systems MPEG-4 Profiles Streaming Multimedia using MPEG-4 MPEG-4 File format Wireless Multimedia Forum Demo and Summary
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**Topic** *MPEG-4 is a new ISO/IEC standard that targets streaming multimedia. The MPEG-4 provides tools to deliver multimedia content over different communication channels and targets a wide range of interactive multimedia applications. MPEG-4 provides new features such as object-based media representation which enables higher compression ratio and higher level of interaction with the scene contents, scalability which enables transmitting the same content using different channels, error-resilient techniques which enables robust transmission over low bit rate noisy channels.*

MPEG-4 Video offers technology that covers a large range of existing applications as well as new ones. The low-bit rate and error resilient coding allows for robust communication over limited rate wireless channels, mobile videophones and space communication. At high bit-rates, MPEG-4 tools are available to allow the transmission and storage of high-quality video suitable for the studio and other very demanding content creation applications. It is likely that the standard will eventually support data-rates well beyond those of MPEG-2.

A major application area is interactive web-based video. Software that provides live MPEG-4 video on a web-page has already been demonstrated. There is much room for applications to make use of MPEG-4's object-based characteristics. The flexibility of MPEG-4 video coding encourages many more applications.

This lecture will introduce the MPEG-4 Version 1 and Version 2 visual coding tools and their functionalities. It will focus on the applications of MPEG-4 for multimedia streaming and how wired and wireless multimedia streaming can benefit from MPEG-4 visual coding tools.

### Registration

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