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C. Kyriakakis and A. Mouchtaris, *University of Southern California, USA* 

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Florin Bota, *University of Cluj, Romania*; Laura Farinetti, *Politecnico di Torino, Italy*; Anca Rarau, *Technical University of Cluj, Romania* 

**MA0.06 A Web-Based CBIR-Assisted Learning Tool for Radiology Education – Anytime and Anyplace**
C. R. Shyu, A. C. Kak, C. E. Brodley, C. Pavlopoulou, and M. F. Chyan, *Purdue University, USA*; L. S. Broderick, *University of Wisconsin Hospital, USA* 

**MA0.07 Complete System for Distance Learning over IP**
Javier Durán-de-Jesus, Juan José Villacorta-Calvo, and Alberto Izquierdo-Fuente, *Universidad de Valladolid, Spain* 

## MA1 COLLABORATIVE NETWORKING APPLICATIONS (R)

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**MA1.01 An Efficient Near-Video-on-Demand System for Broadband Residential ADSL Network**
Chi-Chien Hsueh, Wen-Cheung Cheng, and Chi-Shi Liu, *Chungwa Telecom, Taiwan* 

**MA1.02 A Standalone Video Communication System for Wire and Wireless Communications**
HonCheong Ng, HaiBin Huang, Xiao Lin, HockLye Toh, Susanto Rahardja, Hui Lan, and Xiang Chen, *Nanyang Technological University, Singapore* 

**MA1.03 A Cooperative Playback System for On-Demand Multimedia Sessions over Internet**
G. Fortino and L. Nigro, *Universita della Calabria, Italy* 

**MA1.04 Protocol for Collaborative Multimedia Presentations**
Eenjun Hwang, *Ajou University, Korea*; B. Prabhakaran, *National University of Singapore, Singapore* 

**MA1.05 A Universal Distribution Protocol for Video-on-Demand**
Jehan-François Pàris, *University of Houston, USA*; Steven W. Carter and Darrell D. E. Long, *University of California, USA* 

**MA1.06 Efficient Network Management for Collaborative Services and Application Development**
Kevin H. Liu, *Telcordia Technologies Inc., USA*; Vassilios Th. Tsoussidis, *SUNY at Stony Brook, USA* 

**MA1.07 Dynamic Object Markers in a Collaborative Environment for Video Content Discussion**
Candemir Toklu, Thomas Fisher and Shih-Ping Liou, *Siemens Corporate Research, USA*
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MA2.01 Reduction of Blocking Artifacts for Low Bit-Rate Video Coding using Regularized Dequantization
S. Moon-Ho Song, Gunho Lee, Sanghoon Sull, and Sung-Jea Ko, Korea University, South Korea

MA2.02 Efficient Representation and Streaming of XML Content over the Internet Medium
Marc Girardot and Neel Sundaresan, IBM Almaden Research Center, USA

MA2.03 Talking Heads and Synthetic Speech: An Architecture for Supporting Electronic Commerce
Jörn Ostermann and David Millen, AT&T Labs - Research, USA

MA2.04 On Feasibility of MPEG-4 for Multimedia Integration for E-Commerce
A. Puri, R. L. Schmidt, and Q. Huang, AT&T Labs - Research, USA

MA2.05 Performance Evaluation of an Interactive Web-Based Multimedia Document System with Streaming Media
H. Fahmi, M. Latif, and A. Ghafoor, Purdue University, USA; P. Liu and L. Hsu, Siemens Corporate Research, USA

MA2.06 Internet Course Delivery – Making it Easier and More Effective
D. Anderson, L. Harvel, and M. Hayes, Georgia Institute of Technology, USA; Y. Ishiguro, NEC Corp., Japan; J. Jackson, Georgia Institute of Technology, USA; M. Pimentel, Universidade de Sao Paolo, Brazil

MA2.07 E-Commerce Direct Marketing using Augmented Reality
Xiang Zhang, Nassir Navab, and Shih-Ping Liou, Siemens Corporate Research, USA

MA3 MULTIMEDIA CODEC I (R)
Time & Place: 9:45am - 12:05pm, Beekman Parlor

MA3.01 An Advanced Center Biased Three Step Search Algorithm for Motion Estimation
Humaira Nisar and Tae-Sun Choi, Kwangju Institute of Science and Technology, Korea

MA3.02 Multimedia Image Coding using Adaptive Integer-to-integer Wavelet Transforms
Subhasis Saha and Rao Vemuri, University of California Davis, USA

MA3.03 Software Optimization of H.263 Video Encoder on Pentium Processor with MMX Technology
Pohsiang Hsu and K. J. Ray Liu, University of Maryland at College Park, USA

MA3.04 Region of Interest Coding for Low Bit Rate Image Transmission
O. Déforges and J. Ronsin, INSA, France

MA3.05 Simplified EZW Image Coder with Residual Data Transmission
Tanzeem Muzaffar and Tae-Sun Choi, Kwangju Institute of Science and Technology, Korea

MA3.06 PBS: A Predictive Block Sampling Algorithm for Desktop Multimedia Video Applications
Joseph Pasquale, Tom Nguyen, and Jon Kay, University of California, San Diego, USA

MA3.07 Efficient Multi-layer Coding and Encryption of MPEG Video Streams
Ali Saman Tosun and Wu-chi Feng, The Ohio State University, USA

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Richard J. Qian, Peter J. L. van Beek, and M. Ibrahim Sezan, Intel Labs, USA

MA4.02 Indexing and Retrieval Scheme of the Image Database based on Color and Spatial Relations
Timothy K. Shih, Ching-Sheng Wang, Anthony Y. Chang, and Chuan-Ho Kao, Tamkang University, Taiwan

MA4.03 Detection of Human Faces using Skin Color and Eyes
Jeonghee Park, Jungwon Seo, Dongun An, and Seongjong Chung, Chonbuk National University, South Korea

MA4.04 JaNeT: A Framework for Flexible Web-Content Retrieval
F. Bergenti, A. Poggi, and M. Somacher, Università degli Studi di Parma, Italy
MA4.05 Image Retrieval by Shape: A Comparative Study
Maytham Safar, Cyrus Shahabi, and Xiaoming Sun, University of Southern California, USA

MA4.06 Compass: An Image Retrieval System for Distributed Databases
R. Brunelli and O. Mich, ITC-irst, Italy

MA4.07 The ICOR Framework: A Top-Down Approach to Media Indexing and Retrieval
Ivica Rimac, Stephan Fischer, and Ralf Steinmetz, Darmstadt University of Technology, Germany

MA5 MULTIMEDIA AUTHORING / VIRTUAL REALITY (P)
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MA5.01 Variorum: A Multimedia-Based Program Documentation System
Tzi-cker Chiueh, Wei Wu, and Lap-Chung Lam, State University of New York at Stony Brook, USA

MA5.02 Content-Based Browsing and Editing of Unstructured Video
Giridharan Iyengar, IBM T.J. Watson Research Center, USA; Andrew B. Lippmann, MIT Media Laboratory, USA

MA5.03 Design of Video Caption Markup Language VCML and Development of VCML Player
Katsuyuki Watanabe, Naohide Fukada, and Masahide Sugiyma, The University of Aizu, Japan

MA5.04 Tightly Coupling Authoring and Evaluation in an Integrated Tool to Support Iterative Design of Educational Hypermedia
Selma Holmquist, Universidad de Los Andes, Venezuela; N. Hari Narayanan, Auburn University, USA

MA5.05 ProtoGMI MusicBrush - An Exercise in General Multimedia Instrument Interface Design
Timothy Chen, Kazushi Nishimoto, and Kenji Mase, ATR Media Integration & Communications Research Laboratories, Japan

MA5.06 MPEG-Pro: An Authoring System for MPEG-4 with Temporal Constraints and Template Guided Editing
Souhiila Boughoufalah, Jean-Claude Dufourd, and Frederic Bouilhaguet, ENST Paris, France

MA5.07 Networked Virtual Environments for the Web: The WebTalk-I & WebTalk-II Architectures
Thimoty Barbieri, HyperMedia Open Center, Italy

MA5.08 VGuide: Design and Performance Evaluation of a Synchronous Collaborative Virtual Reality Application
J. M. Arango and P. K. McKinley, Michigan State University, USA

MA5.09 Architecture and Mechanisms of a Web-Based Video Data Management System
Shermann Sze-Man Chan and Qing Li, City University of Hong Kong, Hong Kong

MA5.10 Distributed Virtual Reality Authoring Interfaces for the WWW
I. Varlamis and M. Vazirgiannis, Athens University of Economics & Business, Greece; I. Lazaridis, University of California, Irvine, USA

MA5.11 On the Choice of Tactile Code
Danilo P. Mandic and Richard Harvey, University of East Anglia, United Kingdom; Djemal H. Kolonic, University of Banjaluka, Bosnia-Herzegovina

MA5.12 Unified Multiple Media Interface for Robot Teleoperation
Tamhant Jain, Sambit K. Dash, Nishant Agrawal, Susmit Sen, and Amitabha Mukerjee, I.I.T. Kanpur, India

MA5.13 System Aspects of Copy Management for Digital Video
Jean-Paul Linnartz, Joop Talstra, Ton Kalkar, and Maurice Maes, Philips Research, The Netherlands

MA5.14 Interactive Artificial Life based on Behavior and Perception in a Virtual Environment
Hyun Seung Yang, Hyun-jin Park, and Yong-jin Cho, Korea Advanced Institute of Science and Technology, Korea
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An Efficient Low-Bit Rate Motion Compensation Technique Based on Quadtree
Hanan A. Mahmoud and Magdy Bayoumi, University of Louisiana, USA

Selective Requantization for Transcoding of MPEG Compressed Video
Hani Sorial and William E. Lynch, Concordia University, Canada; Andre Vincent, Communications Research Centre, Canada

Fast Dihedral Symmetry Operations on Digital Images in the Compressed Domain
Viresh Ratnakar, Bhaskaran Vasudev, and Victor Ivashin, Epson Research and Development, Inc., USA

Compressed Domain MPEG-2 Video Editing
Kai Wang and John W. Woods, Rensselaer Polytechnic Institute, USA

MULTIMEDIA AUTHORING (R)
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Systematic Approach for Creating Animated Character Interfaces
Izumi Kohno, Shujun Yoshizaka, and Shin'ichi Uwakubo, NEC Corporation, Japan

Extending Databases to Support Image Editing
Greg Speegle, Allen M. Gao, and Shaowen Hu, Baylor University, USA; Le Grunwald, University of Oklahoma, USA

Automatic Techniques for Insertion of Three-Dimensional Objects into a Video Sequence
Satyan R. Coorg, IBM T.J. Watson Research Center, USA

AUDIO PROCESSING IN MULTIMEDIA I (R)
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Selective Signal Cancellation for Multiple-Listener Audio Applications: An Information Theory Approach
Sunil Bharitkar and Chris Kyriakakis, University of Southern California, USA

Towards Efficient and Scalable Speech Compression Schemes for Robust Speech Recognition Applications
N. Srinivasamurthy and A. Ortega, USC, USA; Q. Zhu and A. Alwan, UCLA, USA

A Multiple Input Single Output Model for Rendering Virtual Sound Sources in Real Time
Panayiotis G. Georgiou and Chris Kyriakakis, University of Southern California, USA

A New Communication Paradigm: Action-to-Speech
Masanobu Abe and Tsubasa Shinozaki, NTT Cyber Space Labs, Japan

STREAMING VIDEO (R)
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Optimal Streaming of Layer-Encoded Multimedia Presentations
David A. Turner and Keith W. Ross, Institut Eurécom, France

Segment Reencoding of Buffer Constrained Variable Bit Rate Video Streams
Larry Lu, Krishna Ratakonda, Rajesh Rajagopalan, Jack Kouloheris, and Cesar Gonzales, IBM T.J. Watson Research Center, USA

Streaming Video with Optimized Reconstruction-Based DCT
Xiao Su and Benjamin W. Wah, University of Illinois at Urbana-Champaign, USA

Transmission of Streaming Video over an EGPRS Wireless Network
Kapil Chawla, Zhimei Jiang, Xiaoxin Qiu, and Amy Reibman, AT&T Labs Research, USA
MP4  USER INTERFACE I (R)
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MP4.01 Hand Gesture Recognition of a Mobile Device User
Vesa-Matti Mäntylä, Technical Research Centre of Finland, Finland; Jani Mäntyjärvi and
Tapio Seppänen, University of Oulu, Finland; Esa Tuulari, Technical Research Centre of
Finland, Finland

MP4.02 Gesture-Enhanced Information Retrieval and Presentation in a Distributed
Learning Environment
Shi-Kuo Chang, University of Pittsburgh, USA; Tsuhan Chen, Carnegie Mellon University,
USA; C. S. Li, IBM Watson Research Center, USA

MP4.03 Object-Based Visual Effects by using Multi-focus Images and Its Real-Time Implementation
Kiyoharu Aizawa, Akira Kubota, and Conny Riani Gunadi, University of Tokyo, Japan

MP4.04 Multimodal Output for a Conversational Telephony System
M. Mast, C. Günther, S. Kunzmann, and T. Roß, IBM Germany, Germany

MP5  VIDEO / IMAGE RETRIEVAL II (P)
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Qi Tian, Ying Wu, and Thomas S. Huang, University of Illinois at Urbana-Champaign, USA

MP5.02 An Architecture for Content-Based Retrieval of Remote Sensing Images
Luis M. del Val Cura, Neucimar Jeronimo Leite, and Claudia Bauzer Medeiros, Campinas
State University, Brazil

MP5.03 A Modified Zernike Moment Shape Descriptor Invariant to Translation, Rotation and
Scale for Similarity-Based Image Retrieval
Hae-Kwang Kim, Sejong University, Korea; Jong-Deuk Kim, Dong-Gyu Sim, and Dae-II Oh,
Hyundai Electronics Industries Co., Korea

MP5.04 Color Based Retrieval and Recognition
Nicu Sebe and Michael S. Lew, Leiden Institute of Advanced Computer Science,
The Netherlands

MP5.05 Spatial Match Representation and Retrieval for Supporting Ranking in
Iconic Image Databases
Jae-Woo Chang, Yeon-Jung Kim, and Ki-Sung Jin, Chonbuk National University, South Korea

MP5.06 Perceptual Color on Internet Browser
Seiichiro Hangai, Takayuki Hamamoto, and Masato Kawamoto, Science University of
Tokyo, Japan

MP5.07 Augmented Album: Situation-Dependent System for a Personal Digital Video/Image Collection
K. Priyantha Hewagamage and Masahito Hirakawa, Hiroshima University, Japan

MP5.08 On Design of Adaptive Internet Streaming Applications: An Architectural Perspective
Reza Rejaie, AT&T Labs - Research, USA

MP5.09 Non-linear Relevance Feedback: Improving the Performance of
Content-Based Retrieval Systems
Nikolaos D. Doulamis, Anastasios D. Doulamis, and Stefanos D. Kollias, National Technical
University of Athens, Greece

MP5.10 Using Multiple Examples for Content-Based Image Retrieval
J. Assfalg, A. Del Bimbo, and P. Pala, University of Florence, Italy

MP5.11 Adaptive Synthesis in Progressive Retrieval of Audio-Visual Data
John R. Smith and Chung-Sheng Li, IBM T.J. Watson Research Center, USA

MP5.12 A Novel Shape Matching Method using Biological-Sequence Dynamic Alignment
Shaojie Zhang and Kai-Kuang Ma, Nanyang Technological University, Singapore

MP5.13 A General Inference Network Based Architecture for Multimedia Information Retrieval
Campbell Wilson, Bala Srinivasan, and Maria Indrawan, Monash University, Australia

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C. Montminy and T. Aboulnasr, University of Ottawa, Canada

MP8.02 Effects of Vocoder Distortion on Network Echo Cancellation
Y. Huang and R. A. Goubran, Carleton University, Canada

MP8.03 Toward Naturalness in Narrow-Band Speech Compression
S. Ghaemmaghami, Sharif University of Technology, Iran

MP8.04 Multiple Description Speech Coding for Robust Communication over Lossy Packet Networks
Wenqing Jiang and Antonio Ortega, University of Southern California, USA

MP8.05 Prosody Model in a Mandarin Text-to-Speech System based on a Hierarchical Approach
Neng-Huang Pan, Wen-Tsai Jen, Shyr-Shen Yu, Ming-Shing Yu, Shyh-Yang Hwang, and Ming-Jer Wu, National Chung-Hsing University, Taiwan

MP8.06 Automatic Audio Segmentation using a Measure of Audio Novelty
Jonathan Foote, FX Palo Alto Laboratory, Inc., USA

MP9  VIDEO RETRIEVAL (R)
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MP9.01 Application-Specific File Prefetching for Multimedia Programs
Tulika Mitra, Chuan-Kai Yang, and Tzi-cker Chiueh, State University of New York at Stony Brook, USA

MP9.02 Modeling and Querying Videos by Content Trajectories
Zaher Aghbari, Kunihiko Kaneko, and Akifumi Makinouchi, Kyushu University, Japan

MP9.03 A Probabilistic-Based Mechanism for Video Database Management Systems
Mei-Ling Shyu, University of Miami, USA; Shu-Ching Chen, Florida International University, USA; R. L. Kashyap, Purdue University, USA

MP9.04 NMPTE: Network Multimedia Programming Training Environment
Yuh-Huei Shyu and Peng-Wen Chen, Tamkang University, Taiwan

MP9.05 A Probabilistic Framework for Semantic Indexing and Retrieval in Video
Milind R. Naphade and Thomas S. Huang, University of Illinois at Urbana-Champaign, USA

MP9.06 Retrieval by Content of Commercials based on Dynamics of Color Flows
A. Del Bimbo, P. Pala, and L. Tanganelli, University of Florence, Italy

MP9.07 Content Based Annotation and Retrieval of News Videos
M. Bertini, A. Del Bimbo, and P. Pala, University of Florence, Italy

MP10 AUTHENTICATION/SECURITY/TRAFFIC/ERROR CONTROL (P)
Time & Place: 3:50pm - 5:30pm, Sutton Corridor Poster

MP10.01 On-Line Signature Verification based on Altitude and Direction of Pen Movement
Seiichiro Hangai, Shinji Yamanaka, and Takayuki Hamamoto, Science University of Tokyo, Japan

MP10.02 Information Access using Speech, Speaker and Face Recognition
M. Viswanathan, H. S. M. Beigi, and A. Tritschler, IBM T.J. Watson Research Center, USA; F. Maali, Signal Recognition Corporation, USA

MP10.03 Image Enhancement Towards Soft Image Authentication
Liehua Xie and Gonzalo R. Arce, University of Delaware, USA; Arianne Lewis and E. Bert Basch, GTE Laboratories Incorporated, USA

MP10.04 Multi-level Reliability in Multimedia Collaboration over Heterogeneous Networks
Liang Cheng and Ivan Marsic, Rutgers University, USA

MP10.05 Multirate Trellis Coded Modulation in Multimedia Communications
Pingyi Fan, Tsinghua University, China; Xiang-Gen Xia, University of Delaware, USA
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| MP10.08 | Adaptive QoS for Mobile Multimedia Services over Wireless Networks | Alejandra Mercado and K. J. Ray Liu, University of Maryland, USA |
| MP10.09 | Design Space Exploration for Providing QoS Within the Harmony Framework | A. M. Lele and S. K. Nandy, Indian Institute of Science, India; D. H. J. Epema, Delft University of Technology, The Netherlands |
| MP10.10 | Descriptive-Procedural Configuration of Communication Bindings | Thorsten Kramp and Rainer Koster, University of Kaiserslautern, Germany |
| MP10.11 | Multimedia Security Gateway Protocol to Achieve Anonymity in Delivering Multimedia Data using Watermarking | Sangeeta Narang, Indraprastha University, India; P. S. Grover, Delhi University, India; Saroj Kaushik, IIT, India |
| MP10.12 | A Petri-Net Based Multilevel Security Specification Model for Multimedia Documents | J. Joshi and A. Ghafoor, Purdue University, USA |
| MP10.13 | Remotely Keyed Encryption with Java Cards: A Secure and Efficient Method to Encrypt Multimedia Streams | Rüdiger Weis, cryptolabs Amsterdam, The Netherlands; Wolfgang Effelsberg and Stefan Lucks, Universität Mannheim, Germany |
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| MP10.15 | Scheduling and Routing of Real-Time Multimedia Traffic in Packet-Switched Networks | Sudhir M. Rao and Albert M. K. Cheng, University of Houston, USA |
| MP10.16 | Experimental Evaluation of Design Tradeoff in Specialized Virtual Machine for Multimedia Traffic in Active Networks | Sheng-Yih Wang and Bharat Bhargava, Purdue University, USA |
| MP10.17 | A Simple Model for MPEG Video Traffic | Hai Liu, Nirwan Ansari, and Yun Q. Shi, New Jersey Institute of Technology, USA |
| MP10.18 | TBLB Algorithm for Servicing Real-Time Multimedia Traffic Streams | William K. Wong and Victor C. M. Leung, The University of British Columbia, Canada |

MPS11

**SPECIAL SESSION: PERCEPTUAL INTERFACE (R)**
(Dominic Massaro)

*Time & Place: 3:50pm - 5:30pm, Sutton Center*

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| MPS11.02 | Neural Mechanisms for Integrating Information from Multiple Senses | Barry E. Stein, Paul J. Laurienti, Terrence R. Stanford, and Mark T. Wallace, Wake Forest University School of Medicine, USA |
| MPS11.03 | Multimodal Speech Synthesis | J. Schroeter, J. Ostermann, H. P. Graf, M. Beunagel, E. Cosatto, A. Syrdal, A. Conkie, and Y. Stylianou, AT&T Labs – Research, USA |
| MPS11.04 | Approaches to Visual Speech Processing based on the MPEG-4 Face Animation Standard | Eric Petajan, face2face animation, inc., USA |
| MPS11.05 | Learning from Multimodal Observations | Deb Roy, MIT Media Laboratory, USA |

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