

ACM  
MM98

# Advance Program

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On the evening of Sunday, September 13, the University of Bristol will host a reception in the demo and poster rooms. All participants are invited.

The technical conference program consists of plenary sessions and three parallel tracks on Systems, Content Processing and Applications, indicated by S, C and A with the session numbers.

- [As Postscript \(gzipped\)](#)
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## Monday, September 14

### 9:00-10:30 Session 1

Opening Plenary

(Chairs: Wendy Hall, U. Southampton, Ralf Steinmetz, U Darmstadt)

*Welcome*

Wendy Hall, David May

*Invited Talk: Building Virtual Worlds: Combining Art and Engineering*

Randy Pausch, Carnegie Mellon U., USA

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10:30-11:00 Tea break, posters

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### 11:00-12:30 Session 2

**Highlights on Content Processing**

(Chair: Wolfgang Effelsberg, U. Mannheim)

*Semantic Clustering and Querying on Heterogeneous Features for Visual Data*

G. Sheikholeslami, W. Chang, A. Zhang, State University of New York at Buffalo, USA

*Iterative Refinement by Relevance Feedback in Content-Based Digital Image Retrieval*

M.E.J. Wood, N.W. Campbell, B.T. Thomas, University of Bristol, UK

*Protecting VoD the Easier Way*

C. Griwodz, O. Merkel, TU Darmstadt, Germany; J. Dittmann, R. Steinmetz, GMD IPSI, Darmstadt, Germany

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12:30-14:00 Lunch, demos, posters

Lunch speaker 1: Chris Parsons: [ARKive and the Bristol Electronic Zoo](#)

Lunch Speaker 2: Frank Nack: MPEG-7 - An Overview

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### **14:00-15:30 Session 3 S/A**

#### **Design/QoS**

(Chair: Stephan Fischer, TU Darmstadt)

*Making Contact Points between Text and Image*

P. Faraday, A. Sutcliffe, City University, London, UK

*Design Methodology and Formal Validation of Hypermedia Documents*

C.A.S. Santos, L.F.G. Soares, G.L. de Souza, J.P. Courtiat

LAAS-CNRS, France, PUC Rio de Janeiro, Brazil, DIMAp, Brazil

*QoS Impact on User Perception and Understanding of Multimedia Video Clips*

G. Ghinea, J.P. Thomas; University of Reading, England

(short paper)

*Measuring Perceived Quality of Speech and Video in Multimedia Conference Applications*

A. Watson, M. A. Sasse, University College London, UK

(short paper)

### **14:00-15:30 Session 3C**

#### **Watermarking and Encryption**

(Chair: Klara Nahrstedt, Univ. of Illinois at Urbana Champaign)

*Content-Based Watermarking of Images*

M. S. Kankanhalli, Indian Institute of Science, Bangalore, India

*Robust MPEG Video Watermarking Technologies*

J. Dittmann, M. Stabenau, GMD IPSI, Darmstadt; R. Steinmetz, GMD IPSI and TU Darmstadt, Germany

*A Fast MPEG Video Encryption Algorithm*

Ch. Shi, B. Bhargava, Purdue University, USA

### **14:00-15:30 Session 3A**

#### **Applications and Tools**

(Chair: Ed Fox, Virginia Tech)

*The Little Web Schoolhouse: Using Virtual Rooms to Create a Multimedia Distance Learning Environment*

A. Ginsberg, P. Hodge, T. Lindstrom, B. Sampieri, D. Shiau, Bell Labs, USA

*Key to Effective Video Retrieval: Effective Cataloging and Browsing*

D. Ponceleon, S. Srinivasan, A. Amir, D. Petkovic, IBM Almaden Research Center, USA; D. Diklic, University of Santa Clara, USA

*SQL+D: Extended Display Capabilities for Multimedia Database Queries*

G. Gonzalez, C. Baral and A. Nandigam, U. of Texas at El Paso, USA

(short paper)

*Interactive Poem - A New Type of Poem Where Art and Technology Meet*

N. Tosa, R. Nakatsu, ATR, Japan

(short paper)

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15:30-16:00 Tea break, demos, posters

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## **16:00-17:30 Session 4**

### **Highlights on Applications**

(Chair: Joe Konstan, U. Minnesota)

*Best paper: Layered Transmission and Caching for the Multicast Session Directory Service*

Andrew Swan, Steven McCanne, Lawrence A. Rowe, UC Berkeley, USA

*Interactive Movie System with Multi-Person Participation and Anytime Interaction Capabilities*

R. Nakatsu, Naoko Tosa, Takeshi Ochi, ATR, Japan

*Generating the Animation of a 3D Agent from Explanation Text* K. Kakizaki,  
Kyushu Institute of Technology, Japan

(short paper)

*Structural Distinctions between Hypermedia Storage and Presentation*

L. Rutledge, L. Hardman, J. van Ossenbruggen, D.C.A. Bulterman, CWI,  
Amsterdam, Vrije Universiteit, Amsterdam, Netherlands

(short paper)

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18:00 Conference Reception, Sponsor: HP, Bristol

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## **Tuesday, September 15**

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## **9:00-10:30 Session 5**

### **Highlights on Systems**

(Chair: Brian Smith, Cornell U.)

*A Proxy Architecture for Reliable Multicast in Heterogeneous Environments*

Y. Chawathe, S. A. Fink, S. McCanne, E. A. Brewer, UC Berkeley, USA

*Exploiting Temporal Parallelism For Software-Only Video Effects Processing*

K. Mayer-Patel, L. A. Rowe, UC Berkeley, USA

*On Caching and Prefetching of Virtual Objects in Distributed Virtual Environments*

J. H.P. Chim, M. Green, R. W.H. Lau, H. V. Leong, A. Si, Hong Kong Polytechnic  
University, University of Alberta, Canada, City University of Hong Kong, Sun  
Microsystems, Palo Alto, USA

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10:30-11:00 Tea break, demos, posters

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## **11:00-12:30 Session 6S**

### **Networking**

(Chair: Klara Nahrstedt, U. of Illinois at Urbana-Champaign)

*Packet Loss Effects on MPEG Video Sent over the Public Internet*

J. M. Boyce, R. D. Gaglianella, Bell Laboratories, USA

*Patching: A Multicast Technique for True Video-On-Demand Services*

K. A. Hua, Y. Cai, S. Sheu, University of Central Florida, USA

*Organizing Multicast Receivers Deterministically According to Packet-Loss Correlation*

B. N. Levine, S. Paul, J.J. Garcia-Luna-Aceves UC Santa Cruz, Bell Laboratories, USA

## **11:00-12:30 Session 6C**

### **Content Retrieval Techniques**

(Chair: HongJiang Zhang, HP Labs (tentative))

*Video Summarization by Curve Simplification*

D. DeMenthon, V. Kobla, D. Doermann, U. of Maryland, USA

*Automatic and Hierarchical Color Image Classification*

J. Huang, S. R. Kumar, R. Zabih, Cornell U., USA

*A Signature for Content-based Image Retrieval Using Geometrical Transform*

H. Wang, F. Guo, University of Sidney, Australia D.D. Feng, Hong Kong, Polytechnic University; J.S. Jin, University of New South Wales, Australia (short paper)

*Manipulation of Music for Melody Matching*

A. L. Uitdenboger, J. Zobel, Royal Melbourne Institute of Technology, Australia (short paper)

*Automatic Speech Recognition for Generalised Time-Based Media Retrieval and Indexing*

J. Robertson, W. Y. Wong, Ch. Chung, CSIRO; D. Kim, Macquarie University, Australia (short paper)

## **11:00-12:30 Session 6A**

### **Authoring and Design**

(Wendy Mackay, U. de Paris)

*User-Centered Abstractions for Adaptive Hypermedia Presentations*

D.C.A. Bulterman, CWI, Amsterdam, Netherlands

*Nsync - A Toolkit for Building Interactive Multimedia Presentations*

B. Bailey, J. Konstan, R. Cooley, M. Dejong, U. of Minnesota, USA

*Madeus, an Authoring Environment for Interactive Multimedia Documents*

M. Jourdan, N. Layaida, C. Roisin, L. Sabry-Ismail, L. Tardif, INRIA, France  
(short paper)

*Script-Free Scenario Authoring in MediaDesc*

A. Caloini, D. Taguchi, E. Tanaka, K. Yanoo, NEC Kawasaki, Japan  
(short paper)

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12:30-14:30 Lunch, demos, posters

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## **14:30-16:00 Session 7S**

### **Late-breaking Hot Topics in Systems**

(Chair: Desai Narasimhalu, Kent Ridge Digital Labs, Singapore)

*5 Using Interval Arithmetic to Calculate Data Sizes for Compilation to Multimedia Instruction Sets*

N. Pollard, D. May, U. of Bristol, UK  
(short paper)

*Proactive Buffer Management for the Streamed Delivery of Stored Video*

W. Feng, B. Krishnaswami, A. Prabhudev, Ohio State University, USA  
(short paper)

*AsaP - A Framework for Evaluating Run-time Schedulers in Multimedia End-Systems*

A. Kalavade, P. Moghé, Bell Labs, USA  
(short paper)

*Disk Scheduling for Mixed-Media Workloads in a Multimedia Server*

Y. Romboyannakis, G. Nerjes, P. Muth, M. Paterakis, P. Triantafillou, G. Weikum, Technical University of Crete, Greece, ETH Zürich, Switzerland, University of Saarland, Germany  
(short paper)

*Performance Analysis of the RIO Multimedia Storage System with Heterogeneous Disk Configurations*

J. R. Santos, R. Muntz, UCLA, USA  
(short paper)

*Performance Analysis of Intel MMX Technology for an H.263 Video Encoder*

V. Lappalainen, Nokia Research Center, Finland  
(short paper)

## **14:30-16:00 Session 7C**

### **Content-Based Retrieval Systems**

(Chair: Shih-Fu Chang, Columbia U. (tentative))

*Image Organisation in Visual Retrieval Systems*

M. Bouet, Chabane Djeraba, U. de Nantes, France

*Object-Oriented Retrieval Mechanism for Semistructured Image Collections*

G.-H. Cha, Tongmyong University of Information Technology, South Korea  
C.-W. Chung, Korea Advanced Institute of Science and Technology, South Korea

*Assessing Multimedia Similarity: A Framework for Structure and Motion*  
V. Delis, D. Papadias, N. Mamoulis, University of Patras, Greece, Hong Kong  
University of Science and Technology, Hong Kong  
(short paper)

*SurfImage: a Flexible Content-Based Image Retrieval System*  
Ch. Nastar, INRIA, France  
(short paper)

*Beyond Query by Example*  
S. Santini, R. Jain, UC San Diego, USA  
(short paper)

## **14:30-16:00 Session 7A**

**Multimedia Browsing**  
(Chair: Dick C. A. Bulterman)

*MidiSpace: A Temporal Constraint-Based Music Spatializer*  
F. Pachet, O. Delerue, SONY CSL, Paris, France

*A Tool for Content-Based Navigation of Music*  
S. Blackburn, D. DeRoure, University of Southampton, UK

*OBVI: Hierarchical 3D Video-Browsing*  
K. Manske, M. Mühlhäuser, S. Vogl, University of Linz, Austria; M. Goldberg,  
Obvious Technologies, Inc.  
(short paper)

*An Intelligent Media Browser Using Automatic Multimodal Analysis*  
J. Foote, J. Boreczky, A. Girgensohn, L. Wilcox, FX Palo Alto Laboratory, Inc.,  
USA  
(short paper)

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16:00-16:30 Tea break, demos, posters

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## **16:30-17:30 Session 8**

**Plenary Panel Discussion**  
Challenges in Multimedia Beyond Video Conferencing and Video-on-Demand

The panel members are:

- Nicolas Georganas (University of Ottawa, Canada)
- Larry Rowe (University of California at Berkeley, USA)
- David Hutchison (Lancaster University, UK)
- Randy Pausch (Carnegie Mellon University, USA)
- Norm Meyrowitz (President, Macromedia Inc., USA)

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19:00 Conference Dinner in Bath

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**Wednesday, September 16**

## **9:00-10:30 Session 9S**

### **Networking and Toolkits**

(Chair: Bill Tetzlaff, IBM Research)

*A Standard for Multimedia Middleware*

D.J. Duke, University of York, UK, I. Herman, CWI, Amsterdam, Netherlands

*Scalable Data Naming for Application-Level Framing in Reliable Multicast*

S. Raman, S. McCanne, UC Berkeley, USA

*Get a KISS - Communication Infrastructure for Streaming Services in a Heterogeneous Environment*

K. Jonas, M. Kretschmer, J. Mödeker, GMD, St. Augustin, Germany

## **9:00-10:30 Session 9C**

### **Neighbors: Algorithmic and Virtual**

(Chair: Rainer Lienhart, Intel)

*An Efficient Nearest-neighbour Search While Varying Euclidean Metrics*

R. Kurniawati, J.S. Jin, J.A. Shepherd, U. of New South Wales, Australia

*A Real-time Scalable Software Video Codec for Collaborative Applications over Packet Networks*

J. Hartung, A. Jacquin, J. Pawlyk, K. Shipley, Bell Labs, USA

*Avatar Creation Using Automatic Face Processing*

M. J. Lyons, A. Plante, S. Jehan, S. Inoue, Sh. Akamatsu, ATR, Japan

## **9:00-10:30 Session 9A**

### **Input, Output, and Editing**

(Chair: Meera Blattner, UC Davis)

*Zodiac: A History-Based Interactive Video Authoring System*

T. Chiueh, T. Mitra, A. Neogi, C. Yang, SUNY at Stony Brook, USA

*Multimedia Authoring for Stimulus Tracking in Functional Resonance Imaging (fMRI)*

J. Ford, F. Makedon, Ch. Owen, T. Steinberg, Dartmouth College; S. Johnson, A. J. Saykin, Dartmouth Medical School, USA

*Gesture VR: Vision-Based 3D Hand Interface for Spatial Interaction*

J. Segen, S. Kumar, Bell Laboratories, USA

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10:30-11:00 Tea break, posters

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## **11:00-12:30 Session 10**

### **Closing Plenary**

(Chairs: Ralf Steinmetz, TU Darmstadt, Wendy Hall, U. Southampton)

*Invited Talk: Preparing for the Digital Media Monsoon*  
Andy Hopper, Olivetti Research and Cambridge U.,UK

Closing Remarks  
Wendy Hall, U. Southampton