

Preface

We are delighted to welcome you to Divani Palace Acropolis hotel and to the 1st International Conference on Semantic and Digital Media Technologies. We hope that you have a wonderful stay in Athens and that your visit will be enjoyable and rewarding.

SAMT 2006 targets to narrow the large disparity between the low-level descriptors that can be computed automatically from multimedia content and the richness and subjectivity of semantics in user queries and human interpretations of audiovisual media — the Semantic Gap. SAMT started out as two workshops, EWIMT 2004 and EWIMT 2005 that quickly achieved success in attracting high-quality papers from across Europe and beyond. This year EWIMT turned into the full-fledged conference SAMT, bringing together forums, projects, institutions and individuals investigating the integration of knowledge, semantics and low-level multimedia processing, and linking them with industrial engineers who exploit the underlying emerging technology.

As always, there is much more worthy work going on than we can publish in any one proceedings volume. Along with the papers chosen to be presented orally in SAMT conference, there is also a selection of shorter papers chosen to be presented as posters. The poster set covers a variety of interesting topics and is divided into *late breaking results*, *demos* and *projects*, aiming at linking latest research trends with industrial emerging technologies. Out of the 68 papers submitted in the first call for papers of SAMT conference, 17 were selected for oral presentation and then 17 more were accepted as late breaking results for poster proceedings without further review. In a second call for posters and demos, 26 more papers were submitted, out of which 19 were selected: 3 late breaking results, 4 demos and 12 projects. We are grateful to the members of the technical program committee who completed the reviews and allowed us to put together an exciting program of 36 high quality poster papers.

We thank all our colleagues in the organization committee who helped us tremendously with putting together an interesting and rewarding number of events including 4 workshops, 3 tutorials, special sessions, poster, demo and projects sessions, and the SAMT 2006 industry day. The program also includes two invited keynote talks from Alan Smeaton and Guus Schreiber and we are very grateful to them for their insightful presentations. Two more invited talks from Roberto Cencioni and Luis Rodríguez-Roselló are featuring the launch of the 7th framework ICT program on the third day of the conference; José M. Martínez has put a lot of effort in organizing the special poster and demo session on projects on the same day, featuring 12 projects in the area of semantic multimedia. Our steering committee has been of great assistance in all critical decisions, and the staff of the Image, Video and Multimedia Systems laboratory of the National Technical University of Athens has provided invaluable help to making this conference happen. Special thanks should go to Marios Phinikettos and Themis Zervou for the tremendous amount of work they have put into supporting SAMT 2006.

The SAMT 2006 conference is being held in cooperation with the European commission, EURASIP, COST 292 and the IET, and we are grateful to these organizations for promoting the event. We are also indebted to K-Space network of excellence, of which SAMT has been envisioned as the flagship event, and all sponsors for their contributions and financial support.

International Conference on Semantic and Digital Media Technologies

Organising Committee

General Chairs	Yannis Avrithis <i>National Technical Univ. of Athens, Greece</i> Yiannis Kompatsiaris <i>Informatics and Telematics Institute, Greece</i>
Program Chairs	Noel O'Connor <i>Dublin City University, Ireland</i> Steffen Staab <i>University of Koblenz-Landau, Germany</i>
Special Sessions	José M. Martínez <i>Universidad Autonoma de Madrid, Spain</i>
Tutorials & Workshops	Raphaël Troncy <i>CWI, The Netherlands</i> Vassilis Tzouvaras <i>National Technical Univ. of Athens, Greece</i>
EU Liaison	Paola Hobson <i>Motorola Labs, UK</i>

Programme Committee

Jesús Bescós, GTI-UAM, Spain
Pablo Castells, NETS-UAM, Spain
Thierry Declerck, DFKI, Germany
Martin Dzbor, Knowledge Media Institute, UK
Christophe Garcia, France Telecom, France
William I. Grosky, University of Michigan, US
Werner Haas, Joanneum Research, Austria
Christian Halaschek-Wiener, University of Maryland, US
Siegfried Handschuh, DERI Galway, Ireland
Antoine Isaac, Vrije Universiteit Amsterdam, The Netherlands
Ebroul Izquierdo, Queen Mary University of London, UK
Franciska de Jong, University of Twente, The Netherlands
Joemon Jose, University of Glasgow, UK
Jose Martinez, GTI-UAM, Spain
Adrian Matellanes, Motorola Labs, UK
Bernard Merialdo, EURECOM, France
Jacco van Ossenbruggen, CWI, The Netherlands
Jeff Pan, University of Manchester, UK
Keith van Rijsbergen, University of Glasgow, UK
Alan Smeaton, Dublin City University, Ireland
John R. Smith, IBM Research, US
Vojtech Svatek, UEP, Czech Republic
Murat Tekalp, University of Rochester, US
Raphaël Troncy, CWI, The Netherlands
Paulo Villegas, Telefonica I+D, Spain
Li-Qun Xu, British Telecom, UK

Sponsors

SAMT 2006 was organized by the Image, Video and Multimedia Systems Laboratory at the National Technical University of Athens. The event was co-sponsored by:

Publicity Sponsors



Information Society Technologies (IST), European Commission



European Association for Signal, Speech and Image Processing (EURASIP)

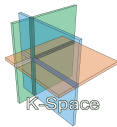


European Cooperation in the field of Scientific and Technical Research, COST 292 Action — Semantic Multimodal Analysis and Digital Media



Visual Information Engineering Professional Network (VIE PN), Institution of Engineering and Technology (IET)

Emerald Sponsor



K-Space Network of Excellence — Knowledge Space of Semantics Inference for Automatic Annotation and Retrieval of Multimedia Content

Gold Sponsor



Muscle Network of Excellence — Multimedia Understanding through Semantics, Computation and Learning

Silver Sponsors



aceMedia Integrated Project — Integrating Knowledge, Semantics and Content for User-Centred Intelligent Media Services



Motorola UK Ltd

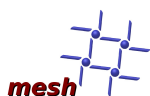
Industry Day Sponsors



Athens Technology Center (ATC)



Deutsche Welle



MESH Integrated Project — Multimedia Semantic Syndication for Enhanced News Services

Best Paper Award Sponsor



X-Media Integrated Project — Large Scale Knowledge Sharing and Reuse Across Media

Table of Contents

Late-breaking Results

Mind the Gap - Requirements for the Combination of Content and Knowledge	1
<i>Tobias Bürger, Rupert Westenthaler</i>	
Indexing Camera Motion Integrating Knowledge of the Quality of the Encoded Video	3
<i>P. Krämer, J. Benois-Pineau, M. Gràcia Pla</i>	
3D Shape Annotation and Retrieval using Ontology	5
<i>Quang-Huy Bui, Minh-Nam Phuong</i>	
A Spatial Algebra for Multimedia Document Adaptation	7
<i>Sébastien Laborie, Jérôme Euzenat, Nabil Layaïda</i>	
Imaging Words – Wording Images	9
<i>Adrian Popescu, Gregory Grefenstette, Cristophe Millet, Pierre-Alain Moëllic, Patrick Hède</i>	
Cepstral Polynomial Regression For Sequential Detection Of Impulsive Waveform In Video Sound-Track	11
<i>Cyril Hory, William J. Christmas, Anil Kokaram</i>	
Semantic Human 3D Shapes Annotation for Animation	13
<i>F. Dellas, L. Moccozet, N. Magnenat-Thalmann, G. Patanè, M. Mortara, M. Spagnuolo, B. Falcidieno</i>	
Living with the Semantic Gap: Experiences and Remedies in the Context of Medical Imaging	15
<i>Yannis Kalfoglou, Srinandan Dasmahapatra, David Dupplaw, Bo Hu, Paul Lewis, Nigel Shadbolt</i>	
Combining Color with Spatial and Temporal Position of the Endoscopic Capsule for Improved Topographic Classification and Segmentation	17
<i>M. Coimbra, J. Kustra, P. Campos, J.P. Silva Cunha</i>	
Exploiting Spatial Variability for Disparity Estimation	19
<i>Maria Trujillo, Ebroul Izquierdo</i>	
Using Context and a Genetic Algorithm for Knowledge-Assisted Image Analysis	21
<i>Stamatia Dasiopoulou, George Th. Papadopoulos, Phivos Mylonas, Yannis Avrthhis, Ioannis Kompatsiaris</i>	
A Multimodal Approach to Bridge the Music Semantic Gap	23
<i>Óscar Celma, Perfecto Herrera, Xavier Serra</i>	
Semantically Exposing Existing Knowledge Repositories: A Case Study in Cultural Heritage	25
<i>Denis Pitzalis, Patrick Sinclair, Christian Lahanier, Matthew Addis, Richard Lowe, Shahbaz Hafeez, Paul Lewis, Kirk Martinez, mc schraefel, Ruven Pillay, Geneviève Aitken, Alistair Russel, A. Smith</i>	
Uncertainty Extensions to Ontologies as a Tool for Semantic Interpretation in Audiovisual Systems	27
<i>Pavel Smrž, Miroslav Vacura, Ondřej Šváb</i>	
Extensibility of Adaptation Capabilities in the CAIN Content Adaptation Engine	29
<i>Javier Molina, José M. Martínez, Víctor Valdés, Fernando López</i>	

Using Local Region Semantics for Concept Detection in Video	31
<i>Evaggelos Spyrou, George Koumoulos, Yannis Avrithis, Stefanos Kollias</i>	
The Design of “Intelligence” for the Management of Personal Multimedia Content	33
<i>Patricia Charlton, Jonathan Teh</i>	
Evaluation of a Video Annotation Tool Based on the LSCOM Ontology	35
<i>Emilie Garnaud, Alan F. Smeaton, Markus Koskela</i>	
Connecting Foundational Ontologies with MPEG-7 Ontologies for Multimodal QA	37
<i>Massimo Romanelli, Daniel Sonntag, Norbert Reithinger</i>	
Rule-based Reasoning for Semantic Image Segmentation and Interpretation	39
<i>Petr Berka, Thanos Athanasiadis, Yannis Avrithis</i>	
Demos	
A Framework and User Interface for Automatic Region Based Segmentation Algorithms . . .	41
<i>Kevin McGuinness, Gordon Keenan, Tomasz Adamek, Noel OConnor</i>	
Automatic Text Searching For Personal Photos	43
<i>Neil OHare, Hyowon Lee, Saman Cooray, Cathal Gurrin, Gareth J.F. Jones, Jovanka Malobabic, Noel OConnor, Alan F. Smeaton, Bartlomiej Uscilowski</i>	
Squiggle: A Semantic Search Engine at Work	45
<i>Irene Celino, Andrea Turati, Emanuele Della Valle, Dario Cerizza</i>	
MediaMill: Video Search using a Thesaurus of 500 Machine Learned Concepts	47
<i>Cees G.M. Snoek, Marcel Worring, Bouke Huurnink, Jan. C. van Gemert, Koen E.A. van de Sande, Dennis C. Koelma, Ork de Rooij</i>	
Projects	
IP-Racine Metadata Integration in the Digital Cinema Workflow	49
<i>Josep Blat, Benoit Michel, Werner Haas</i>	
PATExpert: Semantic Processing of Patent Documentation	51
<i>Leo Warner, Sören Brüggmann, Barou Diallo, Mark Giereth, Yiannis Kompatsiaris, Emanuele Pianta, Gautam Rao, Pia Schoester, Vasiliki Zervaki</i>	
EU-IST Project Live: Live Staging of Media Events	53
<i>Joachim Köhler, Richard Wages, Carmen Mac Williams, Heike Fischer</i>	
SALERO — Semantic Audiovisual Entertainment Reusable Objects	55
<i>Werner Haas, Georg Thallinger, Pedro Cano, Charlie Cullen and Tobias Bürger</i>	
PHAROS – Platform for Search of Audiovisual Resources Across Online Spaces	57
<i>Stefan Debal, Wolfgang Nejdl, Francesco Saverio Nucci, Raluca Paiu, Michel Plu</i>	
Multimedia Content Processing and Retrieval in the REVEAL THIS setting	59
<i>Stelios Piperidis, Harris Papageorgiou, Katerina Pastra, Thomas Netousek, Eric Gaussier, Tinne Tuytelaars, Fabio Crestani, Francis Bodson, Chris Mellor</i>	
Overview of the PENG project	61
<i>Gabriella Pasi, Gloria Bordogna</i>	
X-Media: Large Scale Knowledge Acquisition, Sharing and Reuse Across-Media	63
<i>Fabio Ciravegna, Steffen Staab</i>	
AIM@SHAPE: Research Advantages and Future Contributions	65
<i>B. Falcidieno, M. Spagnuolo, M. Pitikakis, G. Vasilakis, A. Garcia-Rojas, L. Papaleo</i>	

Personal Navigation in the World of News.....	67
<i>Nikos Sarris, Paulo Villegas, Martin Pinkerneil, Jochen Spangenberg, Jérôme Picault</i>	
An Approach to Self-Annotating Content	69
<i>Adrian Matellanes, Freddy Snijder, Barbara Schmidt-Belz</i>	
Knowledge Space of Semantic Inference for Automatic Annotation and Retrieval of Multimedia Content — K-Space	71
<i>Craig Stewart, Ebroul Izquierdo</i>	
Author Index	73

