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Calls for Contribution

CFPs: Sponsored by ACM SIGMM
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Notice to Contributing Authors to SIG Newsletters
Impressum
ACM TOMM (TOMCCAP)
Call for Special Issue Proposals

ACM – TOMM is one of the world’s leading journals on multimedia. As in previous years, we are planning to publish a special issue in 2015. Proposals are accepted until May, 1st 2014. Each special issue is in the responsibility of the guest editors. If you wish to guest edit a special issue, you should prepare a proposal as outlined below, then send this via e-mail to the Senior Associate Editor (SAE) for Special Issue Management of TOMM, Shervin Shirmohammadi (shervin@discover.uottawa.ca)

Call for Proposals – Special Issue
Deadline for Proposal Submission: May, 1st 2014
Notification: June, 1st 2014
http://tomccap.acm.org/

Proposals should:

• Cover a current or emerging topic in the area of multimedia computing, communications and applications;
• Set out the importance of the special issue’s topic in that area;
• Give a strategy for the recruitment of high quality papers;
• Indicate a draft timeline in which the special issue could be produced (paper writing, reviewing, and submission of final copies to TOMM), assuming the proposal is accepted.
• Include the list of the proposed guest editors, their short bios, and their experience as related to the Special Issue’s topic.

As in the previous years, the special issue will be published as online-only issue in the ACM Digital Library. This gives the guest editors higher flexibility in the review process and the number of papers to be accepted, while yet ensuring a timely publication.

The proposals will be reviewed by the SAE together with the EiC. The final decision will be made by the EiC. A notification of acceptance for the proposals will be given until June, 1st 2014. Once a proposal is accepted we will contact you to discuss the further process.

For questions please contact:

• Shervin Shirmohammadi – Senior Associate Editor for Special Issue Management (shervin@discover.uottawa.ca)
• Ralf Steinmetz – Editor in Chief (EiC) (steinmetz.eic@kom.tu-darmstadt.de)
• Sebastian Schmidt – Information Director (TOMCCAP@kom.tu-darmstadt.de)

MPEG Column: 107th MPEG Meeting

– original posts here and here by Multimedia Communication blog and bitmovin techblog, Christian Timmerer, AAU/bitmovin

The MPEG-2 Transport Stream (M2TS; formally known as Rec. ITU-T H.222.0 | ISO/IEC 13818-1) has been awarded with the Technology &amp; Engineering Emmy® Award by the National Academy of Television Arts &amp; Sciences. It is the fourth time MPEG received an Emmy award. The M2TS is widely deployed across a broad range of application domain such as broadcast, cable TV, Internet TV (IPTV and OTT), and Blu-ray Disks. The Emmy was received during this year’s CES2014 in Las Vegas.

Plenary during the 107th MPEG Meeting.

Other topics of the 107th MPEG meeting in San Jose include the following highlights:

• Requirements: Call for Proposals on Screen Content jointly with ITU-T’s Video Coding Experts Group (VCEG)
The official MPEG press release can be downloaded from the MPEG Web site. Some of the above highlighted topics will be detailed in the following and, of course, there’s an update on DASH-related matters at the end.

**Call for Proposals on Screen Content**

Screen content refers to content coming not from cameras but from screen/desktop sharing and collaboration, cloud computing and gaming, wirelessely connected displays, control rooms with high resolution display walls, virtual desktop infrastructures, tablets as secondary displays, PC over IP, ultra-thin client technology, etc. Also mixed-content is within the scope of this work item and may contain a mixture of camera-captured video and images with rendered computer-generated graphics, text, animation, etc.

Although this type of content was considered during the course of the HEVC standardization, recent studies in MPEG have led to the conclusion that significant further improvements in coding efficiency can be obtained by exploiting the characteristics of screen content and, thus, a Call for Proposals (CfP) is being issued for developing possible future extensions of the HEVC standard.

Companies and organizations are invited to submit proposals in response to this call –issued jointly by MPEG with ITU-T VCEG. Responses are expected to be submitted by early March, and will be evaluated during the 108th MPEG meeting. The timeline is as follows:

- 2014/01/17: Final Call for Proposals
- 2014/01/22: Availability of anchors and end of editing period for Final CfP
- 2014/02/10: Mandatory registration deadline
  One of the contact persons (see Section 10) must be notified, and an invoice for the testing fee will be sent after registration. Additional logistic information will also be sent to proponents by this date.
- 2014/03/05: Coded test material shall be available at the test site. By this date, the payment of the testing fee is expected to be finalized.
- 2014/03/17: Submission of all documents and requested data associated with the proposal.
- 2014/03/27-04/04: Evaluation of proposals at standardization meeting.
- 2015: Final draft standard expected.

It will be interesting to see the coding efficiency of the submitted proposals compared to a pure HEVC or even AVC approach.

**Committee Draft for Green Metadata**

Green Metadata, formerly known as Green MPEG, shall enable energy-efficient media consumption and reached Committee Draft (CD) status at the 107th MPEG meeting. The representation formats defined within Green Metadata help reducing decoder power consumption and display power consumption. Clients may utilize such information for the adaptive selection of operating voltage or clock frequencies within their chipsets. Additional, it may be used to set the brightness of the backlights for the display to save power consumption.

Green Metadata also provides metadata for the signaling and selection of DASH representations to enable the reduction of power consumption for their encoding.

The main challenge in terms of adoption of this kind of technology is how to exploit these representation formats to actually achieve energy-efficient media consumption and how much!

**What’s new on the DASH frontier?**

The text of ISO/IEC 23009-1 2nd edition PDAM1 has been approved which may be referred to as MPEG-DASH v3 (once finalized and integrated into the second edition, possibly with further amendments and corrigenda, if applicable). This first
amendment to MPEG-DASH v2 comprises accurate time synchronization between server and client for live services as well as a new profile, i.e., ISOBMFF High Profile which basically combines the ISOBMFF Live and ISOBMFF On-demand profiles and adds the Xlink feature.

Additionally, a second amendment to MPEG-DASH v2 has been started featuring Spatial Relationship Description (SRD) and DASH Client Authentication and Content Access Authorization (DAA).

Other DASH-related aspects include the following:

- The common encryption for ISOBMFF has been extended with a simple pattern-based encryption mode, i.e., a new method which should simply content encryption.
- The CD has been approved for the carriage of timed metadata metrics of media in ISOBMFF. This allows for the signaling of quality metrics within the segments enabling QoE-aware DASH clients.

**What else?** That is, some publicly available MPEG output documents… (Dates indicate availability and end of editing period, if applicable, using the following format YY/MM/DD):

- Report of 3D-AVC Subjective Quality Assessment (14/02/28)
- Working Draft 3 of Video Coding for Browsers (14/01/31)
- Common Test Conditions for Proposals on VCB Enhancements (14/01/17)
- Study Text of ISO/IEC CD 15938-13 Compact Descriptors for Visual Search (14/02/14)
- WD 4.0 of ARAF 2nd Edition (14/02/07)
- Text of ISO/IEC 23001-7 PDAM 1 Simple pattern-based encryption mode (14/01/31)
- Text of ISO/IEC CD 23001-10 Carriage of Timed Metadata Metrics of Media in the ISO Base Media File Format (14/01/31)
- Text of ISO/IEC CD 23001-11 Green Metadata (14/01/24)
- Preliminary Draft of ISO/IEC 23008-2:2013/FDAM1 HEVC Range Extensions (14/02/28)
- Text of ISO/IEC 23008-2:2013/DAM3 HEVC Scalable Extensions (14/01/31)
- Preliminary Draft of ISO/IEC 23008-2:2013/FDAM2 HEVC Multiview Extensions (14/02/28)
- Text of ISO/IEC 23008-2:2013/PDAM4 3D Extensions (14/03/14)
- Text of ISO/IEC CD 23008-12 Image File Format (14/01/17)
- Text of ISO/IEC 23009-1:201x DCOR 1 (14/01/24)
- Text of ISO/IEC 23009-1:201x PDAM 1 High Profile and Availability Time Synchronization (14/01/24)
- WD of ISO/IEC 23009-1 AMD 2 (14/01/31)
- Requirements for an extension of HEVC for coding of screen content (14/01/17)
- Joint Call for Proposals for coding of screen content (14/01/22)
- Draft requirements for Higher Dynamic Range (HDR) and Wide Color Gamut (WCG) video coding for Broadcasting, OTT, and Storage Media (14/01/17)
- Working Draft 1 of Internet Video Coding (IVC) (14/01/31)

### Conference/Workshop Program Highlights

ACM Multimedia 2013 was held at the CCIB (Centre de Conventions Internacional de Barcelona) from October 21st to October 25th, 2012 in Barcelona. The Art Exhibition has been held for the entire duration of the conference at the FAD (Forment de les Arts i del Disseny) in the center of the city while the workshops were held in the Universitat Pompeu Fabra – Balmes building during the first two days of the conference (Oct. 21-Oct 22). It was the first time the conference was held in Spain and it offered a high-quality program and a few notable innovations.

Dr. Nozha Boujemaa from INRIA, France, Dr. Alejandro Jaimes from Yahoo! Labs, Spain and Prof. Nicu Sebe from the University of Trento, Italy were the general co-chairs of the conference. Dr. Daniel Gatica-Perez from IDIAP & EPFL, Switzerland, Dr. David A. Shamma from Yahoo! Labs, USA, Prof. Marcel Worring from the University of Amsterdam, The Netherlands, and Prof. Roger Zimmermann from the National University of Singapore, Singapore were the program co-chairs. The entire organization committee is listed in Appendix A.

The number of participants was 544. The main conference was attended by 476 participants out of which 425 paid and 51 participants were special cases (sponsors, student volunteers, etc.), and 68 participants attended workshops only. The tutorials which were free of charge were registered by 312 in advance. Multimedia art exhibition was open to public from Oct. 21 to Oct 28, and visited by more than 2,000 visitors. The total revenue of the conference was $318,151, and the surplus was $25,430.
ACM Multimedia 2013 Summary

The venue (CCIB)

Below is the list of the program components of Multimedia 2013.

- Technical Papers: Full and Short papers
- Keynote Talks
- SIGMM Achievement Award Talk, Ph.D Thesis Award Talk
- Panel
- Brave New Ideas
- Multimedia Grand Challenge Solutions
- Technical Demos
- Open Source Software Competition
- Doctoral Symposium
- Art Exhibition and Reception
- Tutorials
- Workshops
- Awards and Banquet

Innovations made for Multimedia 2013:

In attempt to continuously improve ACM Multimedia and ensure its vibrant role for the multimedia community, we have made a number of enhancements for this year’s conference:

- The Technical Program Committee defined twelve Technical Areas for major focus for this year’s conference, including introducing new Technical Areas for Music & Audio and Crowdsourcing to reflect their growing interest and promise. We have also changed the names of some traditional Technical Areas and provided extensive description of each area to help the authors choosing the most appropriate Technical Area for their manuscripts.
- We have introduced a new role in the organization of the conference: the author’s advocate. His explicit role was to listen to the authors, and to help them if reviews are clearly below average quality. The authors could request the mediation of the author’s advocate after the reviews have been sent to them and they had to clearly justify the reasons why such mediation is needed (the reviews or the meta-review were below average quality). The task of the advocate was to investigate carefully the matter and to request additional review or reexamination of the decision of the particular manuscript. This year, the author’s advocate was Pablo Cesar from CWI, The Netherlands.
- We have decided to keep a couple of plenary sessions which will bring singular focus to conference activities: keynotes, Multimedia Grand Challenge competition, Best Paper session, Technical Achievement Award and Best PhD Award sessions. The other technical sessions are held in parallel to allow pursuit of more specialized interests at the conference. We have limited the number of parallel session to no more than 3 to minimize the risk of having overlapping interests.
- The use of video spotlights for advertising the works to be presented. These were meant to offer all attendees an opportunity to become aware of the content of each paper, and thus to be attracted to attend the corresponding poster or talk.
- Workshops and Tutorials are held on separate days from the main conference in order to reduce conflict with the regular Technical Program.
- The Multimedia Art Exhibition featured both invited and selected artists. It was open for the duration of the conference in the satellite venue located in the center of the city.
- Following the last two years’ precedent, Tutorials are made free for all participants.
- Recognizing that students are the lifeblood of our next generation of multimedia thinkers, this year’s Student Travel Grant was greatly expanded. We had a total amount of $26,000 received from SIGMM ($16,000) and NSF ($10,000) that supported 35 students.
- Finally, we have decided to provide open access for the community to the proceedings available in the ACM Digital Libraries. As such, no USB proceedings were handed over to the participants encouraging everyone to get online access.

Technical Program

Following the guidelines of the ACM Multimedia Review Committee, the conference was structured into 12 Areas, with a two-tier TPC, a double-blind review process, and a target acceptance rate of 20% for long papers and 27.7% for short papers.

Based on the experience from ACM Multimedia 2012 and the responses to our “Call for Areas” that we issued to the community, we selected the following Areas.

1. Art, Entertainment, and Culture
2. Authoring and Collaboration
3. Crowdsourcing
4. Media Transport and Delivery
The Technical Program Committee was first created by appointing Area Chairs (ACs). A total of 29 colleagues agreed to serve in this role. Each Area was represented by two ACs, with exception of two Areas (Multimedia Analysis and Search, Browsing, and Discovery) whose scope has traditionally attracted the largest proportion of papers and so required further coordination. The added topic diversity brought an increase in gender diversity to the ACs, which increased from approximately 12% in previous years to 22% for 2013. We also made a conscious effort to bring new talent and excellence into the community and to better represent emerging trends in the field. For this we appointed many young and well recognized ACs who served in this role for the first time. For each junior AC, we co-appointed a senior researcher as their co-AC to aid in their shepherding.

In a second step, the Area Chairs were responsible for appointing the TPC members (reviewers) for their coordinated areas. This was a large effort to grow the TPC base for the conference as well as ensure proper expertise was represented in each area. We coupled this with a hard goal of limiting the number of submissions assigned to each TPC member for review. For example, two years ago, the average number of papers assigned to a reviewer was 9 with over 38% of the approximately 225 TPC members receiving 10 or more papers to review. With our design, we had a total of 398 reviewers receiving an average of 4.13 papers per reviewer. While we were unable to keep a hard ceiling limitation, only 2.51% of the TPC received 10 or more papers to review—all TPC members who had agreed to serve in more than one area. The Area Chairs were in charge of assigning all papers for review, and each submission was reviewed double-blind by three TPC members.

Reviews and reviewer assignments of papers co-authored by Area Chairs, Program Chairs, and General Chairs were handled by Program Chairs who had no conflicts of interest for each specific case.

Another novelty introduced in the reviewing process was to set the paper submission deadline to a significantly earlier date than previous years, in order to allocate more time for reviews, rebuttals, discussions, and final decisions. Despite the reduced time given to authors, the response to the Call for Papers was enthusiastic with a total of 235 long papers and 278 short papers going through review.

The authors of long papers were asked to write a rebuttal after receiving the reviews. A new element in the reviewing process was the introduction of the Author’s Advocate figure, created to provide authors with an independent channel to express concerns about the quality of the reviews for their papers, and to raise a flag about these reviews. All cases were brought to the attention to the corresponding Area Chair. After evaluating each case reported to him (16 reviews out of 761 long paper reviews), the Author’s Advocate recommended in 5 cases that new reviews were generated and added to the discussion. The reviewers had a period for on-line discussion of reviews and rebuttals, after which the Area Chairs drafted a meta-review for each paper.

Decisions on long and short papers were made at the TPC meeting held at the University of Amsterdam on June 11, 2013. The meeting was physically attended by one of the General Chairs, three of the Program Chairs, the Author’s Advocate, and 86% of the ACs. Many of the ACs who were unable to attend were tele-present online for discussions. On the first half day of the TPC meeting, the Area Chairs worked in breakout sessions to discuss the papers that were weak accepts and weak rejects, with the exception of conflict of interest papers which were handled out of band as previously mentioned. In the second half of the first day, the ACs met in a plenary session where they reviewed the clear accepts and defended the decisions on the borderline papers based on the papers themselves, reviews, meta-reviews, on-line discussions, and authors’ rebuttal comments.

In many cases, an emergency reviewer was added if there was clear intersection with a related submission area. If a paper had any conflict of interest during the plenary session with an Area, Program, or General Chair, they were excused from the room. On June
12, 2013, the Program Chairs finalized the process and conference program in a separate meeting—arranging the sessions by thematic narratives and not by submission area to promote cross-area conversations during the conference itself.

The review process resulted in an overall acceptance rate of 20.0% for long papers and 27.7% for short papers (the distribution of submissions and the acceptance rate for each one of the 12 areas is shown in the graph below). All accepted long papers were shepherded by the Area Chairs themselves or by qualified TPC members who were in charge of verifying that the revised papers adequately addressed concerns raised by the reviewers and changes promised by authors in their rebuttals. This step ensured that all of the accepted papers are of the highest quality possible. In addition, four papers with high review scores were nominated at the TPC meeting as candidates for the Best Paper Award. Each nominated paper had to be successfully championed and defended by the ACs from that area. The winner was announced at the Conference Banquet.

ACM Multimedia 2013 Program at a Glance

The entire program of ACM Multimedia 2013 is shown below.
Multimedia Framed
Dr. Elizabeth F. Churchill (Ebay Research Labs)
Wednesday, Oct. 23, 2013

Abstract:
Multimedia is the combination of several media forms. Information designers, educationalists and artists are concerned with questions such as: Is text, or audio or video, or a combination of all three, the best format for the message? Should another modality (e.g., haptics/touch, olfaction) be invoked instead to make the message more effective and/or the experience more engaging? How does the setting affect perception/reception? How does framing affect people's experience of multimedia? How is the artifact changed through interaction with audience members? In this presentation, I will talk about people’s experience of multimedia artifacts like videos. I will discuss the ways in which framing affects how we experience multimedia. Framing can be intentional—scripted creations produced with clear intent by technologists, designers, media producers, media artists, film-makers, archivists, documentarians and architects. Framing can also be unintentional. Everyday acts of interest and consumption turn us, the viewers, into co-producers of the experiences of the multimedia artifacts we have viewed. We download, annotate, comment and share multimedia artifacts online. Our actions are reflected in view
Abstract:

Multimedia content has become a ubiquitous presence on all our computing devices, spanning the gamut from live content captured by device sensors such as smartphone cameras to immense databases of images, audio and video stored in the cloud. As we try to maximize the utility and value of all these petabytes of content, we often do so by analyzing each piece of data individually and foregoing a deeper analysis of the relationships between the media. Yet with more and more data, there will be more and more connections and correlations, because the data captured comes from the same or similar objects, or because of particular repetitions, symmetries or other relations and self-relations that the data sources satisfy. This is particularly true for media of a geometric character, such as GPS traces, images, videos, 3D scans, 3D models, etc.

In this talk we focus on the “space between the images”, that is on expressing the relationships between different multimedia data items. We aim to make such relationships explicit, tangible, first class objects that themselves can be analyzed, stored, and queried — irrespective of the media they originate from. We discuss mathematical and algorithmic issues on how to represent and compute relationships or mappings between media data sets at multiple levels of detail. We also show how to analyze and leverage networks of maps and relationships, small and large, between inter-related data. The network can act as a regularizer, allowing us to to benefit from the “wisdom of the collection” in performing operations on individual data sets or in map inference between them.

We will illustrate these ideas using examples from the realm of 2D images and 3D scans/shapes — but these notions are more generally applicable to the analysis of videos, graphs, acoustic data, biological data such as microarrays, homeworks in MOOCs, etc. This is an overview of joint work with multiple collaborators, as will be discussed in the talk.

Prof. Leonidas Guibas obtained his Ph.D. from Stanford under the supervision of Donald Knuth. His main subsequent employers were Xerox PARC, DEC/SRC, MIT, and Stanford. He is currently the Paul Pigott Professor of Computer Science (and by courtesy, Electrical Engineering) at Stanford University. He heads the Geometric Computation group and is part of the Graphics Laboratory, the AI Laboratory, the Bio-X Program, and the Institute for Computational and Mathematical Engineering. Professor Guibas’ interests span geometric data analysis, computational geometry, geometric modeling, computer graphics, computer vision, robotics, ad hoc communication and sensor networks, and discrete algorithms. Some well-known past accomplishments include the analysis of double

counts, displayed comments and content ranking. Our actions therefore change how multimedia artifacts are interpreted and understood by others.

Drawing on examples from the history of film and of performance art, from current social media research and from research conducted with collaborators over the past 16 years, I will illustrate how content understanding is modulated by context, by the “framing” of the content. I will consider three areas of research that are addressing the issue of framing, and that have implications for our understanding of ‘multimedia’ consumption, now and in the future: (1) The psychology and psychophysiology of multimedia as multimodal experience; (2) Emerging practices with contemporary social media capture and sharing from personal devices; and (3) Innovations in social media and audience analytics focused on more deeply understanding media consumption.

I will conclude with some technical excitements, design/development challenges and experiential possibilities that lie ahead.

Dr. Elizabeth Churchill is Director of Human Computer Interaction at eBay Research Labs (ERL) in San Jose, California. Formerly a Principal Research Scientist at Yahoo! Research, she founded, staffed and managed the Internet Experiences Group. Until September of 2006, she worked at the Palo Alto Research Center (PARC), California, in the Computing Science Lab (CSL). Prior to that she formed and led the Social Computing Group at FX Palo Laboratory, Fuji Xerox’s research lab in Palo Alto. Originally a psychologist by training, throughout her career Elizabeth has focused on understanding people’s social and collaborative interactions in their everyday digital and physical contexts. With over 100 peer-reviewed publications and 5 edited books, topics she has written about include implicit learning, human-agent systems, mixed initiative dialogue systems, social aspects of information seeking, digital archive and memory, and the development of emplaced media spaces. She has been a regular columnist for ACM interactions since 2008. Elizabeth has a BSc in Experimental Psychology, an MSc in Knowledge Based Systems, both from the University of Sussex, and a PhD in Cognitive Science from the University of Cambridge. In 2010, she was recognised as a Distinguished Scientist by the Association for Computing Machinery (ACM). Elizabeth is the current Executive Vice President of ACM SigCHI (Human Computer Interaction Special Interest Group). She is a Distinguished Visiting Scholar at Stanford University’s Media X, the industry affiliate program to Stanford’s H-STAR Institute.

The Space between the Images
Leonidas J. Guibas (Stanford University)
Thursday, Oct. 24, 2013
hashing, red-black trees, the quad-edge data structure, Voronoi-Delaunay algorithms, the Earth Mover's distance, Kinetic Data Structures (KDS), Metropolis light transport, and the Heat-Kernel Signature. Professor Guibas is an ACM Fellow, an IEEE Fellow and winner of the ACM Allen Newell award.

SIGMM Talks

SIGMM Achievement Award Talk
Dick Bulterman, CWI, The Netherlands
Friday, Oct. 25, 2013

The 2013 winner of SIGMM award for Outstanding Technical Contributions to Multimedia Computing, Communications and Applications is Prof. Dr. Dick Bulterman. The ACM SIGMM Technical Achievement award is given in recognition of outstanding contributions over a researcher's career. Prof. Dick Bulterman has been selected for his outstanding technical contributions in multimedia authoring, media annotation, and social sharing from research through standardization to entrepreneurship, and in particular for promoting international Web standards for multimedia authoring and presentation (SMIL) in the W3C Synchronized Multimedia Working Group as well as his dedicated involvement in the SIGMM research community for many years.

Dr. Dick Bulterman has been a long time intellectual leader in the area of temporal modeling and support for complex multimedia system. His research has led to the development of several widely used multimedia authoring systems and players. He developed the Amsterdam Hypermedia Model, the CMIF document structure, the CMIFed authoring environment, the GRINS editor and player, and a host of multimedia demonstrator applications. In 1999, he started the CWI spinoff company called Oratrix Development BV, and he worked as CEO to widely deliver this software. He is currently a Research Group Head of the Distributed and Interactive Systems at Centrum Wiskunde & Informatica (CWI) in Amsterdam, The Netherlands. He is also a Full Professor of Computer Science at Vrije Universiteit, Amsterdam. His research interests are multimedia authoring and document processing. Dick has a strong international reputation for the development of the domain-specific temporal language for multimedia (SMIL). Much of this software has been incorporated into the widely used Ambulant Open Source SMIL Player, which has served to encourage development and use of time-based multimedia content. His conference publications and book on SMIL have helped to promote SMIL and its acceptance as a W3C standard. Dick's recent work on social sharing of video will likely prove influential in upcoming Interactive TV products. This work has already been recognized in the academic community, earning the ACM SIGMM best paper award at ACM MM 2008 and also at the EUROITV conference.

SIGMM Ph.D. Thesis Award Talk
Xirong Li, Renmin University, China
Friday, Oct. 25, 2013

The committee considered Dr. Li's dissertation titled “Content-based visual search learned from social media” as worthy of the award as it substantially extends the boundaries for developing content-based multimedia indexing and retrieval solutions. In particular, it provides fresh new insights into the possibilities for realizing image retrieval solutions in the presence of vast information that can be drawn from the social media.

The committee considered the main innovation of Dr. Li's work to be in the development of the theory and algorithms providing answers to the following challenging research questions:
(a) what determines the relevance of a social tag with respect to an image,
(b) how to fuse tag relevance estimators,
(c) which social images are the informative negative examples for concept learning,
(d) how to exploit socially tagged images for visual search and
(e) how to personalize automatic image tagging with respect to a user's preferences.

The significance of the developed theory and algorithms lies in their power to enable effective and efficient deployment of the information collected from the social media to enhance the datasets that can be used to learn automatic image indexing mechanisms (visual concept detection) and to make this learning more personalized for the user.

Dr. Xirong Li received the B.Sc. and M.Sc. degrees from the Tsinghua University, China, in 2005 and 2007, respectively, and the Ph.D. degree from the University of Amsterdam, The Netherlands, in 2012, all in computer science. The title of his thesis is “Content-based visual search learned from social media”. He is currently an Assistant Professor in the Key Lab of Data Engineering and Knowledge Engineering, Renmin University of China. His research interest is image search and multimedia content analysis. Dr. Li received the IEEE Transactions on Multimedia Prize Paper Award 2012, Best Paper Nominee of the ACM International Conference on Multimedia Retrieval 2012, Chinese Government Award for Outstanding Self-

**Panel**
Cross-Media Analysis and Mining
Wednesday, Oct 23, 2013

**Panelists:** Mark Zhang, Alberto del Bimbo, Selcuk Candan, Alexander Hauptmann, Ramesh Jain, Alexis Joly, Yue ting Zhuang

**Motivation**

Today there are lots of heterogeneous and homogeneous media data from multiple sources, such as news media websites, microblog, mobile phone, social networking websites, and photo/video sharing websites. Integrated together these media data represent different aspects of the real-world and help document the evolution of the world. Consequently, it is impossible to correctly conceive and to appropriately understand the world without exploiting the data available on these different sources of rich multimedia content simultaneously and synergistically.

Cross-media analysis and mining is a research area in the general field of multimedia content analysis which focuses on the exploitation of the data with different modalities from multiple sources simultaneously and synergistically to discover knowledge and understand the world. Specifically, we emphasize two essential elements in the study of cross-media analysis that help differentiate cross-media analysis from the rest of the research in multimedia content analysis or machine learning.

The first is the simultaneous co-existence of data from two or more different data sources. This element indicates the concept of “cross”, e.g., cross-modality, cross-source, and cross cyberspace to reality. Cross-modality means that heterogeneous features are obtained from the data in different modalities; cross-source means that the data may be obtained across multiple sources (domains or collections); cross-space means that the virtual world (i.e., cyberspace) and the real world (i.e., reality) complement each other.

The second is the leverage of different types of data across multiple sources for strengthening the knowledge discovery, for example, discovering the (latent) correlation or synergy between the data with different modalities across multiple sources, transferring the knowledge learned from one domain (e.g., a modality or a space) to generate knowledge in another related domain, and generating a summary with the data from multiple sources.

There two essential elements help promote cross-media analysis and mining as a new, emerging, and important research area in today’s multimedia research. With the emphasis on knowledge discovery, cross-media analysis is different from the traditional research areas such as cross-lingual translation. On the other hand, with the general scenarios of the leverage of different types of data across multiple sources for strengthening the knowledge discovery, cross-media analysis and mining addresses a broader series of problems than the traditional research areas such as transfer learning. Overall, cross-media analysis and mining is beneficial for many applications in data mining, causal inference, machine learning, multimedia, and public security.

Like other emerging hot topics in multimedia research, cross-media analysis and mining also has a number of fundamental and controversial issues that must be addressed in order to have a full and complete understanding of the research in this topic. These issues include but are not limited to whether or not there exists a unified representation or modeling for the same semantic concept from different media, and if there is what such unified representation or modeling is; whether or not there exists any “law” that governs the topic evolution and development over the time in different media and if there is what such “law” is and how it is formulated; whether or not there exists a mapping for a conceptual or semantic activity between the cyberspace and the real-world, and if there is what such a mapping is and how it is developed and formulated.

**Brave New Idea Program**

Brave New Ideas addressed long term research challenges, pointed to new research directions, or provided new insights or brave perspectives that pave the way to innovation. The selection process was different from the regular papers. First, submission of a 2 page abstract was requested. Then, the first selection was performed and a full paper was required for the selected abstracts and reviewed and chosen. We received 38 submissions for the first stage and 14 were invited to submit the full paper for the second reviewing stage. Finally, there were accepted 6 papers, which formed two sessions of oral presentations.

**Multimedia Grand Challenge Solutions**

We had received six challenges as shown below for the Multimedia Grand Challenge Solutions Program.

1. NHK – Where is beauty? Grand Challenge
2. Technicolor – Rich Multimedia Retrieval from Input Videos Grand Challenge
3. Yahoo! – Large-scale Flickr-tag Image Classification Grand Challenge
4. Huawei/3DLife – 3D human reconstruction and action recognition Grand Challenge

5. MediaMixer/VideoLectures.NET – Temporal Segmentation and Annotation Grand Challenge

6. Microsoft: MSR – Bing Image Retrieval Grand Challenge

We received 34 proposals for this program, and 14 of them were accepted for the presentation. In order to promote submissions, all presentations in this program were awarded as Multimedia Grand Challenge Finalists. The best prize and two second best prizes were chosen and awarded. Requested by Technicolor, the Grand Challenge Multimodal Prize was also chosen and awarded.

**Technical Demonstrations**

We have received 80 excellent technical demonstrations proposals. The number of submissions was in line to the demonstrations received in the previous year. Three reviewers were assigned to each demo proposal, and finally 40 proposals were chosen. The best demo prize was awarded.

**Open Source Software Competition**

This year was the 6th edition of the Open software competition being part of the ACM Multimedia program. The goal of this competition is to praise the invaluable contribution of researchers and software developers who advance the field by providing the community with implementations of codecs, middleware, frameworks, toolkits, libraries, applications, and other multimedia software. This year we have received 16 submissions and after assigning three reviewers to each of them we have selected 11 for the competition. The best open source software was awarded.

**Doctoral Symposium**

Doctoral Symposium was meant as a forum for mentoring graduate students. It was held in the afternoon of Oct. 25 both in the oral and poster formats. We have received 19 proposals for doctoral symposium. We accepted 13 presentations (6 oral + poster and 7 additional posters). Additionally, there was organized a Doctoral Symposium lunch in which the students had the opportunity to talk to their assigned mentors. Finally, the best doctoral symposium paper was awarded.

**Multimedia Art Exhibition and Reception**

ACM Multimedia provided a rich Multimedia Art Exhibition to stimulate artists and researchers alike to meet and discover the frontiers of multimedia artistic communication. The Art Exhibition has attracted significant work from a variety of digital artists collaborating with research institutions. We have endeavored to select exhibits that achieved an interesting balance between technology and artistic intent. The techniques underpinning these artworks are relevant to several technical tracks of the conference, in particular those dealing with human-centered and interactive media.

We had a satellite venue, FAD (Forment de les Arts i del Disseny), for the art exhibition located in the center of the city. The venue had a very good public access. The exhibition was open from Oct. 21 to Oct. 28 and visited by more than 2,000 visitors. The reception event was held with the artists on Oct. 23. We had selected 10 art works for the exhibition:

1. Emotion Forecast, Maurice Benayoun (City University of Hong Kong)

2. Critical, Anabela Costa (France)

3. Smile-Wall, Shen-Chi Chen, He-Lin Luo, Kuan-Wen Chen, Yu-Shan Lin, Hsiao-Lun Wang, Che-Yao Chan, Kai-Chih Huang, Yi-Ping Hung (National Taiwan University)

4. SOMA, Guillaume Faure (France)

5. A Feast of Shadow Puppetry, Zhenzhen Hu, Min Lin, Si Liu, Jiangguo Jiang, Meng Wang, Richang Hong, Shuicheng Yan, Hefei University of Technology and NUS

6. Tele Echo Tube, Hill Hiroki Kobayashi, Kaoru Saito, Akio Fujiwara (University of Tokyo)

7. 3D-Stroboscopy, Su Jin Lee (Sogang University, South Korea)

8. The Qi of Calligraphy, He-Lin Luo, Yi-Ping Hung (Taiwan National University), I-Chun Chen (Tainan National University of the Arts)

9. Gestural Pen Animation, Sheng-Ying Pao and Kent Larson (MIT Media Lab, USA)

10. MixPerceptions, Jose San Pedro (Telefonica Research, Spain), Aurelio San Pedro (Escola Massana, Barcelona), Juan Pablo Carrascal (UPF, Barcelona), Matylda Szmulier (Telefonica Research, Spain)
Attending the Art Exhibition

San Pedro's Mix Perceptions

Tutorials

We received in 14 tutorial proposals and we have selected 8 tutorials for the main program. All tutorials were half day and were held on Oct. 21 and 22 in parallel with the workshops in the in the Universitat Pompeu Fabra – Balmes building. Tutorials were made free for all participants and we received 312 pre-registrations.

Gerald Friedland (ICSI)

<table>
<thead>
<tr>
<th>Tutorial 1</th>
<th>Foundations and Applications of Semantic Technologies for Multimedia Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ansgar Scherp</td>
<td>(Uni Mannheim, Germany)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Tutorial 2</th>
<th>Towards Next-Generation Multimedia Recommendation Systems</th>
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</thead>
<tbody>
<tr>
<td>Jialie Shen,</td>
<td>(SMU Singapore)</td>
</tr>
<tr>
<td>Shuicheng Yan</td>
<td>(NUS)</td>
</tr>
<tr>
<td>Xian-Sheng Hua</td>
<td>(Microsoft)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tutorial 3</th>
<th>Crowdsourcing for Multimedia Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mohammad Soleymani</td>
<td>(Imperial College London)</td>
</tr>
<tr>
<td>Martha Larson</td>
<td>(TU Delft)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tutorial 4</th>
<th>Massive-Scale Multimedia Semantic Modeling</th>
</tr>
</thead>
<tbody>
<tr>
<td>John R. Smith</td>
<td>(IBM Research)</td>
</tr>
<tr>
<td>Liangliang Cao</td>
<td>(IBM Research)</td>
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</table>

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<thead>
<tr>
<th>Tutorial 5</th>
<th>Social Interactions over Geographic-Aware Multimedia Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roger Zimmerman</td>
<td>(NUS)</td>
</tr>
<tr>
<td>Yi Yu</td>
<td>(NUS)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tutorial 6</th>
<th>Multimedia Information Retrieval: Music and Audio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Markus Schedl</td>
<td>(JKU Linz)</td>
</tr>
<tr>
<td>Emilia Gomez</td>
<td>(UPF)</td>
</tr>
<tr>
<td>Masataka Goto</td>
<td>(AIST)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tutorial 7</th>
<th>Blending the Physical and the Virtual in Musical Technology: From interface design to multimodal signal processing</th>
</tr>
</thead>
<tbody>
<tr>
<td>George Tzanetakis</td>
<td>(U Victoria, Canada)</td>
</tr>
<tr>
<td>Sidney Fels</td>
<td>(UBC)</td>
</tr>
<tr>
<td>Michael Lyons</td>
<td>(Ritsumeikan U, JP)</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>Tutorial 8</th>
<th>Privacy Concerns of Sharing Multimedia in Social Networks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gerald Friedland</td>
<td>(ICSI)</td>
</tr>
</tbody>
</table>

Workshops

Workshops have always been an important part of the conference. Below is the list of workshops held in conjunction with ACM Multimedia 2013. We had 9 full day workshops and 4 half day workshops, which were held on Oct. 21-22 in parallel with the tutorials. We followed the rule from last year and two complementary workshop only registrations were provided for invited talks of each workshop to encourage participation of notable speakers.

Full Day Workshops (8)

1. 2nd International Workshop on Socially-Aware Multimedia (SAM 2013)
   Organizers: Pablo Cesar (CWI, NL)
   Matthew Cooper (FXPAL)
   David A. Shamma (Yahoo!)
   Doug Williams (BT)

1. 4th ACM/IEEE ARTEMIS 2013 International Workshop on Analysis and Retrieval of Tracked Events and Motion in Imagery Streams
   Organizers: Marco Bertini (University of Florence, Italy)
   Anastasios Doulamis (TU Crete, Greece)
   Nikolaos Doulamis (Cyprus University of Technology, Cyprus)
ACM Multimedia 2013 Summary

Jordi González (Universitat Autònoma de Barcelona, Spain)
Thomas Moeslund (University of Aalborg, Denmark)

1. 5th International Workshop on Multimedia for Cooking and Eating Activities (CEA2013)
   Organizer: Kiyoharu Aizawa (Univ. of Tokyo, JP)

1. 4th International Workshop on Human Behavior Understanding (HBU 2013)
   Organizers: Albert Ali Salah, Boğaziçi Univ., Turkey
   Hayley Hung, Delft Univ. of Technology, The Netherlands
   Oya Aran, Idiap Research Institute, Switzerland
   Hatice Gunes, Queen Mary Univ. of London (QMUL), UK

1. International ACM Workshop on Crowdsourcing for Multimedia 2013 (CrowdMM 2013)
   Organizers: Wei-Ta Chu (National Chung Cheng University, TW)
   Martha Larson (Delft University of Technology, NL)
   Kuan-Ta Chen (Academia Sinica, TW)

1. First ACM MM Workshop on Multimedia Indexing and Information Retrieval for Healthcare (ACM MM MIIRH)
   Organizers: Jenny Benois-Pineau, University of Bordeaux 1, France
   Alexia Briassouli, CERTH -ITI
   Alex Hauptman, Carnegie-Mellon University, USA

1. Workshop on Personal Data Meets Distributed Multimedia
   Organizers: Vivek Singh, MIT, USA
   Tat-Seng Chua, NUS
   Ramesh Jain, University of California, Irvine, USA
   Alex (Sandy) Pentland, MIT, USA

1. Workshop on Immersive Media Experiences
   Organizers: Teresa Chambel, University of Lisbon, Portugal
   V. Michael Bove, MIT Media Lab, USA
   Sharon Strover, University of Texas at Austin, USAA
   Paula Viana, Polytechnic of Porto and INESC TEC, Portugal
   Graham Thomas, BBC, UK

1. Workshop on Event-based Media Integration and Processing
   Organizers: Fausto Giunchiglia, University of Trento, Italy
   Sang “Peter” Chin, Johns Hopkins University, US
   Giulia Boato, University of Trento, Italy
   Bogdan Ionescu, University Politehnica of Bucharest, Romania
   Yiannis Kompatsiaris, Centre for Research and Technology Hellas, Greece

Half Day Workshops (4)

1. ACM Multimedia Workshop on Geotagging and Its Applications
   Organizers: Liangliang Cao, IBM T. J. Watson Research Center, USA
   Gerald Friedland, International Computer Science Institute, USA
   Pascal Kelm, Technische Universitaet of Berlin, Germany

1. Data-driven challenge-based workshop ACM MM 2013 (AVEC 2013)
   Organizers: Björn Schuller, TUM, Germany
   Michel Valstar, University of Nottingham, UK
   Roddy Cowie, Queen’s University Belfast, UK
   Maja Pantic, Imperial College London, UK
   Jarek Krajewski, University of Wuppertal, Germany

1. 2nd ACM International Workshop on Multimedia Analysis for Ecological Data (MAED 2013)
   Organizers: Concetto Spampinato, University of Catania, Italy
   Vasileios Mezaris, CERTH, Greece
   Jacco van Ossenbruggen, CWI, The Netherlands

1. 3rd International Workshop on Interactive Multimedia on Mobile and Portable Devices (IMMPD’13)
   Organizers: Jiebo Luo, University of Rochester, USA
   Caifeng Shan, Philips Research, The Netherlands
   Ling Shao, The University of Sheffield, UK
   Minoru Etoh, NTT DOCOMO, Japan

Awards

Awards were given in almost all the programs except for short papers during the banquet that was organized at the conference venue. The following awards have been given:

Best Paper Award

Luoqi Liu, Hui Xu, Junliang Xing, Si Liu, Xi Zhou and Shuicheng Yan, National University of Singapore (NUS), “Wow! You Are So Beautiful Today!”

Best Student Paper Award

Hanwang Zhang, Zheng-Jun Zha, Yang Yang, Shuicheng Yan, Yue Gao and Tat-Seng Chua, National University of Singapore (NUS), “Attributes-augmented Semantic Hierarchy for Image Retrieval”

Grand Challenge 1st Place Award [Sponsored by Technicolor]

Brendan Jou, Hongzhi Li, Joseph G. Ellis, Daniel Morozoff-Abegauz and Shih-Fu Chang, Digital Video & Multimedia (DVMM) Lab, Columbia University,
“Structured Exploration of Who, What, When, and Where in Heterogenous Multimedia News Sources”

**Grand Challenge 2nd Place Award [Sponsored by Technicolor]**

Subhabrata Bhattacharya, Behnaz Nojavanasghari, Tao Chen, Dong Liu, Shih-Fu Chang, Mubarak Shah, University of Central Florida and Columbia University, “Towards a Comprehensive Computational Model for Aesthetic Assessment of Videos”

**Grand Challenge 3rd Place Award [Sponsored by Technicolor]**

Shannon Chen, Penye Xia, and Klara Nahrstedt, UIUC, “Activity-Aware Adaptive Compression: A Morphing-Based Frame Synthesis Application in 3DTI”

Program chairs during the banquet

Award ceremony

Banquet venue

Social program

**Grand Challenge Multimodal Award [Sponsored by Technicolor]**

Chun-Che Wu, Kuan-Yu Chu, Yin-Hsi Kuo, Yan-Ying Chen, Wen-Yu Lee, Winston H. Hsu, National Taiwan University, Taiwan, “Search-Based Relevance Association with Auxiliary Contextual Cues”

**Best Demo Award**

Duong-Trung-Dung Nguyen, Mukesh Saini; Vu-Thanh Nguyen, Wei Tsang Ooi, National University of Singapore (NUS), “Jiku director: An online mobile video mashup system”

**Best Doctoral Symposium Paper**

Jules Francoise, Institut de Recherche et Coordination Acoustique/Musique (IRCAM), “Gesture-Sound Mapping by demonstration in Interactive Music Systems”

**Best Open Source Software Award**


**Prize amounts:**

<table>
<thead>
<tr>
<th>Award</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Best Paper Award</td>
<td>500 euro</td>
</tr>
<tr>
<td>Best Student Paper Award</td>
<td>250 euro</td>
</tr>
<tr>
<td>Grand Challenge 1st Prize</td>
<td>750 euro</td>
</tr>
<tr>
<td>Grand Challenge 2nd Prize</td>
<td>500 euro</td>
</tr>
<tr>
<td>Grand Challenge 3nd Prize</td>
<td>200 euro</td>
</tr>
<tr>
<td>Grand Challenge Multimodal Prize</td>
<td>500 euro</td>
</tr>
</tbody>
</table>
Best Technical Demo Award 250 euro
Best Doctoral Symposium Paper 250 euro
Best Open Source Software Award 250 euro
Student Travel Grant (35 students) $26,000 ($10,000 NSF, $16,000 SIGMM)

Sponsors: We had an incredible support from industries and funding organizations (38.5k euro). All the sponsors and the institutional supporters are listed in Appendix B. The sponsoring amount for each individual sponsor is as follows:

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>FXPAL</td>
<td>5000 euro</td>
</tr>
<tr>
<td>Google</td>
<td>5000 euro</td>
</tr>
<tr>
<td>Huawei</td>
<td>5000 euro</td>
</tr>
<tr>
<td>Yahoo/Labs</td>
<td>5000 euro</td>
</tr>
<tr>
<td>Technicolor</td>
<td>4000 euro</td>
</tr>
<tr>
<td>Media Mixer</td>
<td>3500 euro</td>
</tr>
<tr>
<td>INRIA</td>
<td>3000 euro</td>
</tr>
<tr>
<td>Facebook</td>
<td>2000 euro</td>
</tr>
<tr>
<td>IBM</td>
<td>2000 euro</td>
</tr>
<tr>
<td>Telefonica</td>
<td>2000 euro</td>
</tr>
<tr>
<td>Microsoft</td>
<td>2000 euro</td>
</tr>
<tr>
<td>Total</td>
<td>38500 euro</td>
</tr>
</tbody>
</table>

The benefits for the sponsors were honorary registrations and publicity, that is, the company logo was published on the website of the conference, in the Proceedings, and the Booklet.

On top of these amounts we have received 16k$ from SIGMM and 10K from NSF for student travel grants.

Geographical distribution of the participants

We had 544 participants at the main conference and workshops. The main conference was attended by 476 participants out of which 425 paid and 51 participants were special cases (sponsors, student volunteers, etc.), and 68 participants attended only the workshops. The tutorials which were free of charge were registered by 312 in advance.

Country-wise distribution is shown below. As shown in the list, the geographical distribution was wide meaning that we managed to attract participants from a large number of countries.

<table>
<thead>
<tr>
<th>Total # of participants</th>
<th>USA</th>
<th>Switzerland</th>
<th>Singapore</th>
<th>Germany</th>
<th>China</th>
<th>Portugal</th>
<th>Japan</th>
<th>Taiwan</th>
<th>UK</th>
<th>Korea</th>
<th>Italy</th>
<th>Australia</th>
<th>France</th>
<th>Greece</th>
<th>Netherlands</th>
<th>Turkey</th>
<th>Spain</th>
<th>25 other countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>544</td>
<td>75</td>
<td>20</td>
<td>48</td>
<td>20</td>
<td>45</td>
<td>20</td>
<td>40</td>
<td>18</td>
<td>35</td>
<td>15</td>
<td>29</td>
<td>15</td>
<td>28</td>
<td>14</td>
<td>26</td>
<td>14</td>
<td>56</td>
<td></td>
</tr>
</tbody>
</table>

Survey

In order to gather opinions from the participants at ACM Multimedia 2013 we have performed a post-conference survey and the results are summarized in Appendix C. Here we summarize the 10 most important issues that were compiled after analyzing the answers received. The effort to gather all this information is the first of its kind at ACM Multimedia and we hope this tradition will be continued in the future. The results of the survey represent in our opinion a very good source of information for the future organizers.

1. Poster space too small
2. Many people still want USB proceedings!!
3. Oral topics in the same time slot overlapped too much. Need to diversify.
4. Need to attract more multimedia niche topics. Should not become a second rate CV conference
5. First day location hard to find. Workshop/tutorial better to be co-located with main conference
6. Senior members of MM community should participate in paper sessions more
7. Need to update web site program content and make it available earlier
8. Consider offering short spotlight talks for poster papers
9. Keep 15 mins for oral, but have them presented again in poster session for more discussion
Conclusion

ACM Multimedia 2013 was a great success with a great number of submissions, an excellent technical program, attractive program components, and stimulating events. As a result, we welcomed a large number of participants, in line with our initial expectation. There were a few problems see above but this is only natural.

We greatly acknowledge those who have contributed to the success of ACM Multimedia 2013. We thank the organizers of ACM Multimedia 2012 for their useful suggestions and comments which helped us to improve the organization the 2013 edition. We also thank them for giving us the template for the conference booklet. We thank the many paper authors and proposal contributors for the various technical and program components. We thank the large number of volunteers, including the Organizing Committee members and Technical Program Committee members who worked very hard to create this year’s outstanding conference. Every aspect of the conference was also aided by local committee members and by the hard work of Grupo Pacifico, to whom we are very grateful. We thank also ACM staff and Sheridan Printing Company for their constant support. This success was clearly due to the integration of their efforts.

Appendix A: ACM MULTIMEDIA 2013 CONFERENCE ORGANIZATION

General Co-Chairs
Alejandro (Alex) Jaimes (Yahoo Labs, Spain)
Nicu Sebe (University of Trento, Italy)
Nozha Boujemaa (INRIA, France)

Technical Program Co-Chairs
Daniel Gatica-Perez (IDIAP & EPFL, Switzerland)
David A. Shamma (Yahoo Labs, USA)
Marcel Worring (University of Amsterdam, The Netherlands)
Roger Zimmermann (National University of Singapore, Singapore)

Author’s Advocate
Pablo Cesar (CWI, The Netherlands)

Multimedia Grand Challenge Co-Chairs
Yiannis Kompatiras (CERTH, Greece)
Neil O’Hare (Yahoo Labs, Spain)

Interactive Arts Co-Chairs
Antonio Camurri (University of Genova, Italy)
Marc Cavazza (Teeside University, UK)

Local Arrangement Chair
Mari-Carmen Marcos (Pompeu Fabra University, Spain)

Sponsorship Chairs
Ricardo Baeza-Yates (Yahoo Labs, Spain)
Bernard Merialdo (Eurecom, France)

Panel Co-Chairs
Yong Rui (Microsoft, China)
Winston Hsu (National Taiwan University, Taiwan)
Michael Lew (University of Leiden, The Netherlands)

Video Program Chairs
Alexis Joly (INRIA, France)
Giovanni Maria Farinella (University of Catania, Italy)
Julien Champ (INRIA/LIRMM, France)

Brave New Ideas Co-Chairs
Jiebo Luo (University of Rochester, USA)
Shuicheng Yan (National University of Singapore, Singapore)

Doctorial Symposium Chairs
Hayley Hung (Technical University of Delft, The Netherlands)
Marco Cristani (University of Verona, Italy)

Open Source Competition Chairs
Ioannis (Yiannis) Patras (Queen Mary University, UK)
Andrea Vedaldi (Oxford University, UK)

Tutorial Co-Chairs
Kiyoharu Aizawa (University of Tokyo, Japan)
Lexing Xie (Australian National University, Australia)

Workshop Co-Chairs
Maja Pantic (Imperial College, UK)
Vladimir Pavlovic (Rutgers University, USA)

Student Travel Grants Co-Chairs
Ramanathan Subramanian (ADSC, Singapore)
Jasper Uijlings (University of Trento, Italy)

Publicity Co-Chairs
Marco Bertini (University of Florence, Italy)
Ichiro Ide (Nagoya University, Japan)
Most cited papers before the era of ICMR

Technical Demo Co-Chairs
Yi Yang (Carnegie Mellon University, USA)
Xavier Anguera (Telefonica Research, Spain)

Proceedings Co-Chairs
Bogdan Ionescu (University Politehnica of Bucharest, Romania)
Qi Tian (University of Texas San Antonio, USA)

Web Chair
Michele Trevisol (Web Research Group UPF & Yahoo Labs, Spain)

Most cited papers before the era of ICMR

In the early years of 2000, the field of multimedia retrieval was composed of special sessions at conferences and small workshops. There were no multimedia retrieval conferences. One of the leading workshops (B. Kerherve, V. Oria and S. Satoh) was the ACM SIGMM Workshop on Multimedia Information Retrieval (MIR) which was held with the ACM MM conference.

To have a central meeting for the scientific community, the International Conference on Image and Video Retrieval (CIVR) was founded in 2002 (J. Eakins, P. Enser, M. Graham, M.S. Lew, P. Lewis and A. Smeaton). Both meetings evolved over the next decade. CIVR and MIR became ACM SIGMM sponsored conferences and established reputations for high quality work.

In 2010, the steering committees of both CIVR and MIR voted to combine the two conferences toward unifying the communities and establishing the ACM flagship meeting for multimedia retrieval, the ACM International Conference on Multimedia Retrieval (ICMR). In 2013, ICMR was ranked by the Chinese Computing Federation as the #1 meeting in multimedia retrieval and the #4 meeting in the wide domain of Multimedia and Graphics.

For archival reasons, this is a summary of which papers had the most citations from ACM CIVR and ACM MIR (2008-2010), based on Google Scholar data in the period from February 17-18, 2014.

Google Scholar citations were used because they have wide coverage (ACM, IEEE, Springer, Elsevier, etc.), are publicly accessible and because they are being increasingly accepted by researchers for both paper citations estimates and computing the h-index.

The information below is given in the format of Rank | Citations | Article-Information

### CIVR 2008

1. **173** - World-scale mining of objects and events from community photo collections
   - Till Quack, Bastian Leibe, Luc Van Gool
   - [http://dl.acm.org/citation.cfm?id=1386363](http://dl.acm.org/citation.cfm?id=1386363)

2. **81** - Analyzing Flickr groups
   - Radu Andrei Negoeescu, Daniel Gatica-Perez
   - [http://dl.acm.org/citation.cfm?id=1386406](http://dl.acm.org/citation.cfm?id=1386406)

3. **70** - A comparison of color features for visual concept classification
   - Koen E.A. van de Sande, Theo Gevers, Cees G.M. Snoek
   - [http://dl.acm.org/citation.cfm?id=1386376](http://dl.acm.org/citation.cfm?id=1386376)

4. **68** - Language modeling for bag-of-visual words image categorization
   - Pierre Tirilly, Vincent Claveau, Patrick Gros
   - [http://dl.acm.org/citation.cfm?id=1386388](http://dl.acm.org/citation.cfm?id=1386388)

5. **46** - Multiple feature fusion by subspace learning
   - Yun Fu, Liangliang Cao, Guodong Guo, Thomas S. Huang
   - [http://dl.acm.org/citation.cfm?id=1386373](http://dl.acm.org/citation.cfm?id=1386373)

### CIVR 2009

1. **379** - NUS-WIDE: a real-world web image database from National University of Singapore
   - Tat-Seng Chua, Jinhui Tang, Richang Hong, Haojie Li, Zhiping Luo, Yantao Zheng
   - [http://dl.acm.org/citation.cfm?id=1646452](http://dl.acm.org/citation.cfm?id=1646452)

2. **124** - Evaluation of GIST descriptors for web-scale image search
   - Matthijs Douze, Hervé Jégou, Harsimrat Sandhawalia, Laurent Amsaleg, Cordelia Schmid
   - [http://dl.acm.org/citation.cfm?id=1646421](http://dl.acm.org/citation.cfm?id=1646421)
ESSENTIA: an open source library for audio analysis

Over the last decade, audio analysis has become a field of active research in academic and engineering worlds. It refers to the extraction of information and meaning from audio signals for analysis, classification, storage, retrieval, and synthesis, among other tasks. Related research topics challenge understanding and
modeling of sound and music, and develop methods and technologies that can be used to process audio in order to extract acoustically and musically relevant data and make use of this information. Audio analysis techniques are instrumental in the development of new audio-related products and services, because these techniques allow novel ways of interaction with sound and music.

Essentia is an open-source C++ library for audio analysis and audio-based music information retrieval released under the Affero GPLv3 license (also available under proprietary license upon request). It contains an extensive collection of reusable algorithms which implement audio input/output functionality, standard digital signal processing blocks, statistical characterization of data, and a large set of spectral, temporal, tonal and high-level music descriptors that can be computed from audio. In addition, Essentia can be complemented with Gaia, a C++ library with python bindings which allows searching in a descriptor space using different similarity measures and classifying the results of audio analysis (same license terms apply). Gaia can be used to generate classification models that Essentia can use to compute high-level description of music.

Essentia is not a framework, but rather a collection of algorithms wrapped in a library. It doesn’t enforce common high-level logic for descriptor computation (so you aren’t locked into a certain way of doing things). It rather focuses on the robustness, performance and optimality of the provided algorithms, as well as ease of use. The flow of the analysis is decided and implemented by the user, while Essentia is taking care of the implementation details of the algorithms being used. A number of examples are provided with the library, however they should not be considered as the only correct way of doing things.

The library includes Python bindings as well as a number of predefined executable extractors for the available music descriptors, which facilitates its use for fast prototyping and allows setting up research experiments very rapidly. The extractors cover a number of common use-cases for researchers, for example, computing all available music descriptors for an audio track, extracting only spectral, rhythmic, or tonal descriptors, computing predominant melody and beat positions, and returning the results in yaml/json data formats. Furthermore, it includes a Vamp plugin to be used for visualization of music descriptors using hosts such as Sonic Visualiser.

The library is cross-platform and supports Linux, Mac OS X and Windows systems. Essentia is designed with a focus on the robustness of the provided music descriptors and is optimized in terms of the computational cost of the algorithms. The provided functionality, specifically the music descriptors included out-of-the-box and signal processing algorithms, is easily expandable and allows for both research experiments and development of large-scale industrial applications.

Essentia has been in development for more than 7 years incorporating the work of more than 20 researchers and developers through its history. The 2.0 version marked the first release to be publicly available as free software released under AGPLv3.

### Algorithms

Essentia currently features the following algorithms (among others):

- **Audio file input/output**: ability to read and write nearly all audio file formats (wav, mp3, ogg, flac, etc.)
- **Standard signal processing blocks**: FFT, DCT, frame cutter, windowing, envelope, smoothing
- **Filters (FIR & IIR)**: low/high/band pass, band reject, DC removal, equal loudness
- **Statistical descriptors**: median, mean, variance, power means, raw and central moments, spread, kurtosis, skewness, flatness
- **Time-domain descriptors**: duration, loudness, LARM, Leq, Vickers’ loudness, zero-crossing-rate, log attack time and other signal envelope descriptors
- **Spectral descriptors**: Bark/Mel/ERB bands, MFCC, GFCC, LPC, spectral peaks, complexity, rolloff, contrast, HFC, inharmonicity and dissonance
- **Tonal descriptors**: Pitch salience function, predominant melody and pitch, HPCP (chroma) related features, chords, key and scale, tuning frequency
- **Rhythm descriptors**: beat detection, BPM, onset detection, rhythm transform, beat loudness
- **Other high-level descriptors**: danceability, dynamic complexity, audio segmentation, semantic annotations based on SVM classifiers

The complete list of algorithms is available online in the official documentation.

### Architecture

The main purpose of Essentia is to serve as a library of signal-processing blocks. As such, it is intended to provide as many algorithms as possible, while trying to be as little intrusive as possible. Each processing block is called an Algorithm, and it has three different types...
of attributes: inputs, outputs and parameters. Algorithms can be combined into more complex ones, which are also instances of the base Algorithm class and behave in the same way. An example of such a composite algorithm is presented in the figure below. It shows a composite tonal key/scale extractor, which combines the algorithms for frame cutting, windowing, spectrum computation, spectral peaks detection, chroma features (HPCP) computation and finally the algorithm for key/scale estimation from the HPCP (itself a composite algorithm).

The algorithms can be used in two different modes: standard and streaming. The standard mode is imperative while the streaming mode is declarative. The standard mode requires to specifying the inputs and outputs for each algorithm and calling their processing function explicitly. If the user wants to run a network of connected algorithms, he/she will need to manually run each algorithm. The advantage of this mode is that it allows very rapid prototyping (especially when the python bindings are coupled with a scientific environment in python, such as ipython, numpy, and matplotlib).

The streaming mode, on the other hand, allows to define a network of connected algorithms, and then an internal scheduler takes care of passing data between the algorithms inputs and outputs and calling the algorithms in the appropriate order. The scheduler available in Essentia is optimized for analysis tasks, and does not take into account the latency of the network. For real-time applications, one could easily replace this scheduler with another that favors latency over throughput. The advantage of this mode is that it results in simpler and safer code (as the user only needs to create algorithms and connect them, there is no room for him to make mistakes in the execution order of the algorithms), and in lower memory consumption in general, as the data is streamed through the network instead of being loaded entirely in memory (which is the usual case when working with the standard mode). Even though most of the algorithms are available for both the standard and streaming mode, the code that implements them is not duplicated as either the streaming version of an algorithm is deduced/wrapped from its standard implementation, or vice versa.

Applications

Essentia has served in a large number of research activities conducted at Music Technology Group since 2006. It has been used for music classification, semantic autotagging, music similarity and recommendation, visualization and interaction with music, sound indexing, musical instruments detection, cover detection, beat detection, and acoustic analysis of stimuli for neuroimaging studies. Essentia and Gaia have been used extensively in a number of research projects and industrial applications. As an example, both libraries are employed for large-scale indexing and content-based search of sound recordings within Freesound, a popular repository of Creative Commons licensed audio samples. In particular, Freesound uses audio based similarity to recommend sounds similar to user queries. Dunya is a web-based software application using Essentia that lets users interact with an audio music collection through the use of musical concepts that are derived from a specific musical culture, in this case Carnatic music.

Examples

Essentia can be easily used via its python bindings. Below is a quick illustration of Essentia’s possibilities for example on detecting beat positions of music track and its predominant melody in a few lines of python code using the standard mode:

```python
from essentia.standard import *
audio = MonoLoader(filename = 'audio.mp3')()
beats, bconfidence = ...
```
BeatTrackerMultiFeature(audio); print beats; audio = EqualLoudness(audio); melody, mconfidence = PredominantMelody(guessUnvoiced=True, frameSize=2048, hopSize=128)(audio); print melody

Another python example for computation of MFCC features using the streaming mode:

```python
from essentia.streaming import *
loader = MonoLoader(filename = 'audio.mp3')
frameCutter = FrameCutter(frameSize = 1024, hopSize = 512)
window = Windowing(type = 'hann')
spectrum = Spectrum()
mfcc = MFCC()
pool = essentia.Pool()  # connect all algorithms into a network

loader.audio >> frameCutter.signal >> frameCutter.frame >> window.frame >> spectrum.frame >> mfcc.spectrum
mfcc.mfcc >> (pool, 'mfcc')
mfcc.bands >> (pool, 'mfcc_bands')  # compute network

essentia.run(loader)
print pool['mfcc']
print pool['mfcc_bands']
```

Vamp plugin provided with Essentia allows to use many of its algorithms via the graphical interface of Sonic Visualiser. In this example, positions of onsets are computed for a music piece (marked in red):

An interested reader is referred to the documentation online for more example applications built on top of Essentia.

**Getting Essentia**

The detailed information about Essentia is available online on the official web page: http://essentia.upf.edu. It contains the complete documentation for the project, compilation instructions for Debian/Ubuntu, Mac OS X and Windows, as well as precompiled packages. The source code is available at the official Github repository: http://github.com/MTG/essentia. In our current work we are focused on expanding the library and the community of users, and all active Essentia users are encouraged to contribute to the library.

**References**


caramel for the award will be placed on the SIGMM website, in the SIGMM Records e-newsletter as well as in the ACM e-newsletter.

Funding

The award honorarium, the award plaque of recognition and travel expenses to the ACM International Conference on Multimedia will be fully sponsored by the SIGMM budget.

Nomination Applications

Nominations will be solicited by the 31st May 2014 with an award decision to be made by August 30. This timing will allow a recipient to prepare for an award presentation at ACM Multimedia in that Fall (October/November).

The initial nomination for a PhD thesis must relate to a dissertation deposited at the nominee’s Academic Institution between January and December of the year previous to the nomination. As discussed below, some dissertations may be held for up to three years by the selection committee for reconsideration. If the original thesis is not in English, a full English translation must be provided with the submission. Nominations for the award must include:

1. PhD thesis (upload at: https://cmt.research.microsoft.com/SIGMMA2014/)
2. A statement summarizing the candidate’s PhD thesis contributions and potential impact, and justification of the nomination (two pages maximum);
3. Curriculum Vitae of the nominee
4. Three endorsement letters supporting the nomination including the significant PhD thesis contributions and potential impact on the multimedia field.
5. A concise statement (one sentence) of the PhD thesis contribution for which the award is being given. This statement will appear on the award certificate and on the website.

The nomination rules are:

1. The nominee can be any member of the scientific community.
2. The nominator must be a SIGMM member.
3. No self-nomination is allowed.

If a particular thesis is considered to be of exceptional merit but not selected for the award in a given year, the selection committee (at its sole discretion) may elect to retain the submission for consideration in at most two following years. The candidate will be invited to resubmit his/her work in these years.

A thesis is considered to be outstanding if:

1. Theoretical contributions are significant and application to multimedia is demonstrated.
2. Applications to multimedia is outstanding, techniques are backed by solid theory with clear demonstration that algorithms can be applied in new domains – e.g., algorithms must be demonstrably scalable in application in terms of robustness, convergence and complexity.

The submission process of nominations will be preceded by the call for nominations. The call of nominations will be widely publicized by the SIGMM awards committee and by the SIGMM Executive Board at the different SIGMM venues, such as during the SIGMM premier ACM Multimedia conference (at the SIGMM Business Meeting) on the SIGMM web site, via SIGMM mailing list, and via SIGMM e-newsletter between September and December of the previous year.

Submission Process

- Register an account at https://cmt.research.microsoft.com/SIGMMA2014/ and upload one copy of the nominated PhD thesis. The nominee will receive a Paper ID after the submission.
- The nominator must then collate other materials detailed in the previous section and upload them as supplementary materials, except the endorsement letters, which must be emailed separately as detailed below.
- Contact your referees and ask them to send all endorsement letters to sigmmaward@gmail.com with the title: “PhD Thesis Award Endorsement Letter for [YourName]”. The web administrator will acknowledge the receipt and the submission CMT website will reflect the status of uploaded documents and endorsement letters.

It is the responsibility of the nominator to follow the process and make sure documentation is complete. Thesis with incomplete documentation will be considered invalid.

Selection Committee

The 2014 award selection committee consists of:
Call for Nominations for the SIGMM Technical Achievement Award 2014

for Outstanding Technical Contributions to Multimedia Computing, Communications and Applications

AWARD DESCRIPTION

This award is presented every year to a researcher who has made significant and lasting contributions to multimedia computing, communication and applications. Outstanding technical contributions through research and practice are recognized. Towards this goal, contributions are considered from academia and industry that focus on major advances in multimedia including multimedia processing, multimedia content analysis, multimedia systems, multimedia network protocols and services, and multimedia applications and interfaces. The award recognizes members of the community for long-term technical accomplishments or those who have made a notable impact through a significant technical innovation. The selection committee focuses on candidates’ contributions as judged by innovative ideas, influence in the community, and/or the technical/social impact resulting from their work. The award includes a $2000 honorarium, an award certificate of recognition, and an invitation for the recipient to present a keynote talk at a current year’s SIGMM-sponsored conference, the ACM International Conference on Multimedia (ACM Multimedia). Travel expenses to the conference will be covered by SIGMM, and a public citation for the award will be placed on the SIGMM website.

FUNDING

The award honorarium, the award certificate of recognition and travel expenses to the ACM International Conference on Multimedia is fully sponsored by the SIGMM budget.

NOMINATION PROCESS

Nominations are solicited by May 31, 2014 with decision made by July 30, 2014, in time to allow the above recognition and award presentation at ACM Multimedia 2014.

Nominations for the award must include:

• A statement summarizing the candidate’s accomplishments, description of the significance of the work, and justification of the nomination (two pages maximum);
• Curriculum Vitae of the nominee;
• Three endorsement letters supporting the nomination including the significant contributions of the candidate. Each endorsement should be no longer than 500 words with clear specification of nominee contributions and impact on the multimedia field;
• A concise statement (one sentence) of the achievement(s) for which the award is being given. This statement will appear on the award certificate and on the website.

The nomination rules are:

• The nominee can be any member of the scientific community.
• The nominator must be a SIGMM member.
• No self-nomination is allowed.
• Nominations that do not result in an award will be valid for two further years. After three years a revised nomination can be resubmitted.
• The SIGMM elected officers as well as members of the Awards Selection Committee are not eligible.

Please submit your nomination to the award committee by email.

Committee

• Dick Bulterman (Dick.Bulterman@fxpal.com)
• Hong-Jiang Zhang (hongjiangz@kingsoft.com)
• Nicu Sebe (nicusebe@gmail.com)
• Rainer Lienhart (rainer.lienhart@informatik.uni-augsburg.de)
• Shih-Fu Chang (sfchang@ee.columbia.edu)
PREVIOUS RECIPIENTS

• 2013: Dick Bulterman (for outstanding technical contributions in multimedia authoring through research, standardization, and entrepreneurship).
• 2012: Hong-Jiang Zhang (pioneering contributions to and leadership in media computing including content-based media analysis and retrieval, and their applications).
• 2011: Shi-Fu Chang (for pioneering research and inspiring contributions in multimedia analysis and retrieval).
• 2010: Ramesh Jain (for pioneering research and inspiring leadership that transformed multimedia information processing to enhance the quality of life and visionary leadership of the multimedia community).
• 2009: Lawrence A. Rowe (for pioneering research in continuous media software systems and visionary leadership of the multimedia research community).
• 2008: Ralf Steinmetz (for pioneering work in multimedia communications and the fundamentals of multimedia synchronization).

MediaEval 2014: Benchmarking Initiative for Multimedia Evaluation

MediaEval is a multimedia benchmark evaluation that offers tasks promoting research and innovation in areas related to human and social aspects of multimedia. Registration for MediaEval 2014 is now open.

We encourage participants to register before 1 May, when the first tasks release their first data. The MediaEval benchmark focuses on aspects of multimedia including and going beyond visual content, such as language, speech, music, and social factors. Participants carry out one or more of the tasks offered and submit runs to be evaluated. They then write up their results and present them at the MediaEval 2014 workshop, 16-17 October, Barcelona, Spain.

Dates: May-October

More information: http://www.multimediaeval.org

Call for Nominations: ACM TOMCCAP Nicolas D. Georganas Best Paper Award

The Editor-in-Chief of ACM TOMCCAP invites you to nominate candidates for the “ACM Transactions on Multimedia Computing, Communications and Applications Nicolas D. Georganas Best Paper Award”.

The award is given annually to the author(s) of an outstanding paper published in ACM TOMCCAP within the previous legal year from January 1 until December 31. The award carries a plaque as well as travel funds to the ACM MM conference where the awardee(s) will be honored.

Procedure

Nominations for the award must include the following:

• A statement describing the technical contributions of the nominated paper and a description of the significance of the paper. The statement should not exceed 500 words. No self-nomination is accepted.
• Two additional supporting statements by recognized experts in the field regarding the technical contribution of the paper and its significance to the respective field.

Only papers published in regular issues (no Special Issues) can be nominated.

Nominations will be reviewed by the Selection Committee and the winning paper will finally be voted by the TOMCCAP Editorial Board.

Deadline

Deadline for nominations of papers published in 2013 (Volume 9) is the 15th of June 2014.

Contact

Please send your nominations to the Editor-in-Chief at steinmetz.eic@kom.tu-darmstadt.de (<steinmetz.eic@kom.tu-darmstadt.de>)

If you have questions, please contact the TOMCCAP information director at TOMCCAP@kom.tu-darmstadt.de (<TOMCCAP@kom.tu-darmstadt.de>)

Further details can be found at http://tomccap.acm.org/
PhD Thesis Summaries

Håvard Espeland
Processing Cyclic Multimedia Workloads on Modern Architectures

Supervisor(s) and Committee member(s): Pål Halvorsen, Carsten Griwodz (supervisors), Christian Plessl, Mei Wen, Tor Skeie (opponents)
URL: http://home.ifi.uio.no/paalh/students/HaavardEspeland-phd.pdf

Working with modern architectures for high performance applications is increasingly more difficult for programmers as the complexity of both the system architectures and software continue to increase. The level of hand tuning and native adaptations required to achieve high performance comes at the cost of limiting the portability of the software. For instance, we show that a compute intensive DCT algorithm performs better on graphic processors than the best algorithm for x86. In particular, limited portability is true for cyclic multimedia workloads, a set of programs that run continuously with strict requirements for high performance and low latency. An example of a typical multimedia workload is a pipeline of many small image processing algorithms working in tandem to complete a particular task. The input can be videos from one or more live cameras, and the output is a set of video frames with elements from several of the source videos, for example as stitched panorama frames or 3D warped video. Such a setup runs continuously and potentially needs to adapt to various degrees of changes in the setup without interruptions or downtime.

To reach the performance goal required by multimedia pipelines, modern, heterogeneous architectures are considered instead of the traditional symmetric multiprocessing architectures. We also investigate variations between recent microarchitectures of symmetric processors to identify differences that a low-level scheduler must take into account. Further, since multimedia workloads often need to adapt to various external conditions, e.g., adding another participant to a video conference, we also investigate elastic and portable processing of multimedia workloads. To do this, we propose a framework design and language, which we call P2G. In the age of Big Data, this idea differs from the typical frameworks used for distributed processing, such as MapReduce and Dryad, in that it is designed for continuous operation instead of batch processing of large workloads. We emphasize heterogeneous support and expose parallel opportunities in workloads in a way that is easy to target since it is similar to sequential execution with multidimensional arrays. The framework ideas are implemented as a prototype and released as an open source platform for further experimentation and evaluation.

Media Performance Group
URL: http://mpg.ndlab.net

The Media Performance Group (MPG) addresses resource utilization and performance challenges to support a wide range of interactive multimedia services to the large user masses in the Internet. The goals are to reduce the costs, increase the number of users and optimize the perceived service quality. MPG’s activities branch into several areas of multimedia systems to maintain and improve our ability to evaluate the performance of complete multimedia systems. This goal ties research branches together that are as diverse as multicore programming and user perception.

Jia Hao
The transmission and processing of sensor-rich videos in mobile environment

Supervisor(s) and Committee member(s): Roger Zimmermann (supervisor), Ye Wang (advisor), Wei Tsang Ooi (advisor), Mun Choon Chan (rapporteur)
URL: http://scholarbank.nus.edu.sg/handle/10635/48668
The astounding volume of camera sensors produced for and embedded in cellular phones has led to a rapid advancement in their quality, wide availability and popularity for capturing, uploading and sharing of videos (also referred to as user-generated content or UGC). Furthermore, GPS-enabled smartphones have become an essential contributor to location-based services. A large number of geo-tagged photos and videos have been accumulating continuously on the web, posing a challenging problem for mining this type of media data. Existing solutions attempt to examine the signal content of the videos and recognize objects and events. This is typically time-consuming and computationally expensive and the results can be uneven in their quality. Therefore these methods face challenges when applied to large video repositories. Furthermore, the acquisition and transmission of large amounts of video data on mobile devices face fundamental challenges such as power and wireless bandwidth constraints. To support diverse mobile video applications, it is critical to overcome these challenges.

Recent technological trends have opened another avenue that fuses much more accurate, relevant data with videos: the concurrent collection of sensor-generated geospatial contextual data. The aggregation of multi-sourced geospatial data into a standalone meta-data tag allow video content to be identified by a number of precise, objective geospatial characteristics. These so-called sensor-rich videos can conveniently be captured with smartphones. In this thesis we investigate the transmission and processing of sensor-rich videos in mobile environment. Our work focuses on the following key issues for sensor-rich videos:

1) Energy-efficient video acquisition and upload. We design a system to support energy-efficient sensor-rich video delivery. The core of our approach is the separate transmission of the small amount of text-based geospatial meta-data from the large binary-based video content.

2) Point of Interest (POI) detection and visual distance estimation. We propose a technique which is able to detect interesting regions and objects and their distances from the camera positions in a fully automated way.

3) Presentation of user generated videos. We present a system that provides an integrated solution to present videos based on keyframe extraction and interactive, map-based browsing.

4) Geo-predictive video streaming. We present a method to predict the bandwidth change for HTTP streaming. The method make use of the geo-location information to build bandwidth maps to facilitate bandwidth prediction, and efficient quality adaptation. We also propose two quality adaptation algorithms for adaptive HTTP streaming.

Our study shows that using location and viewing direction information, coupled with timestamps, efficient video delivery systems can be developed, more interesting information can be mined from video repository, and user-generated video presentation can be more natural.

**Media Management Research Lab**
URL: http://eiger.ddns.comp.nus.edu.sg

Our group's research focuses on Streaming Media and Geo-Referenced Video Management (GeoVid). The GeoVid project explores the concept of sensor-rich video tagging. Specifically, recorded videos are tagged with a continuous stream of extended geographic properties that relate to the camera scenes. This meta-data is then utilized for storing, indexing and searching large collections of community-generated videos. By considering video related meta-information, more relevant search results can be returned and advanced searches, such as directional and surround queries, can be executed.

**Johannes Konert**

**Interactive Multimedia Learning: Using Social Media for Peer Education in Single-Player Educational Games**

Supervisor(s) and Committee member(s): Evaluator: Prof. Dr.-Ing. habil. Ralf Steinmetz Co-evaluator: Prof. Dr. paed. habil. Regina Bruder
Social Media, as an information and communication technology, enables users to exchange information about experiences and insights in easy ways. Such exchange can be used for peer interaction among players of educational computer games as well. The players profit from social media content as learning resources are created, edited, and then shared by peers. Therefore, social media applications and concepts can serve as a way to bring peer education concepts closer to educational games and enhance the way learners share hints, assess each others’ solutions, and give feedback in the learning and playing process. However, the intersection of serious games and social media appears to be a quite novel research field. This thesis contributes an architectural approach, addressing the challenge of intersecting educational games and social media from an interdisciplinary perspective. Major contributions include concepts for user-generated content exchange, game adaptation, and peer group formation. The first contribution, a concept for content exchange, supports peer tutoring and assessment of user-generated content. It’s implementation and evaluation in the PEDALE scenario addresses primarily the Individual Group Assessment Problem. This problem concerns the diagnosis and assessment of individual learners’ abilities, while simultaneously seeking group learning and collaboration. The evaluation study conducted through this work in a classroom scenario shows the benefits of the content and knowledge exchange for individual learners under certain conditions. The second contribution, a concept for game adaptation, is designed to support peer interaction between players of educational games and acquaintances in a social media environment. The thesis’ solution proposes interaction patterns to allow the influence to gameplay by peers. In the corresponding Genius scenario, the conducted evaluation study shows significantly stronger acceptance values by players experiencing the game adaptation, compared to those using a game without them. For the third contribution, a concept for peer group formation, a new algorithm has been designed on the basis of a mathematical optimization model. The underlying Group Formation Problem is formally defined and thoroughly analyzed. This problem refers to the necessity to simultaneously respect homogeneous as well as heterogeneous matching criteria when building learning groups. The simulated evaluation reveals that the proposed solution, GroupAL, generates significantly better group formation results than all reviewed algorithms from related work. The results from the three conducted evaluations contribute to the aim of bringing serious games and social media closer together. The created solutions and the unifying middleware architecture SoCom.KOM build a solid foundation for further research on the creation of social serious games.
Recently published

- Ying Chen and Anthony Vetro: Industry & Standards: Next-Generation 3D Formats with Depth Map Support

MMSJ Volume 20, Issue 1
Editor-in-Chief: Thomas Plagemann
URL: http://link.springer.com/journal/530/20/1/page/1
Published: February 2014

The Multimedia Systems Journal details innovative research ideas, emerging technologies, state-of-the-art methods and tools in all aspects of multimedia computing, communication, storage, and applications. It features theoretical, experimental, and survey articles.

- Suchendra M. Bhandarkar, Lakshmish Ramaswamy, Hari K. Devulapally: Collaborative caching for efficient dissemination of personalized video streams in resource constrained environments
- Minseok Song, Wanhyung Ryu, Jeong Seop Sim, Yeongju Lee: Balancing disk energy against reliability in video playback
- Benyamin Norouzi, Seyed Mohammad Seyedzadeh, Sattar Mirzakuchaki, Mohammad Reza Mosavi: A novel image encryption based on hash function with only two-round diffusion process
- Daniele Borghesani, Costantino Grana, Rita Cucchiara: Miniature illustrations retrieval and innovative interaction for digital illuminated manuscripts
- Tomasz Hachaj, Marek R. Ogiela: Rule-based approach to recognizing human body poses and gestures in real time

MMSJ Volume 20, Issue 2
Editor-in-Chief: Thomas Plagemann
URL: http://link.springer.com/journal/530/20/2/page/1
Published: March 2014

The objectives of the IEEE MMTC R-Letter are:

- Stimulate research on multimedia communication.
- Encourage researchers to submit papers (R-Letter CFP) to IEEE MMTC sponsored publications and conferences.
- Nominate papers published in IEEE MMTC sponsored publications/conferences for best paper awards.

- Wojciech Mazurczyk, Krzysztof Szczypiorski: Editorial: Advances in digital media security and right management
- David Megias, Josep Domingo-Ferrer: Privacy-aware peer-to-peer content distribution using automatically recombined fingerprints
- Ta Minh Thanh, Munetoshi Iwakiri: A proposal of digital rights management based on incomplete cryptography using invariant Huffman code length feature

- Hui Tian, Jin Liu, Songbin Li: Improving security of quantization-index-modulation steganography in low bit-rate speech streams
- Mehdi Fallahpour, David Megias: Secure logarithmic audio watermarking scheme based on the human auditory system
- Robert Huijie Deng, Xuhua Ding, Yongdong Wu, Zhuo Wei: Efficient block-based transparent encryption for H.264/SVC bitstreams
- Wei Chen, Zafar Shahid, Thomas Stütz, Florent Autrusseau, Patrick Le Callet: Robust drift-free bit-rate preserving H.264 watermarking
- Xingguang Song, Shiguo Lian, Wei Hu, Yang Hu: Digital video watermarking based on intra prediction modes for audio video coding standard
- Gaurav Bhatnagar, Q. M. Jonathan Wu: Enhancing the transmission security of biometric images using chaotic encryption
- Mohammad Javad Khosravi, Ahmad Reza Naghsh-Nilchi: A novel joint secret image sharing and robust steganography method using wavelet
- Guangjie Liu, Wewei Liu, Yuwei Dai, Shiguo Lian: Adaptive steganography based on block complexity and matrix embedding
- Deepayan Bhowmik, Charith Abhayaratne: On robustness against JPEG2000: a performance evaluation of wavelet-based watermarking techniques

MMTC R-Letter Volume 5, Issue 2
Board Director: Irene Cheng
Board Co-Directors: Weiyi Zhang and Christian Timmerer
Published: April 2014

- Prediction of Video Popularity Based on Cross-Domain Knowledge Transfer
  - A short review for “Towards Cross-Domain Learning for Social Video Popularity Prediction”
  - Edited by Karine Pires and Gwendal Simon
- Lighting the design of replication algorithms for P2P VoD system in practice

ISSN 1947-4598
http://sigmm.org/records
ACM SIGMM Records
Vol. 6, No. 1, March 2014
Recently published

• A short review for “On Replication Algorithm in P2P VoD”
  • Edited by Liteng Sun
• The Design of Next Generation Multimedia Synchronization Algorithms
  • A short review for “Evolution of temporal multimedia synchronization principles: A historical viewpoint”
  • Edited by Irene Cheng
• Converting 2D to 3D by Learning from Examples
  • A short review for “Learning-based, automatic 2D-to-3D image and video conversion”
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• Sparse Representation Assists Video Tagging
  • A short review for “Video-to-Shot Tag Propagation by Graph Sparse Group Lasso”
  • Edited by Vladan Velisavljevich#
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  • A short review for “Near-Infrared Guided Color Image Dehazing”
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  • A short review for “Frequency-Domain Oversampling for Zero-Padded OFDM in Underwater Acoustic Communications”
  • Edited by Wei Ji Zhang
• Paper Nomination Policy
• MMTC R-Letter Editorial Board
• Multimedia Communications Technical Committee (MMTC) Officers

MTAP Volume 69, Issue 2

Editor-in-Chief: Borko Furht
URL: http://link.springer.com/journal/11042/69/2/page/1
Published: March 2014

Multimedia Tools and Applications publishes original research articles on multimedia development and system support tools as well as case studies of multimedia applications. It also features experimental and survey articles. The journal is intended for academics, practitioners, scientists and engineers who are involved in multimedia system research, design and applications. All papers are peer reviewed.

• Anastasios Doulamis, Nikolaos Doulamis, Luc van Gool, Mark Nixon: Guest editorial: Event-based video analysis/retrieval
• Rachid Benmokhtar: Robust human action recognition scheme based on high-level feature fusion
• Constantinos Lalos, Anastasios Voulodimos, Anastasios Doulamis, Theodora Varvarigou: Efficient tracking using a robust motion estimation technique

MTAP Volume 69, Issue 3

Editor-in-Chief: Borko Furht
URL: http://link.springer.com/journal/11042/69/3/page/1
Published: April 2014

• Cheonshik Kim: Data hiding by an improved exploiting modification direction
• Yajie Yan, Xiaohui Liang, Ke Xie & Qinping Zhao: ASEHM: a new transmission control mechanism for remote rendering system
• Lixing Dong, Shufang Lu & Xiaogang Jin: Real-time image-based chinese ink painting rendering
• Haidong Wang & Guizhong Liu: Priority and delay aware packet management framework for real-time video transport over 802.11e WLANs

ACM SIGMM Records
Vol. 6, No. 1, March 2014 29
http://sigmm.org/records
ISSN 1947-4598
• Dong Hyun Kim & Jong Deok Kim: A collision avoidance scheme for the synchronized broadcast packets in a multi-AP Wi-Fi broadcasting system
• Christian X. Ries & Rainer Lienhart: A survey on visual adult image recognition
• Daniel Carlos Guimarães Pedronette, Ricardo da Silva Torres & Rodrigo Tripodi Calumby: Using contextual spaces for image re-ranking and rank aggregation
• Rehanullah Khan, Allan Hanbury, Robert Sablatnig, Julian Stöttinger, F. Ali Khan & F. Alam Khan: Systematic skin segmentation: merging spatial and non-spatial data
• Svebor Karaman, Jenny Benois-Pineau, Vladislavs Dovgalecs, Rémi Mégret, Julien Pinquier, Régine André-Obrecht, Yann Gaëstel & Jean-François Dartigues: Hierarchical Hidden Markov Model in detecting activities of daily living in wearable videos for studies of dementia
• Jacek Chmielewski: Finding interactive 3D objects by their interaction properties
• Can Fang, Peng Zhang, Cheng Fu & Zili Zhang: Coverage enhancement by using the mobility of mobile sensor nodes:
• Yuval Yeshurun: Multiple description coding for SNR scalable video transmission over unreliable networks
• Yuan-Yu Tsai: An adaptive steganographic algorithm for 3D polygonal models using vertex decimation
• Bing Yang & Duanqing Xu: Color boosted visual saliency detection and its application to image classification
• Xueming Qian, Danping Guo, Xingsong Hou, Zhi Li, Huan Wang, Guizhong Liu & Zhe Wang: HWVP: hierarchical wavelet packet descriptors and their applications in scene categorization and semantic concept retrieval
• Abolfazl Tazaree, Amir-Masud Eftekhar-Moghadam & Saeedeh Sajjadi-Ghaemi-Maghami: A semantic image classifier based on hierarchical fuzzy association rule mining
• Brett Adams, Dinh Phung & Svetha Venkatesh: Social reader: towards browsing the social web
• Rodrigo Tripodi Calumby, Ricardo da Silva Torres & Marcos André Gonçalves: Multimodal retrieval with relevance feedback based on genetic programming
• Huey-Min Sun: Online smoothness with dropping partial data based on advanced video coding stream
• Yi-Ming Chen & Wei-Chen Wu: An anonymous DRM scheme for sharing multimedia files in P2P networks
• Mohsin Bilal, Ayyaz Hussain, Muhammad Arfan Jaffar, Tae-Sun Choi & Anwar M. Mirza: Estimation and optimization based ill-posed inverse restoration using fuzzy logic
• Bilel Ben Fradj & Azza Ouled Zaid: Scalable video coding using motion-compensated temporal filtering and intra-band wavelet based compression

TOMCCAP, Volume 10, Issue 1s

Editor-in-Chief: Ralf Steinmetz
URL: http://dl.acm.org/citation.cfm?id=2576908&picked=prox&CFID=433614180&CFTOKEN=32386073
Published: January 2014
sponsored by ACM SIGMM

Special issue of best papers of ACM MM Sys 2013 and ACM NOSSDAV 2013
Guest editors: Roger Zimmermann, Laszlo Bősörményi, Pål Halvorsen

• Roger Zimmermann, Laszlo Bősörményi, Pål Halvorsen: Introduction to the special issue of best papers of ACM MM Sys 2013 and ACM NOSSDAV 2013
• Chun-Ying Huang, Kuan-Ta Chen, De-Yu Chen, Hwai-Jung Hsu, Cheng-Hsin Hsu: GamingAnywhere: The first open source cloud gaming system
• Niall Murray, Yuansong Qiao, Brian Lee, Gabriel-Miro Muntean: User-profile-based perceived olfactory and visual media synchronization
• Ahsan Arefin, Raoul Rivas, Klara Nahrstedt: OSM: Prioritized evolutionary QoS optimization for interactive 3D teleimmersion
• ShangHong Zhao, Wei Tsang Ooi, Axel Carlier, Geraldine Morin, Vincent Charvillat: Bandwidth adaptation for 3D mesh preview streaming
• Minseok Song, Yeongju Lee, Euiseok Kim: Saving disk energy in video servers by combining caching and prefetching

TOMCCAP, Volume 10, Issue 2

Editor-in-Chief: Ralf Steinmetz
URL: http://dl.acm.org/citation.cfm?id=2579228&picked=prox&CFID=433614180&CFTOKEN=32386073
Job Opportunities

PhD in IP-based media content delivery

Swinburne University of Technology and Netflix Inc. are pleased to announce a newly funded full-time PhD position at Swinburne’s Centre for Advanced Internet Architectures (CAIA).

Research program:
The research program will be focussed on technologies and techniques associated with high performance, IP-based content delivery. Topics of interest include operating system and network stack design, congestion control, transport protocols, algorithms for buffer management, adaptive streaming, and related areas.

Candidate attributes:
We are looking for an academically strong applicant with a track record of hands-on experience and experimentation with network protocols, networked services and open-source operating systems such as FreeBSD and/or Linux. Your academic background will ideally include a First-class Honours bachelors degree (4-year minimum) in Electronic Engineering, Telecommunications Engineering, Computer Science or equivalent.

You may have just recently finished your undergraduate studies, or you graduated awhile ago. In either case you are excited by the possibility of returning to full-time study leading to a PhD.

Deadline:
Applications received by 5pm April 27th 2014 (Melbourne time) will be reviewed and evaluated by representatives of CAIA and Netflix Inc. Applications received after this time may also be considered if circumstances allow.

Informative Bag-of-Visual Words for Video Semantic Indexing
• Ying Yang, Ioannis Ivriissimtzis: Mesh Discriminative Features for 3D Steganalysis
• Abdelwahab Hamam, Abdulmotaleb El Saddik, Jihad Alj'a'am: A Quality of Experience Model for Haptic Virtual Environments
• Marco Botta, Davide Cavagnino, Victor Pomponiu: Protecting the Content Integrity of Digital Imagery with Fidelity Preservation: An Improved Version
• Da Luo, Weiqi Luo, Rui Yang, Jiwu Huang: Identifying Compression History of Wave Audio and Its Applications

TOMCCAP, Volume 10, Issue 3

Editor-in-Chief: Ralf Steinmetz
URL: http://dl.acm.org/citation.cfm?id=2602979&picked=prox&CFID=320571598&CFTOKEN=30265955
Published: April 2014
sponsored by ACM

• Yunhua Deng, Rynson W. H. Lau: Dynamic load balancing in distributed virtual environments using heat diffusion
• James She, Jon Crowcroft, Hao Fu, Flora Li: Convergence of interactive displays with smart mobile devices for effective advertising: A survey
• Ekaterina Gonina, Gerald Friedland, Eric Battenberg, Penporn Koanantakool, Michael Driscoll, Evangelos Georganas, Kurt Keutzer: Scalable multimedia content analysis on parallel platforms using python
• Surendar Chandra, John Boreczky, Lawrence A. Rowe: High performance many-to-many intranet screen sharing with DisplayCast
• Ya-Lin Lee, Wen-Hsiang Tsai: A new data hiding method via revision history records on collaborative writing platforms
• Jin Yuan, Yi-Liang Zhao, Huanbo Luan, Meng Wang, Tat-Seng Chua: Memory recall based video search: Finding videos you have seen before based on your memory
• Xianglong Liu, Yadong Mu, Bo Lang, Shih-Fu Chang: Mixed image-keyword query adaptive hashing over multilabel images

• Ning Liu, Huajie Cui, S.-H. Gary Chan, Zhipeng Chen, Yirong Zhuang: Dissecting User Behaviors for a Simultaneous Live and VoD IPTV System
• Rossana Gaeta, Marco Grangetto, Lorenzo Bovio: DIP: Distributed Identification of Polluters in P2P Live Streaming
• Feng Wang, Wan-Lei Zhao, Chong-Wah Ngo, Bernard Meriaudeau: A Hamming Embedding Kernel with

Published: February 2014
sponsored by ACM SIGMM
Job Opportunities

For further information please see http://caia.swin.edu.au/scholarships/netflix-phd-2014.html

Employer: Swinburne University of Technology / Netflix Inc.
Expiration date: Sunday, April 27, 2014

PhD position in Computer Science
Multimodal sensing for Ambient Assisted Living

The Distributed Multimedia Systems (DMMS) research group is aiming to improve future networks and middleware for advanced multimedia applications. Multimedia does not only mean audio and video, but also sensor data of any kind. We investigate context-aware and self-adapting solutions for transmission, distribution and management of (multimedia) data.

We are aiming to enforce our current research in the area of multi-modal sensor systems for smart environments and especially interdisciplinary research for Ambient Assisted Living and ubiquitous home care.

Employer: University of Oslo, Norway
Expiration date: Sunday, April 20, 2014
More information date: http://uio.easycruit.com/vacancy/1149321/64290?iso=no

PhD position in computer science: Model-checking for malware detection

PhD position in LIAFA

Contact: Tayssir TOUILI (touili@liafa.univ-paris-diderot.fr)

A PhD position is available in the “Verification” team in LIAFA, Paris.

The topic of the thesis is the development of new original model-checking and static analysis techniques for malware detection. Indeed, the number of malwares is growing extraordinarily fast. Therefore, it is important to have efficient malware detectors. To identify viruses, existing antivirus systems use either code emulation or signature (pattern) detection. These techniques have some limitations. Indeed, emulation based techniques can only check the program’s behavior in a limited time interval, whereas signature based systems are easy to get around. To sidestep these limitations, instead of executing the program or making a syntactic check over it, virus detectors need to use analysis techniques that check the behavior (not the syntax) of the program in a static way, i.e. without executing it. Towards this aim, we propose in this thesis to develop new model-checking and static analysis techniques for virus detection.

How to apply:

The positions are available immediately. Candidates must have a master in computer science. The candidate must send a CV, university grades, recommendation letters, and a motivation letter to Tayssir TOUILI (touili@liafa.univ-paris-diderot.fr)

Employer: CNRS, France
Expiration date: Monday, March 31, 2014
More information date: mailto:touili@liafa.univ-paris-diderot.fr

PhD position in computer science: Multimedia Networking

A PhD position is available at the Expertise Centre for Digital Media, Hasselt University.

The subject of the research is multimedia networking. Current research within the group includes networked virtual environments & online gaming (architectural design and scalability assessment), adaptive multimedia delivery (streaming of non-traditional media types), constrained network environments (mobile and ad-hoc network applications and protocols) and high-performance web technology (replacing dedicated applications by web-based alternatives). The specific PhD topic will be determined in consultation with the selected candidate.

Deadline for application is Monday, April 21, 2014.

More information and application through http://www.uhasselt.be/vacancies_detail?taal=04&vacid=672

Employer: Hasselt University, Belgium
Expiration date: Tuesday, April 22, 2014
More information date: http://www.uhasselt.be/vacancies_detail?taal=04&vacid=672

PhD position in computer science: Software verification

PhD position in LIAFA
A PhD position is available in the “Verification” team in LIAFA, Paris.

The subject of the thesis is about concurrent programs verification. The PhD student is expected to investigate and develop novel techniques, algorithms and tools for the analysis of software.

Indeed, nowadays, software is everywhere: in telecommunication, in navigation, in nuclear plants, etc. The tasks that software deal with are becoming more and more complex and critical, in the sense that any small error can cause huge human and/or economical damages. Therefore, it is crucial to be sure that a software does not contain any error before using it. Programmers need then to have rigorous formal mathematical techniques that allow to verify and check their programs. Unfortunately, programs present several complex features that make their analysis very complex: concurrency, synchronisation, recursion, procedure calls, pointers, manipulation of integer and real variables, etc. Thus, the objective of this thesis is to develop new techniques for software model-checking that can deal with all these complex features.

How to apply:

The positions are available immediately. Candidates must have a master in computer science.

The candidate must send a CV, university grades, recommendation letters, and a motivation letter to Tayssir TOUILI (touili@liafa.univ-paris-diderot.fr)

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Calls for Contribution

Americans by Milton Chen 3:00pm-3:30pm Networking Break 3:30pm-4:30pm Current and … Read more →

ACM MM 2014

The 22nd ACM International Conference on Multimedia

Submission deadline: 31. March 2014
Location: Orlando, Florida
More information: http://www.acmmm.org/2014/
Sponsored by ACM SIGMM

ACM Multimedia is the worldwide premier conference and a key world event to display scientific achievements and innovative industrial products in the multimedia field. At ACMMM 2014, we will celebrate its 22nd iteration with an extensive program consisting of technical sessions covering all aspects of the multimedia field, tutorials, panels, … Read more →

CrowdMM @ ACM MM 2014

International ACM Workshop on Crowdsourcing for Multimedia

Submission deadline: 30. June 2014
Location: Orlando, FL
More information: http://www.crowdmm.org/
Sponsored by ACM SIGMM

CrowdMM 2014 solicits novel contributions to multimedia research that make use of human intelligence, but also take advantage of human plurality. We encourage theoretical, experimental, and methodological developments advancing state-of-the-art knowledge of crowdsourcing techniques for multimedia research. We encourage submission that employ crowdsourcing, wisdom of the crowd, games with a … Read more →

Demos @ ACM MM 2014

Demos at ACM Multimedia 2014

Submission deadline: 19. May 2014
Location: Orlando, FL, USA
More information: http://acmmm.org/2014/call_technical_demos.html
Sponsored by ACM SIGMM

ACM Multimedia will provide demonstration sessions. Demos are intended as real, practical, and interactive proof of the presenters’ research ideas and scientific or engineering contributions, with the goal of providing multimedia researchers and practitioners with the opportunity to discuss working multimedia systems, applications, prototypes, or proof-of-concepts. Such a setting allows … Read more →

ICIMCS 2014

ACM International Conference on Internet Multimedia Computing and Service

Submission deadline: 15. April 2014
Location: Xiamen, China
More information: http://icimcs2014.xmu.edu.cn/
Sponsored by ACM SIGMM

The ACM Multimedia Open-Source Software Competition is designed to promote the contribution of freely available resources such as codecs, middleware, frameworks, toolkits, libraries, applications, and other multimedia software. These resources advance the field by providing a common set of tools for building and improving multimedia research prototypes. The use of … Read more →

Open Source @ ACM MM 2014

Open Source Software Competition at ACM Multimedia 2014

Submission deadline: 19. May 2014
Location: Orlando, FL, USA
More information: http://acmmm.org/2014/call_open_source.html
Sponsored by ACM SIGMM

The submission deadline is extended to April 15, 2014 (final extension). The 6th International Conference on Internet Multimedia Computing and Service (ICIMCS) will be held from July 10–12, 2014 at Xiamen, Fujian, China. The three-day conference will include invited keynotes, oral and poster presentations. ICIMCS2014 will serve as an international … Read more →

Short Paper Deadline @ ACMMM 2014

22nd ACM International Conference on Multimedia

Submission deadline: 14. April 2014
ACM Multimedia is the worldwide premier conference and a key world event to display scientific achievements and innovative industrial products in the multimedia field. ACMMMM will have an extensive program consisting of technical sessions covering all aspects of the multimedia field, tutorials, panels, exhibits, demonstrations and workshops, competitions of research … Read more →

CFPs: Sponsored by ACM (any SIG)

ACM ICMI 2014

ACM International Conference on Multimodal Interaction

Submission deadline: 09. May 2014
Location: Istanbul - Turkey
More information: http://icmi.acm.org/2014/
Sponsored by ACM

The International Conference on Multimodal Interaction, ICMI 2014, will take place at Bogazici University, Istanbul (Turkey), November 12-16th, 2014. ICMI is the premier international forum for multidisciplinary research on multimodal human-human and human-computer interaction, interfaces, and system development. The conference focuses on theoretical and empirical foundations, component technologies, and combined … Read more →

ACM SAP 2014

Symposium on Applied Perception

Submission deadline: 07. April 2014
Location: Vancouver Canada
Sponsored by ACM

The ACM Symposium on Applied Perception (ACM SAP), aims to advance and promote research that crosses the boundaries between perception and disciplines such as graphics, visualization, vision, haptics and acoustics. These fields can benefit from the exchange of ideas. The scope of the conference includes applications and algorithms in any … Read more →

ACM TIIS

ACM Transactions on Interactive Intelligent Systems

Behavior Understanding for Arts and Entertainment

Submission deadline: 26. March 2014
Special issue
More information: http://tiis.acm.org/special-issues.html#call-buae
Sponsored by ACM

This special issue aims to encourage and publish research about the challenges and opportunities associated with human behavior understanding in arts and entertainment. The subject of the behavior understanding may be either a creator, such as a visual artist or a performer; or a person who engages with a (possibly … Read more →

MAED @ ACMMM 2014

The 3rd ACM International Workshop on Multimedia Analysis for Ecological Data

Submission deadline: 30. June 2014
Location: Orlando, Florida
More information: http://maed2014.dieei.unict.it
Sponsored by ACM

The 3rd ACM International Workshop on Multimedia Analysis for Ecological Data features two tracks: – Regular Track aiming to present and report on the most recent methods for the management, processing, interpretation, and visualization of multimedia data recorded for monitoring ecological systems, with particular attention to the understanding of the … Read more →

SMI @ ACM ICMI 2014

3rd Workshop on Smart Material Interfaces

Submission deadline: 15. July 2014
Location: Istanbul, Turkey
The objective of this workshop is to draw attention to the emerging field of smart material interfaces which spans the areas of design, engineering and architecture. These novel composites are generally referred to as materials that are capable of sensing the environment and actively responding to by changing their physical … Read more →

**IEEE CSS 2014**

The 6th International Symposium on Cyberspace Safety and Security

Submission deadline: 28. April 2014  
Location: Paris, France  
Sponsored by IEEE

The CSS-2014 provides a leading edge forum to foster interaction between researchers and developers with the cyberspace safety and security communities, and to give attendees an opportunity to network with experts in this area. It focusses on Cyberspace Safety and Security, such as authentication, access control, availability, integrity, privacy, confidentiality, … Read more →

**IEEE ICMLA 2014**

International Conference on Machine Learning and Applications

Submission deadline: 06. July 2014  
Location: Detroit, MI, USA  
Dates: 03. December 2014 -06. December 2014  
More information: http://www.icmla-conference.org/ icmla14/  
Sponsored by IEEE

The aim of the 13th International Conference on Machine Learning and Applications is to bring together researchers working in the areas of machine learning and applications. Recent emergence for big data processing particularly brings the urgent need for machine learning to be able to address the challenges raised from real-time … Read more →
The IEEE International Symposium on Multimedia (ISM2014) is an international forum for researchers to exchange information regarding advances in the state of the art and practice of multimedia computing, as well as to identify the emerging research topics and define the future of multimedia computing. The technical program of ISM2014 … Read more →

IEEE ISMAR 2014

International Symposium on Mixed and Augmented Reality

Submission deadline: 25. March 2014
Location: Munich, Germany
More information: http://ismar.vgtc.org/
Sponsored by IEEE

Augmented Reality (AR) and Mixed Reality (MR) melt the barriers between virtual media, the physical world and our imagination by enriching our ability to interact with all three. New applications in diverse areas such as Engineering, Entertainment, Arts, Education Media and Humanities push the boundaries of science and technology. As … Read more →

IEEE VCIP 2014

IEEE Visual Communications and Image Processing 2014

Submission deadline: 05. May 2014
Location: Valletta, Malta
More information: http://www.um.edu.mt/events/vcip2014/
Sponsored by IEEE

Since 1986, Visual Communications and Image Processing (VCIP) has served as a premier forum in SPIE for the exchange of fundamental research results and technological advances in the field of visual communications and image processing. The 2014 edition will be the fourth time that VCIP will be held under the … Read more →

ISMAR 2014

International Symposium on Mixed and Augmented Reality

Submission deadline: 25. March 2014
Location: Munich, Germany
More information: http://ismar.vgtc.org/
Sponsored by IEEE

Augmented Reality (AR) and Mixed Reality (MR) melt the barriers between virtual media, the physical world and our imagination by enriching our ability to interact with all three. New applications in diverse areas such as Engineering, Entertainment, Arts, Education Media and Humanities push the boundaries of science and technology. As … Read more →

MAC @ ICME2014

1st International Workshop on Multimedia Affective Computing In conjunction with ICME2014

Submission deadline: 23. March 2014
Location: Chengdu, China
More information: http://mac2014.cse.sc.edu
Sponsored by IEEE

This workshop is to increase the attention of multimedia society on human-centered multimedia computing, where sensing human affect and emotion plays an essential role; present the state-of-the-art research in the related areas; and discuss the challenges and potential opportunities in multimedia affective computing. We welcome research papers focusing on, but … Read more →

VidEv 2014

The 3rd IEEE WoWMoM Workshop on Video Everywhere (co-located with The IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks, WoWMoM 2014)

Submission deadline: 27. March 2014
Location: June 16, 2014 - Sydney, Australia (immediately after the IEEE ICC 2014)
Sponsored by IEEE

This highly selective workshop is devoted to covering all aspects of current work on mobile video and to providing a forum for researchers and practitioners to present and discuss their most recent contributions in the field. Accepted papers will appear in the symposium
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<th>Event</th>
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<td><strong>Workshops @ ICME 2014</strong></td>
<td>IEEE International Conference on Multimedia and Expo 2014 Workshops</td>
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<tr>
<td>Submission deadline: 23. March 2014</td>
<td>Location: Chengdu, China</td>
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<td>Sponsored by IEEE</td>
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<td>With around 1000 submissions and 500 participants each year, the IEEE International Conference on Multimedia &amp; Expo (ICME) has been the flagship multimedia conference sponsored by four IEEE societies since 2000. It serves as a forum to promote the exchange of the latest advances in multimedia technologies, systems, and applications ... Read more →</td>
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<td><strong>CFPs: Not ACM-/IEEE-sponsored</strong></td>
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<td><strong>3DTV-CON 2014</strong></td>
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<td><strong>ACE 2014</strong></td>
<td>11th Advances in Computer Entertainment Technology Conference</td>
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<td>Submission deadline: 12. May 2014</td>
<td>Location: Funchal, Madeira</td>
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<td><strong>ComSec 2014</strong></td>
<td>International Conference on Computer Security and Digital Investigation (ComSec2014)</td>
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<td>Submission deadline: 18. February 2014</td>
<td>Location: Asia Pacific University of Technology and Innovation (APU) Kuala Lumpur, Malaysia</td>
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<td><strong>CyberForensics 2014</strong></td>
<td>The International Conference on Cyber-Crime Investigation and Digital Forensics (CyberForensics2014)</td>
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<tr>
<td>Submission deadline: 17. October 2014</td>
<td>Location: Asia Pacific University of Technology and Innovation (APU) Kuala Lumpur, Malaysia</td>
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<td><strong>DINWC 2014</strong></td>
<td>The Second International Conference on Digital Information, Networking, and Wireless Communications (DINWC2014)</td>
</tr>
<tr>
<td>Submission deadline: 14. September 2014</td>
<td>Location: Bhagwant Institute of Technology, Ghaziabad, India</td>
</tr>
<tr>
<td>Submission deadline: 10. March 2014</td>
<td>Location: Islamic Azad University, Dubai, UAE</td>
</tr>
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Calls for Contribution

More information: http://sdiwc.net/conferences/2014/dipecc2014/

DIPECC 2014


Submission deadline: 10. March 2014
Location: Knowledge Village, Dubai, UAE
More information: http://sdiwc.net/conferences/2014/dipecc2014/

DIPECC 2014


Submission deadline: 20. March 2014
Location: Knowledge Village, Dubai, UAE
More information: http://sdiwc.net/conferences/2014/dipecc2014/

ES BID 2014

Int. workshop on Enabling Science from Big Image Data

Submission deadline: 15. March 2014
Location: Stanford, CA, USA

ESAA 2014

International Workshop on Enhancing Parallel Scientific Applications with Accelerated HPC (ESAA 2014)

Submission deadline: 25. April 2014
Location: Chicada, USA
More information: http://www.arcos.inf.uc3m.es/~esaa2014/

HBU @ ECCV 2014

5th International Workshop on Human Behavior Understanding

Submission deadline: 13. June 2014
Location: Zurich, Switzerland
More information: http://www.cmpe.boun.edu.tr/hbu/2014/

HBU @ ECCV 2014

5th International Workshop on Human Behavior Understanding

Submission deadline: 13. June 2014
Location: Zurich, Switzerland
More information: http://www.cmpe.boun.edu.tr/hbu/2014/

ICEEE @ WCIT 2014

The Third International Conference on E-Learning and E-Technologies in Education

Submission deadline: 25. February 2014
Location: Kuala Lumpur, Malaysia
More information: http://sdiwc.net/conferences/2014/iceee2014/

ICIMCS 2014

The 6th International Conference on Internet Multimedia Computing and Service

Submission deadline: 01. April 2014
Location: Xiamen, China
More information: http://icimcs2014.xmu.edu.cn
In cooperation with ACM SIGMM

ICIST 2014

International Conference on Information and Software Technologies

Submission deadline: 28. April 2014
Location: Druskinkinkai, Lithuania
More information: http://icist.if.ktu.lt
ICVSS 2014
International Computer Vision Summer School

Submission deadline: 31. March 2014
Location: Sicily, Italy
More information: http://www.dmi.unict.it/icvss

ISDF 2014
The International Conference in Information, Security, and Digital Forensics (ISDF2014)

Submission deadline: 12. October 2014
Location: Ghaziabad, Uttar Pradesh, India
More information: http://sdiwc.net/conferences/dinwc14/

MCSS 2014
7th conference on Multimedia Communications, Services and Security

Submission deadline: 12. February 2014
Location: Krakow, Poland

MMAP @ FedCSIS 2014
7th International Symposium on Multimedia Applications and Processing (MMAP’14)

Submission deadline: 11. April 2014
Location: Warsaw, Poland
Dates: 07. September 2014 -10. September 2014
More information: http://fedcsis.org/mmap
In cooperation with ACM

PR
Elsevier Journal of Pattern Recognition
Discriminative Feature Learning from Big Data for Visual Recognition

Submission deadline: 10. August 2014
Special issue
More information: http://www.umiacs.umd.edu/~zhuolin/PRSI_DFL.html

SLAM 2014
International Workshop on Speech, Language and Audio in Multimedia

Submission deadline: 12. June 2014
Location: Penang, Malaysia

VidEv 2014
The 3rd IEEE WoWMoM Workshop on Video Everywhere (co-located with The IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks, WoWMoM 2014)

Submission deadline: 27. March 2014
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WCCS 2014

2nd World Conference on Complex Systems

Submission deadline: 15. May 2014
Location: Agadir-Morocco

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