

BMVA News

The Newsletter of the British Machine Vision Association and
Society for Pattern Recognition

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BMVA News¹ is published every three months. Contributions on any activity related to machine vision or pattern recognition are eagerly sought. These could include reports on technical activities such as conferences, workshops or other meetings. Items of timely or topical interest are also particularly welcome; these might include details of funding initiatives, programmatic reports from ongoing projects and standards activities. Items for the next edition should reach the editor by 1 Sept 2004.

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Editorial: *Fair Play at Conferences*²

Conferences, meetings and workshops are laid on to provide for efficient interchange of information on the latest aspects of any subject. Ideally, the flow would be completely free, but in practice it is necessary to ensure that speakers fit into a programme, and in most conferences the papers are refereed – albeit sometimes only in abstract form. We may sometimes have come across talks in which the speaker gives a different paper from the one submitted: of course this is frowned upon, and it is possible that the chair could interrupt and warn the speaker to stick to the advertised talk, or stop. In fact, I *have* seen one or two instances where a speaker uses the advertised paper merely as an excuse to get onto his hobbyhorse: however, such instances are rare. Far more important is the other aspect of free speech in which a speaker is told by a member of the audience that the work has been done before, is valueless, or has major faults of one sort or another. Many will have heard examples of this, as it turns up in some more or less serious form at a fair proportion of conferences.

Ignoring the obvious quip “If you can’t stand the heat, get out of the kitchen”, I would say this sort of behaviour is inexcusable. First, it is nasty and unhelpful to admonish people publicly. The point can often be made by having a ‘quiet word’ afterwards. On the other hand this could be regarded as escapism, since it is possible that all present will have been misled by the speaker’s methods or claims. Hence some sort of tactful rejoinder in the manner “I heard that something along these lines had been tried before in a ... application” might be useful. That way, the speaker and the audience will have been alerted, but the speaker will not have

²I am indebted to Mark Nixon for guiding me onto this topic, following his valuable remarks on p. 4 – Ed.

been publicly castigated. After all, in a rather different application, there may be virtually no way he could have known about this other piece of work.

Another aspect of the situation is that young researchers need all the help they can get, both in producing new ideas and in presenting them. Hence it is vital not to put them off, with regard either to research or to making a presentation. And I wouldn't say that it is just young researchers who need such help: all of us in this technological, rapidly developing age, and not least in our own rapidly developing interdisciplinary subject area, need propping up. How can we possibly know everything? It is indeed up to the audience at any conference to offer well tuned remarks about what else is going on in the world in order to refine what individual speakers know and should do next.

The whole point is to offer helpful, useful, relevant feedback rather than to 'put the boot in'. As with many things in life, it is down to people and their inclinations. There are those who are knowledgeable, there are those who are kind, there are those who are helpful, and there are those who are father figures. Often one small word from such people will clear a mystery, solve a problem, insert a relevance or show where some subtlety has led people in a direction that is not quite the best one: they will move the subject on its way without creating an incident or offending any researchers, young or old. I know it's difficult to hit the nail exactly on the head in that quick moment that is available in an involved discussion or during question time, but at least let's aspire to do the right thing: think how best to move the subject forward, not how to make political points at other people's expense. Last but not least, it is the chair's job to see that fair play is done – that doubtful practice is questioned, that improper practice is rebuked and some sort of sanity restored to the proceedings.

Professor Roy Davies
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Sullivan Doctoral Thesis Prize Entry

Nominations for the Sullivan Doctoral Thesis Prize, 2004 have closed with a record 7 nominations. This represents something of a logistic nightmare to review, but bodes very well for the strength of our community.

Dr Dave Marshall
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British Machine Vision Conference

The British Computer Vision Conference (BMVC 2004) will be hosted by the Digital Imaging Research Centre of Kingston University on 7–9 September in Kingston-upon-Thames. This three-day single-track conference includes poster session and industrial day. The conference is preceded by the tutorial day on 6 September. Invited speakers include Matthew Brand of the MIT Media Lab and Pascal Fua of EPFL.

Information on registering for the conference can be found at <http://bmvc.king.ac.uk>

Important dates

- Deadline for camera-ready copy: 16 July 2004
- Deadline for early booking rate: 1 August 2004
- Conference dates: 7–9 September 2004.



Dr Graeme A Jones
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Call for Expression of Interest to host BMVC 2006

The BMVA Executive Committee would like any interested parties to inform them of their interest in hosting BMVC 2006. At this stage only an expression of interest is required: pending discussion by the Executive Committee, successful expressions of interest will be asked to supply an official bid to hold the conference.

For the expression of interest please supply the following details:

- Main contact for the conference – full postal address, telephone and email
- Prospective members of the conference organising committee
- Provisional dates for the conference, with a confirmation of provisional booking, details of accommodation, rooms bookings for conference venue and meals.

BMVC is traditionally held in the first two weeks of September and runs from Monday afternoon with a tutorial session and full conference single track podium and poster sessions Tuesday through to Thursday lunch time.

The main conference auditorium must be large enough to accommodate 150+ delegates and must be a tiered auditorium with adequate A/V facilities.

For further information on preparing a proposal to run BMVC please refer to:
http://www.bmva.ac.uk/admin/bmvc_proposals.html

Please send expressions of interest to the BMVA Secretary, Dr David Marshall (dave@cs.cf.ac.uk) by 1 October 2004.

Nominations for BMVA Executive Committee

Nominations are requested for the forthcoming election of Executive Committee members of the BMVA. Nominees must be paid-up members of the Association and agree to serve for a period of two years. A member of the Committee is expected to participate in the bimonthly committee meetings normally taking place in Oxford and London. Regrettably BMVA does not cover the travel expenses of the members participating in the

committee meetings. Completed nomination forms should be sent to the BMVA Secretary at the address below and must be received by 31 July 2004. This request for nomination must be signed by the individual standing and by one other member. The nomination should also include a brief biographical statement for distribution to BMVA members.

The elected committee consists of ten elected members, five of whom are elected each year. Details of the current members may be found at:
<http://www.bmva.ac.uk/admin/exco.html>

The members elected in 2002 who will stand down this year are:

- Dr Tim Cootes
- Dr David Marshall
- Dr Mike Chantler
- Dr Adrian Clark
- Professor Josef Kittler

Dr Richard Bowden has also given notice of his resignation from the elected committee a year early. So there will therefore be six elected places available this year. If more than six nominations are received for the six elected places then a postal ballot will be held.

Voting papers will be sent out in early August and will need to be returned by 5 September. Each member will be able to vote for up to six candidates. The results will be announced at BMVC 2004 at the University of Kingston and in BMVA News.

Dr Richard Bowden
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BMVA Symposium on Biometrics

I'm quite a fan of these BMVA technical meetings. It is well worth attending a one-day event focussed on a topical technical area with material ranging from tutorial, through preliminary to front line research presented by leading (and international, as happens now at BMVA meetings) researchers in the field. That is exactly what happened at the 2 June meeting on Biometrics. Most of the papers were on faces, consistent with current interest in this area. The morning's presentations largely focussed on generic techniques with application to analysis of face covariates. The meeting started with a Carnegie Mellon paper describing recent advances in ASM/AAMs and showing

how they can track expression we then continued with Manchester's works on new techniques for finding facial features (in cluttered scenes too) and on optimising appearance models. The morning completed with an introductory study on ageing, from Kent, which led to lively and interested debate.

The afternoon started with two gait papers from Southampton, which showed how gait has progressed also to analyse covariate factors, in this case viewpoint and the extraction from non-studio data with consideration of potency of the measures used. Other biometrics represented included fingerprints for which a procedure for estimating entropic numbers was described by Brno University, Czech Republic. Irises were also represented by a computationally efficient transform adapted from speech, used for recognition by iris texture.

The final session focussed on face verification with the first two papers describing how linear discriminant analysis can be deployed to good effect – the first by Surrey and the latter by IDIAP, Switzerland, analysing the demanding BANCA database. The final paper concerned the effect of conditioning likelihoods on verification performance, and came from Southampton.

As ever, the accommodation, the excellent sandwiches and the papers led to spirited debate, which is good. I suspect it was rather too spirited on the last paper when one attendee claimed to have published it previously. I have seen this happen a few times now and I don't like it, mainly since it leaves a student apparently harpooned at the lectern with no opportunity to check the allegation. I did check on return and the claim was erroneous, but my main concern is whether we can adopt an approach that stifles unjustifiable comments like that but welcomes justifiable ones. My suggestion is that the chair asks for a copy of the paper and if one cannot be provided then rules the comments out. Such claims should not happen at peer reviewed international conferences, but I have seen them occur there too. Occurrence is likely to increase as research arenas get more trampled so it would be good to see a consensus on appropriate procedure, and this is only one of a number of possible suggestions.

But debate is good, as that is what research is about. The BMVA meetings give opportunity for that debate and in a very efficient and welcome format. The BMVA Symposium on Biometrics was well worth the day trip. Thank you, Dr Cootes, for organising and chairing it all!

Professor Mark S. Nixon
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Meeting on Spatio-temporal Image Processing

The BMVA meeting at the end of March chaired by Dr Adrian Hilton and Prof. Mark Nixon was well attended with about 60 people present. The keynote talk by Professor Andrew Blake from Microsoft was a highlight of the day. Professor Blake gave a brief tutorial on conditional density propagation. Following this he showed how these ideas could be extended and used in applications such as segmentation and the removal of offending objects from photographs while blending into the background. (Just the thing for jilted ex-spouses!)

In all, nine oral presentations were given in addition to the keynote speech, two of which were given by visitors from overseas research groups. A brief overview of the presentations follows. In the pre-lunch session, Li-Qun Xu from BT presented a scheme for removing shadows and highlights from images and a temporal template-based tracker for tracking of multiple objects in outdoor scenes. Tao Xiang from Queen Mary University of London demonstrated the construction of a scene vector as a cumulative histogram of event classes in a motion sequence. Using the vector significant scene changes may be detected and motion sequences can be automatically decomposed. The session was closed by David Thirde from Kingston University, who outlined a method for segmentation using a two-tier hierarchy. Objects are first roughly located and then accurate segmentation at a pixel level was applied. Spatial-chromatic Gaussian models are used at both levels, and a Hotelling transform is used on the sub-object features to locate them in the co-ordinate system of the parent object and obtain more accurate segmentation.

After a break for lunch, John Collomosse from Bath University outlined a method for generating cartoon like images from video sequences. By treating the motion sequence as a 3D voxel image when applying a colour flattening algorithm, annoying artefacts like flicker were eliminated. Norman Goldstein from the NASA Ames Research Center addressed the issue of finding the absolute orientation of a camera. Christof Stock from University of Technology in Graz presented their Augmented Reality project. Chessboard markers assist in localisation of the camera. They continually update the location of the camera on a frame-by-frame basis using a combination of an accelerometer-gyroscope setup for coarse adjustments and stereo point pairs for fine adjustments and to eliminate drift in the gyroscope.

In the final session for the day after tea, Song Hu from UCL showed how a person's 3D pose could be tracked by using corresponding silhouette moments from video sequences. Peter Myerscough from University of

Southampton presented a method to extract feature points and their velocities using phase congruency. Nicholas Apostoloff from Oxford University discussed the extraction of foreground objects from images using an alpha mask. A smooth transition is made in both the spatial and temporal domains. This allows small features to be preserved.

In addition, nine posters were displayed during the tea and lunch breaks by delegates from various Universities around the UK. The question and answer sessions about the posters during lunch were useful to all the presenters I spoke to. Many thanks to the organisers for an enjoyable and educational meeting.

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EMVA Launches New Internet Site

The European Machine Vision Association (EMVA) has launched its new internet site www.emva.org. Apart from information about EMVA itself, the site has a *Search for Products & Solutions* section, a *Career Network*, an *EMVA Bookstore*, a *Link* to further interesting machine vision related websites, and an *Events* section giving a broad overview of relevant events, trade fairs, exhibitions and conferences in the area of machine vision. There is also a *Database* section with a document pool for case studies, product reviews, market data and general machine vision resources provided by the members of EMVA.

Patrick Schwarzkopf
EMVA
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2nd EMVA Business Conference, 2004

On 21/22 May eighty executives and technical experts of the machine vision industry from 17 countries attended the 2nd EMVA Business Conference in Budapest. Without any doubt EMVA has established a unique European networking platform one year after its foundation in Barcelona.

The conference offered a wide range of topics focusing on business, technical and legal issues. The attendees discussed how to sell and invest in the different (new)

European countries and how to ensure quality in machine vision. Other presentations such as the development of the different camera interfaces, software offshore outsourcing or the success story of freeing the machine vision industry from the Lemelson Partnership Patents inspired the audience to ask a lot of questions.

The conference also provided an excellent opportunity to assess the achievements of EMVA in the first year of its existence. The new EMVA website, the "Standardization" and "Market Data" working groups and 60% membership increase were positively received.

Last but not least, the participants of the conference all agreed about Budapest being a perfect choice for hosting the 2nd EMVA Business Conference. The Danube Cruise Gala Dinner was a further highlight setting the stage for more networking activities.

The conference proceedings are available on CD ROM at the price of €75.00.

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IEE VIE European Workshop on the Integration of Knowledge, Semantic and Digital Media Technologies

25–26 November 2004, Royal Statistical Society, London

CALL FOR PAPERS

Chairpersons

Paola Hobson, Motorola Labs, UK
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Ebroul Izquierdo, Queen Mary, University of London
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Background

The convergence of knowledge, semantic and digital media technologies is becoming crucial in the production of new aesthetically appealing, self-adaptive and perceptually richer content. The interlinking of these research fields is fostering development of underlying – and yet completely hidden to the user – technology and workflows to allow for a constant supply of personalised multi-media content for all possible usage scenarios and user-devices. These

technologies will be the pre-requisite to allow for optimal multi-media support of digital communication, leisure time and the evolution of new highly interactive forms of entertainment. They will make it possible to blur the edges between personalised and mass produced content by enabling considerably more advanced forms of digital media creation and delivery. In terms of new forms of digital media the ability to create a compelling end-user experience is key. This understanding has led to a vision of multidisciplinary research driving several national and international scientific forums, co-operative actions and research projects.

This workshop addresses National and European Commission funded IST projects related to integrative research targeting the engineering of new knowledge-based forms of digital media systems. It intends to bring together those forums, projects, institutions and individuals engaged in research aimed at the integration of Knowledge and Content processing technologies, and link them with industrial research and development engineers who could exploit the technology emerging from the projects. The event is sponsored by the EU IST programme and will be held at the Royal Statistical Society in the city of London.

Topics of interest include, but are not limited to:

- Knowledge driven multimedia content analysis and understanding
- Intelligent media creation and processing tools
- Scalable and robust content representation and transmission
- Intelligent resource management and transmission control protocols
- Studies on quality of experience and user personalization for multimedia applications
- Content, user and network aware media engineering
- Knowledge based inference for semantic media annotation
- User adaptation and relevance feed-back
- Multimodal processing.

In co-operation with European IST projects, the workshop will feature four special panel sessions to

present, demonstrate and discuss achievements and visions of ongoing projects.

Paper Submission

Prospective contributors are invited to submit extended summaries of not more than four pages using the on-line system at: <http://www.elec.qmul.ac.uk/ewimt>

Important Dates

- Submission of extended summary: 27 Aug 2004
- Notification of acceptance: 20 Sept 2004
- Submission of camera-ready papers: 10 Oct 2004.

Relevant websites:

<http://www.elec.qmul.ac.uk/ewimt/>
<http://www.iee.org/events/ewimt04.cfm>

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Book for Review

The following book is still on offer for review. At first glance it seems to me an excellent volume and a welcome addition for *someone's* bookshelf – both readable and a valuable reference. As always, it will be sent out on a first come–first served basis, so contact me immediately if you would like to review it. (If you are doubtful, go for the *quick view* option, and then return the book to me if you would rather not do the review.)

F Mokhtarian and M Bober. *Curvature Scale Space Representation: Theory, Applications & MPEG-7 Standardisation*. Kluwer Academic, 2003, ISBN: 1-4020-1233-0.

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