BMVA News

BMVA News [1] 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 10 June 2012.

Contents

Editorial: *What's in a Name?*

It does not take many hours studying the volume number of this issue of BMVA News to realize that BMVA was founded in 1990. The inclusion of 'Machine Vision' in the BMVA title reflects the major concern in those days of vision being of value for industry – particularly for carrying out automatic inspection and automatic assembly. However, in the USA, the term 'Robot Vision' had some currency through the fact instilled by Asimov and others that the world will eventually be controlled by some combination of humans and robots. For example, Horn's early book *Robot Vision* was highly influential in our subject for some years after it was published in 1986. So overall, biological vision on the one hand, and robot/machine vision on the other, formed the more distinct dividing line. Yet in the UK, a tension developed between 'Machine Vision' and 'Computer Vision', the latter tending to reflect the very many non-industrial applications of vision and the wider science of what is possible in vision, rather than the nuts and bolts of how to do it in real time in real situations. (Some might even argue that this represented a class distinction between clean science and dirty engineering.) Another influence was the fact that early on, the subject was taught in Engineering departments, but later it was increasingly covered by CS departments, so a natural migration towards the title 'Computer Vision' developed. However, not everyone embraced these distinctions. I remember talking to Rita Cucchiara (University of Modena, Italy) about this in 2005, and she remarked that in Italy they had no such problem – they simply called the subject 'Visione Artificiale'.

Today, a large proportion of the originally envisaged artificial vision tasks have been solved, and the science of vision has matured considerably, to the extent that the

subject has not only been able to embrace all the mathematical complications of 3D perspective but also has become hugely more rigorous, controlled and subject to careful validation and evaluation. Gone are the have-a-go ideas of yesteryear and unprincipled *ad hoc* algorithms. With all this change, vision is now looking to new vistas. One such will almost certainly be robot control – a trend that is becoming evident with UAV (drone) aircraft. But in parallel with this trend is the rapid development of quite large numbers of novel robot systems. One can scarcely open an issue of IEEE Spectrum or other similar magazines or websites (even that of the Royal Institution) without seeing news items such as "Boston Dynamics' cheetah robot gallops at 18 mph", "EPFL's hybrid jumping and gliding robot", "UCSD's latest ball-flinging robot is 100% more flingy", "What DARPA's robot ostrich will look like", "How Google's self-driving car works", "Robot baby learns to crawl", and yet other items on skyscraper window-cleaning robots.

With all these robots being launched on the world, one is in *some* cases inclined to ask, "What, not *another* robot?", "Why are people playing all these games with robots?", or "Why don't they do something useful for a change?". Yet, (a) these applications form a useful way out of the stagnation of thinking on robots that has pervaded us for some 20 years, (b) they provide ways around important bottlenecks of thinking on robots (e.g. capability for maintaining balance in real time), (c) via their playfulness they represent means of filling in interesting gaps in robot technology – all these points being to the good. Yet the advances they show tend to be in *mechanisms* rather than visual sensing and interpretation, whereas the latter will surely be key to future progress. However, my own worry is that we are still a million miles away from getting robots that can intervene in the tasks that really matter, such as in the broken nuclear reactors of the recent Fukushima disaster, for which it is vitally important to replace humans at the front end. So there is plenty of work ahead for us as robot vision scientists in this key area, though to take up our place in this new world, we will need to collaborate in a substantive way with 'mere' robot technologists and help solve the *real* problems. All this could matter more than we might think, as policy is poised to move away from potentially dangerous nuclear reactors to carbon-based fuels that constitute the main cause of global warming.

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AVA/BMVA Meeting on Biological and Computer Vision

The AVA/BMVA spring meeting on Biological and Computer Vision will be held at Microsoft Research, Cambridge on 22 May 2012.

Biological and machine vision share much common history (e.g. Marr), and each discipline has benefited enormously from findings and techniques from the other. The aim of this meeting, organised jointly by the AVA and BMVA (which specialise respectively in biological and computer vision) is to reignite conversations between the two fields.

We particularly encourage submissions that will be of potential cross-disciplinary interest to both human and computer vision. However, regular human vision AVA submissions, as well as computer vision techniques likely to be of interest to a general audience, are welcome.

250-word short abstracts can be submitted via the conference website. For the most part, abstracts will be reviewed and published in the journal Perception and should therefore describe original work. Authors may choose to present less original cross-over work or to withhold their abstract from publication in which case they should choose the "no publication" option when submitting.

You can submit an abstract from the AVA "call" page or directly from this link:

http://www.theava.net/conf/index.php?conference=Meeting&schedConf=avabmva&page=author&op=submit&requiresAu

Deadline for abstract submission: 6 April 2012

Invited Keynote Speaker: Aude Oliva (MIT)

Registration fees

Registration fees depend on whether you are a member of the AVA, the BMVA or neither. (AVA and BMVA have different funding models, hence the different prices.) See the registration link:

http://www.theava.net/conf/index.php?conference=Meeting&schedConf=avabmva&page=schedConf&op=registration

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BMVC 2012 will take place at the University of Surrey on 3–7 Sept 2012.

Final Call For Papers

http://bmvc2012.surrey.ac.uk/

The British Machine Vision Conference (BMVC) is one of the major international conferences on machine vision and related areas. Organized by the British Machine Vision Association, the 23rd BMVC will be held in Guildford, UK, at the University of Surrey.

Authors are invited to submit full-length high-quality papers on image processing and machine vision. Papers covering theory and/or application areas of computer vision are invited for submission. Submitted papers will be refereed on their originality, presentation, empirical results, and quality of evaluation. Topics include, but are not limited to:

- Document processing and recognition
- Image processing techniques and methods
- Model-based vision
- Motion, flow and tracking
- Object and activity recognition
- Person, face and gesture tracking
- Segmentation and feature extraction
- Statistics and machine learning for vision
- Stereo, calibration, geometric modelling and processing
- Texture, shape and colour
- Video analysis
- Vision for quality assurance, medical diagnosis, etc.
- Vision for visualization, interaction, and graphics.

All papers will be reviewed **doubly blind**, normally by three members of our international programme committee. Please note that BMVC is a single track meeting with oral and poster presentations and will include two keynote presentations and two tutorials.

Conference Chairs:

Dr John Collomosse
Dr Krystian Mikolajczyk
Professor Richard Bowden

Important Dates

Abstracts due: 26 April 2012
Full paper submissions due: 3 May 2012
Deadline for return of reviews: 14 June 2012
Area chair recommendations due: 2 July 2012
Author notifications: 6 July 2012
Camera ready papers due: 1 August 2012
Conference: 3–7 September 2012

See http://bmvc2012.surrey.ac.uk/ for more details.

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Metamorphosis of *Pattern Recognition Letters*

Pattern Recognition Letters has exactly paralleled PAMI as they were both introduced in 1980, and both have become major journals in Machine Vision. However, there are a number of competing journals – not least those now within the Elsevier empire, which includes not only PRL but also *Pattern Recognition* and *Image and Vision Computing*. Mergers and historical developments can lead to odd situations of this type where there is competition even within the same publisher's ambit. Hence it is natural that PRL should rethink its position. Clearly, PRL started life as a letter journal (though one would hardly know this from the lengths of many of its papers). However, the chopper is about to come down and PRL is to revert to its original status as a letter journal, with papers of maximum length ~7 pages (5000 words). At least that is the intention, and we shall see whether it turns out like that in practice. I am mentioning this so that readers will be warned and will think exactly where they want to publish their papers, taking into account length, speed of publication and other relevant factors.

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16th Annual MIUA Conference

The 16th annual MIUA Conference will be held in Swansea on 9–11 July 2012.

Call for participation: registration open, May 2012

MIUA is the principal UK forum for communicating research progress within the community interested in image analysis applied to medicine and related biological science. The meetings are designed for the dissemination and discussion of research in the expanding area of *medical image understanding and analysis*. This area is notable for its range of research communities, and the meeting aims to encourage the growth and raise the profile of this multi-disciplinary field by bringing together the various communities.

MIUA 2012 is a single-track conference with oral and poster presentations. All accepted contributions will be published and the full proceedings will be available to delegates at the conference. It is intended to publish selected papers in the Annals of the BMVA.

This 2012 edition adopts a new format with a half-day **conference tutorial**, which should be particularly beneficial to research students and early career researchers working in the field. Professor Nikos Komodakis (University of Crete) will deliver the tutorial on 9 July 2012 on the topic "Discrete graphical models for medical image analysis: inference and learning methods".

Paper submission

Technical contributions are sought in the usual imaging areas, and the following medical ones:

- Analysis of Cellular, Cardiac and Functional Images
- Computer-Aided Pathology/Radiology/Surgery
- Decision Support
- HCI and Image Guided Intervention
- Intelligent Imaging Systems
- Multi Modality
- Novel Imaging Methods and Data Fusion
- Systematic Testing & Validation
- Tissue Perfusion
- Virtual Reality
- Visualisation.

Keynote speakers

- Professor Alison Noble (Oxford University, UK)
- Professor Ge Wang (Virginia Tech, USA)
- Professor Daniel Alexander (UCL, UK).

Important dates

Paper submission:	30 March 2012
Notification of acceptance:	7 May 2012
Camera ready paper submission:	21 May 2012
Early registration deadline:	**1 June 2012**
Conference tutorial:	9 July 2012
Main conference:	10–11 July 2012

Conference website

For further details on all aspects of the conference including details of the invited speakers and the tutorial presenter, see the conference website:

http://miua2012.swansea.ac.uk

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KTN Intelligent Imaging Event at the IET

The Imaging Sub-group of the Electronics, Sensors & Photonics KTN would like to invite you to the 4th edition of its flagship event, the Intelligent Imaging Programme, on 26 April at the IET, Savoy Place, London WC2R 0BL.

Imaging is ubiquitous in many important sectors (security, medical, life sciences, creative media, earth observation) and the UK has been at the forefront of advances in image capture, processing and display.

Full details on the agenda and registration can be found at:

https://connect.innovateuk.org/web/4th-intelligent-imaging-programme/agenda

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Krystian Mikolajczyk Promoted to a Readership

Congratulations to Krystian Mikolajczyk on his promotion to a Readership at the University of Surrey!

Krystian is a member of the Centre for Vision, Speech and Signal Processing at the University of Surrey. He received a PhD degree in Imaging, Vision and Robotics from the Institute National Polytechnique de Grenoble in 2002 while carrying out research at INRIA Rhone-Alpes in France. He then worked as a research assistant at the University of Oxford (2003–4) and Darmstadt University in Germany (2005), before joining the University of Surrey in 2006 as a Lecturer. He has more than 60 publications in the area of image and video recognition, large scale retrieval, efficient extraction of invariant descriptors, and fast matching. His Hessian-Affine and Harris-Affine interest points as well as GLOH descriptors are widely used in various computer vision areas. His research team successfully competed in national and international contests with winning results in MoD Grand Challenge, TrecVID, ImageCLEF, Pascal VoC. He is a programme co-chair of BMVC 2012 and AVSS 2013. He serves on the programme committees of various national and international conferences and has led a number of EU and UK sponsored research projects.

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Andrew Gilbert: BMVA's New Symposium Organiser

Hi, My name is Andrew Gilbert. I am taking over the role of BMVA Symposium Organiser from Dimitrios Makris. I have been a Research Fellow since 2008 at CVSSP, University of Surrey, and have worked on EU and EPSRC projects involving navigating robots and cars, as well as researching how best to organise your home photos. My main areas of work include camera surveillance, action recognition and unsupervised image clustering.

Having arranged a meeting a couple of years ago I am looking forward to hearing about the meetings people would like to organise, and also trying to arrange and coordinate them!

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BMVA PhD Summer School

BMVA runs an annual Summer School aimed at PhD students in their first year, though it is potentially beneficial to other researchers at an early stage in their careers. The 2012 Summer School will take place at the University of Manchester on 25–29 June. It will consist of an intensive week of lectures and lab sessions covering a wide range of topics in Computer Vision and Digital Image Computing. Lecturers are researchers from the most active Computer Vision research groups in the UK.

Some quotes from delegates who attended the 2011 Summer School: *"Nice overall atmosphere to get in touch with people working in a similar/related field"*. *"Lecturers did a very good job in bringing the topics across"*. *"Thanks for organizing! I've met cool people and learnt a lot"*. *"The organisation was great, flawless, and the staff were very nice and helpful"*.

In addition to the academic content, the Summer School provides a networking opportunity for students to interact with their peers, and to make contacts among those who will be the active researchers of their own generation.

To find out more, follow the link to the Summer School pages from the BMVA website: http://www.bmva.org/

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IET Image Processing Conference 2012

Call for participation

This conference will be held in Westminster University, London, UK on 3–4 July 2012. It will include papers on topics related to the generation, processing, analysis and communication of visual information.

Conference Chairs

Professor Sergio A. Velastin (Kingston University): *Conference Chair*. Professor Mike Fairhurst (University of Kent): *Technical Chair*. Dr Farzin Deravi (University of Kent): *Editor-in-Chief, IET Image Processing Journal*.

Further information and registration details

The conference is now open for registration. For further information and details on how to register at the conference, see the following website:

> http://www.theiet.org/ipr

> Sebastian Ives
> IET Event Producer
> email: sives@theiet.org

Book on *Computer and Machine Vision*

E.R. Davies, *Computer and Machine Vision: Theory, Algorithms, Practicalities*, Academic Press, 4th edition, April 2012, ISBN: 978-0-12-386908-1, pp. xxxvi + 871
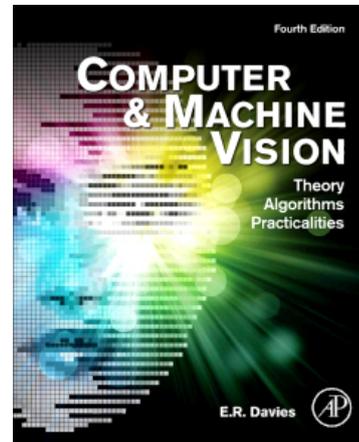
This well-known book has just been published in a fourth edition – albeit with a new title indicating much enlarged scope and content; it has been completely updated with the inclusion of over 1000 references.

It has two entirely new chapters, entitled "Surveillance" and "In-vehicle vision systems": these form a contrast with earlier applications chapters relating to automated visual inspection.

Other key features include:

- Necessary mathematics and essential theory are made approachable by careful explanations and well-illustrated examples.
- Updated content and new sections cover topics such as human iris location, image stitching, line detection using RANSAC, performance measures, and hyperspectral imaging.
- The 'recent developments' section now included in each chapter will be useful in bringing students and practitioners up to date with the subject.

Further details including Contents can be found at:

> http://store.elsevier.com/Computer-and-Machine-Vision/E_-R_-Davies/isbn-9780123869081/

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