

BMVA News

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

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<http://www.bmva.org/>

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 10 September 2011.

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Editorial: *Promise, Progress, Prizes and People*

The old English saying goes “There’s nowt so queer as folk”, and certainly there’s more than a grain of truth in it – and in the more recent version “There’s nowt worse than folk”. Anyway, my point is not that people are awful but that they are the spice of life, all different and all contributing to the community in their different ways.

That brings me to Don Braggins, whom I suspect that not many readers will have known, but I felt I should draw readers’ attention to his life and work, as he has in one way or another influenced the machine vision community for all of us, but has now sadly passed away after a long illness. His contribution was as a machine vision consultant who was in constant contact and interaction with the UK machine vision industry, and had collected some 50 companies under his UKIVA (UK Industrial Vision Association) umbrella – the latter being the hard-nosed practical counterweight to the BMVA’s academic, blue-sky existence. In fact, the two associations have played a ‘dance macabre’ with each other, which I say rather jokingly, as it has not been a fight to the death so much as a symbiosis. Anyway, Don was a founder member of the UKIVA and became its Director in 1995, a post he held for 14 years (a fuller story appears on p.8). During this period he oversaw the PPMA transition and also did a lot of valuable work with the European Machine Vision Association. He had many other functions that BMVA members might have learnt about, and in what he did and aimed to do for the community he was exceptional. I personally value having worked with him for some years on the IET *Vision and Imaging* Professional Network, and in several other ventures.

Another person who has been influential over time is Mike Duff (still with us, I hasten to say), who led the British Pattern Recognition Association from the time in 1975 when I first tried to get in touch with others working in the area, until 1990 when it amalgamated with the Alvey Vision Club and metamorphosed into the BMVA. Mike was a marvellous national leader as he not only knew everyone who was working in the area in the UK but was also able to introduce you to just about everyone at international conferences like ICPR.

The famous (late) Azriel Rosenfeld was another such person, who was not only good natured and encouraging but also had the interesting characteristic of being cavalier and 'have a go'. If anything needed trying out, he always seemed to be doing it already, out of a spirit of adventurousness and pioneering zeal, and what is more he encouraged you to live the same way. But in those days (the 1980s) the subject was young. Now we have lived through an intense period of mathematical and probabilistic rigour as machine vision has been dragged kicking and screaming into the New Millennium. However, it has been more fun that all this rigour might suggest. For look what happened to Machine Vision: it got into bed with computer games and graphical processor units and metamorphosed again. See for yourself the interesting article (p.2) on the use of GPUs for speeding up vision algorithms (not, I might say, without huge slurps of electrical power to wash down all the effort); see also (p.4) the fascinating story of Kinect and its prize – and note once again the intellectual leadership of Andrew Blake FRS. Of course, one must also praise the other members of the UK team who made it all possible – Mat Cook, Andrew Fitzgibbon, Toby Sharpe and Jamie Shotton. Indeed, one has to be proud that the UK tail of a US company can wag the dog in such an effective way. Ultimately, I argue, it all comes down to the personages involved, and their imagination.

I have seen it claimed for some time that the UK is nowadays only really engaged in service industries, our involvement with manufacture of cars, motorbikes, aeroplanes, electronics, integrated circuits, and even robots being very much a thing of the past, and our involvement in engineering only being at the beck and call of the US and Japan – all the real research and real thinking being done abroad in the parent companies. Yet our machine vision work is second to none, and if all we now need in order to produce implementations is a computer plus a graphics engine, concentrating on software may be no bad thing. Oddly, in recent years it has seemed that electronics hardware for real time vision is a specialism that few possess, but now those days are coming to an end: for GPUs and of course (continued on p.10)

Using GPUs for Vision

This one-day Symposium was held on 18 May 2011 at the British Computer Society. Its aim was to discuss the use of Graphics Processing Units (GPUs) for machine vision and image processing tasks. Nine presentations were made, and it was clear that GPUs are being used in a wide variety of applications.

Applications covered topics such as real-time detection of facial micro-movements (who knew?); stereo matching for intelligent vehicles; real-time analysis of ultrasound imagery; simulation of V1 neurons; face detection in high definition video streams; segmentation and registration of carpal bones. Victor Prisacariu from Oxford University discussed progress in the creation of a generic GPU toolset.

A live demonstration was given by Richard Newcombe from Imperial College showing dense reconstruction of the table in front of him using a single camera. I think I saw a similar demonstration 3 years ago at the BMVA summer school (without a GPU and not dense) and it was interesting to see the considerable progress that has been made in this area.

Power consumption was mentioned by a number of presenters – GPUs are fast but need feeding so seem a bit impractical if power is a limitation in the application being considered.

Attending these one day meetings is recommended as they invariably contain interesting talks but you need to book early – the GPU meeting was fully booked.

For reference, a full list of the talks is given below:

- *Using GPU Acceleration for Real-time Detection of Facial Micro-movements*, K. Emrith, L. Broadbent, L.N. Smith, M.L. Smith (University of West of England)
- *Creating Generic GPU Open Source Tools*, V. Prisacariu, C.Y. Ren, I. Reid (University of Oxford)
- *Progress on GPU Bundle Adjustment*, R. Salas-Moreno, H. Strasdat, A. Davison (IC)
- *Robust Stereo Matching for Intelligent Vehicles*, A. Miron, S. Ainouz, A. Rogozan, A. Benschrair (INSA Rouen, France)
- *Live Dense Reconstruction*, R. Newcombe, A. Davison (IC)
- *A Real-time Biofeedback Application Using Ultrasound Imaging on the GPU*, P. Harding, N. Costen, A. Nisbet, J. Darby (Manchester Metropolitan Univ.)

- *Simulations of VI Neurons and Applications to Object and Logo Recognition*, A. Varnavas, J. Ng, A.A. Bharath (KCL, Cortexica Vision Systems, IC)
- *Low-latency face detection in high-definition H.264 video streams using GPUs*, D. Oro, C. Fernandez, J.R. Saeta, J. Hernando, X. Martorell (Herta Security and Universitat Politecnica de Catalunya, Spain)
- *Integrated Framework for Simultaneous Segmentation and Registration of Carpal Bones Accelerated by GPU*, X. Chen, J. Graham, C. Hutchinson (University of Manchester/ University Hospital – Walsgrave Campus).

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BMVC 2011 – *Call for Participation*



We invite you to register for the 22nd British Machine Vision Conference which will be held in Dundee, Scotland on 29 August–2 September 2011. Detailed instructions will be found on the conference website:

www.computing.dundee.ac.uk/bmvc2011

BMVC received 419 valid submissions this year. Once again, BMVC will be truly international; three-quarters of the submissions had no author based in the UK. Each paper received three reviews based on which area chairs made recommendations. We expect decisions on papers to be available on 28 June. Camera-ready submissions are due on 1 August.

The main conference programme consists of single-track oral presentations and poster sessions on 30 August, 31 August and 1 September. There are two invited talks, a pre-conference tutorial on the afternoon of 29 August and a post-conference student workshop on 2 September.

Invited Speakers

- David Fleet, University of Toronto, Canada, “Tracking and Understanding Human Motion”
- Nikos Paragios, École Centrale de Paris / INRIA, “Shape Grammars and Procedural Modeling towards Large Scale 3D Modeling and Reconstruction”.

Tutorial

- Matthew Blashcko, University of Oxford, “Structured Prediction and Inference in Computer Vision”.

Social Events

Delegates will be welcomed at a civic reception to be held at Discovery Point on the evening of Tuesday 30 August. They will have the opportunity to tour Captain Scott’s ship, the RRS Discovery. The conference banquet will take place on the evening of Wednesday 31 August.

We look forward to welcoming you all to Dundee!

Jesse Hoey, Stephen McKenna, Emanuele Trucco
(Conference Chairs)

3rd BMVC Postgraduate Workshop – *Call for Papers*

2 September 2011

The 3rd British Machine Vision Conference (BMVC) Postgraduate Workshop will take place in Dundee on Friday 2 September, the day after the main BMVC conference. This workshop has now become a regular feature of BMVC. It gives research students in computer vision an opportunity to network and start collaborations at an early stage in their research careers. Registration is free to students as well as to BMVC 2011 delegates.

Postgraduate students studying in the UK are invited to submit full-length high-quality papers of which they are the first author. All papers will be reviewed and selected for either oral or poster presentation. Detailed instructions for authors are available on the workshop website. All accepted papers for the workshop will be distributed electronically with the main BMVC conference proceedings.

Paper submissions and topics

As with the main BMVC conference, topics include but are not limited to:

- Biomedical applications
- Document processing and recognition
- Image processing techniques and methods
- Model-based vision
- Motion, optic flow and tracking
- Person, face and gesture tracking
- Segmentation and features
- Statistics and machine learning for vision
- Stereo, calibration and geometry
- Texture, shape and colour
- Video analysis
- Vision for visualization and graphics

Important dates

Submission deadline: 17:30 on 18 July 2011
 Notification of acceptance: 30 July 2011
 Camera ready papers: 13 August 2011
 Workshop: 2 September 2011

Workshop chair: Jianguo Zhang, University of Dundee
Local committee: Khai Sing Chin, Adria Perez-Rovira, Sebastian Stein, Roy Wang, Kristis Zutis
Workshop venue: Wolfson Theatre, Queen Mother Building, School of Computing, University of Dundee, DD1 4HN, Scotland, United Kingdom

Further information (website and contact email):

[www.computing.dundee.ac.uk/
 bmvc2011/workshop.php](http://www.computing.dundee.ac.uk/bmvc2011/workshop.php)
bmvc2011@computing.dundee.ac.uk

BMVA Student Bursaries

Students who wish to learn about BMVA's scheme of Travel Bursaries for attending International Conferences should refer to the BMVA website at:

<http://www.bmva.org/w/bursaries>

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Cambridge Engineers 'Kinect' with Judges to Land UK's Most Valuable Engineering Innovation Prize

A team of Cambridge engineers are celebrating being announced as the winners of the £50,000 Royal Academy of Engineering MacRobert Award, for engineering a solution which saw computer giant Microsoft claim a Guinness World Record. Sir Garth Morrison, Chairman of the MacRobert Trust, presented the team with a £50,000 prize and the solid gold MacRobert Award medal at the Academy's Awards Dinner at London's Guildhall on Monday 6 June.

The team members sharing the prize are: Team Leader Professor Andrew Blake FREng FRS; Software Development Engineer Mat Cook; Principal Research Scientist Dr Andrew Fitzgibbon; Senior Research Software Development Engineer Toby Sharp; and Research Scientist Dr Jamie Shotton – all based in Cambridge.

The five engineers from Microsoft Research won the award for their machine learning work on the human motion capture in Kinect for Xbox 360, allowing controller-free gaming and opening up a whole new future for human interaction with computers. In the two months after its launch in November 2010, Kinect sold 8 million devices, making it the fastest selling consumer electronics device in history.

The Cambridge team first became involved with the project in September 2008 after receiving a request for help from colleagues in the US who were developing controller-free computing. Before Kinect, equipment for motion-capture was commercially available but required instrumentation of the moving human subject, in the form of markers placed on all body joints. Previous attempts at markerless motion capture would fail under rapid body motion, meaning an effective system was not available.

The Microsoft Research laboratory applied machine learning techniques to build a capability to analyse depth images independently. It classified pixels in each depth image as belonging to one of 31 body parts, drawing on previous work from the Cambridge laboratory on the recognition of objects in photographs. The classifier was trained and tested using a very large database of pre-classified images, covering varied poses and body types. It was engineered so efficiently that it uses only a fraction of the total available computing capacity – essential to the practical success of Kinect.

While gamers across the globe have benefitted greatly from the team's innovation, the future uses of 'Kinect'

style technology seem endless. Beyond gaming, Microsoft has announced the planned launch of the Kinect software development kit (SDK) for Microsoft Windows, first for academics and hobbyists and later on a commercial basis. This will broaden its scope to the control of computers and other machines, at a distance, by speech and by gesture, making technologies more readily accessible to the people who use them. For example, surgeons could benefit – Kinect could enable them to use a hands-free computer in the operating theatre.

John Robinson FREng, Chairman of the MacRobert judging panel, said: “Everything about Microsoft Research’s Kinect project makes it a worthy winner of this prestigious award. Yet again, British engineers have solved a seemingly intractable problem that stumped the rest of the world – motion capture in real time has made Kinect hugely successful and what was originally developed as a game is now poised to revolutionise the way we use computers in the future.

“Professor Blake and his team have taken Kinect from a first speculative idea to a retail product in just two years and their technical knowledge and achievements are quite outstanding. This is world-beating engineering by a world-leading team based in the UK. Everybody thinks Microsoft is American – but this superb engineering was done by British engineers at their lab in Cambridge. As a British engineer, I feel proud of them.”

Professor Blake said: “On behalf of the entire team, we are absolutely delighted to receive the MacRobert Award. We were certainly up against stiff competition and I commend our fellow finalists for their excellent entries.

“For our work on machine learning for Kinect, and indeed the field of computer science, to be recognised by the top engineering award in the UK, makes us very proud. I would like to thank the team involved at Microsoft Research, our colleagues in the Xbox team at Microsoft, and the Royal Academy of Engineering, for making it possible for us to receive this prestigious honour.”

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Royal Academy of Engineering
<http://www.raeng.org.uk/news/releases/shownews.htm?NewsID=658>

Report on AFGR 2011

The 9th biannual IEEE Conference on Automatic Face and Gesture Recognition (AFGR) was held at the Doubletree Resort in beautiful Santa Barbara, California, USA, on 21–25 March 2011. With more than 270 registrations, conference attendance exceeded all expectations. Out of more than 240 paper submissions a total of 107 (44% acceptance rate) have been accepted. 38 of them were presented orally and 69 in form of a poster. A wide range of topics was covered, from face detection, tracking, modelling and recognition to hand gesture and human behaviour understanding.



Fess Parker's Doubletree Resort in Santa Barbara, California, USA.

Monday and Friday were filled with 5 Workshops and 3 Tutorials. On Monday morning I attended the IEEE International Workshop on Social Behavior Analysis (SBA), which comprised several interesting talks on high-level behaviour understanding. Javier R. Movellan from UCSD proposed in his very convincing invited talk the use of stochastic optimal control to “go beyond simple behavioural analysis and synthesis”, and inverse optimal control as a methodology for intention learning and anticipation. In his short tutorial on Face Analysis Using Local Binary Pattern Variants, Abdenour Hadid from University of Oulu gave not only an introduction to the basic LBP approach but also pointed out that a vast amount of extensions exist in the literature, e.g. to make descriptors rotation invariant or to apply LBP to colour images, videos or to problems such as hand tracking. The second International Workshop on *Facial and Bodily Expressions for Control and Adaptation of Games* introduced a series of creative multimodal interaction and collaboration techniques. Evan Suma from ICT-USC gave a very lively invited talk on “Integrating full body interaction with virtual environments and serious games”, demonstrating projects on combining virtual reality with many different types of sensor and applications.

The three-day single track main conference included 3 invited keynote talks, 3 special sessions, poster spotlights, a doctoral consortium and several technical demonstrations and exhibits.

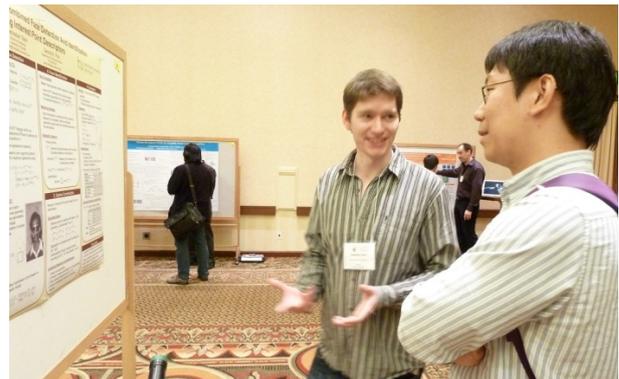
Tuesday commenced with the keynote speech “Body part recognition: making Kinect robust” of Jamie Shotton from Microsoft Research Cambridge, explaining the body part tracking module in the Kinect. Human pose estimation is performed on a frame by frame basis, where pixels are being separately associated with a particular body part based on decision forests using differences in depth to nearby pixels as features. This discriminative model is trained on a huge collection of training images showing people of very different sizes in a large number of poses to account for robustness.



Jamie Shotton explaining body part recognition in the Kinect.

Interestingly, in “Estimating human 3D pose from time-of-flight images based on geodesic distances and optical flow”, Loren Schwarz from Munich Technical University presented a very different approach to a very similar problem and tied with his paper for the outstanding paper award. Geodesic distances from the body’s centre of mass are calculated based on a pixel graph and are used to localize body landmarks. If landmarks are occluded, their positions are approximated with optical flow. In contrast to the previous approach, this method does not rely on vast amounts of training data but requires pose initialisation. In the motions and actions session, Yui Man Lui from Colorado State University introduced “Tangent Bundle for Human Action Recognition” using manifold charting as a method that requires no training and shows competitive results to the state-of-the-art in gesture recognition. Olusegun Oshin from the University of Surrey described a markerless approach to action recognition similar to point light displays, through the use of interest points. My personal highlights of the first poster session include “Real-time avatar animation from a single image”, whose presentation was accompanied by a great live demonstration, and “Adaptive discriminant analysis for face recognition from single sample per person”, which proposes a nearest neighbour approach on a reference face database to model within-class scatter of LDA. The day ended with good food and great weather at the conference reception outside.

On Wednesday, in his keynote speech on “Exploring social perception via deficits and disruptions”, Brad Duchaine from University College London presented new support for a neurologically face specific mechanism in visual perception as he ruled out all other existing hypotheses concerning face recognition deficits in a series of case studies and experiments. With “The good, the bad & the ugly face recognition challenge problem”, Jonathon Philips from NIST introduced a new face recognition database consisting of three partitions with decreasing “subject recognisability”. In the second poster session I had the chance to present my master’s project, “A new method for combined face detection and identification using interest points”. Throughout this session I received lots of positive feedback and was able to engage in very interesting discussions. This day’s social event, the conference banquet, had to be moved indoors because of bad weather. Nevertheless, the atmosphere was great and the food was delicious. The common breakfasts, coffee breaks and especially the social events provided valuable time and opportunity to meet and exchange ideas with other researchers in the field.



Sebastian Stein discussing his work during the second poster session.

On Thursday morning, Xiaowei Zhao from the Chinese Academy of Sciences proposed a new type of textural feature in “Context constrained facial landmark localization based on discontinuous Haar-like features”. With these features, the sub-regions of a Haar wavelet are separate and may partially lie outside the observation window. While training an AdaBoost framework with these features is more time-consuming, performance of facial landmark localization increases with these features compared to standard Haar features alone. During the afternoon, in his invited talk, Brendan Klare outlined the challenges of face recognition from a forensics perspective, which are in many ways very different to what is mainly being addressed in the literature. He pointed out that a correct subject at rank 50–100 would still be a good achievement “based on the nature of the application”, and that solutions to age variation, forensic sketch recognition, facial mark

detection and face recognition at a distance are more desirable in this context than improving on first rank accuracy.

Mihalis A. Nocolaou et al. tied with “Output-associative RVM regression for dimensional and continuous emotion prediction” for the outstanding paper award with Loren Schwarz et al. The outstanding student paper award went to Yuki Oka et al. for “Sparse eigentracker augmented by associative mapping to 3D shape”. More information about this year’s conference is available at

<http://www.fg2011.org/>

AFGR 2011 was a great and impressive first conference experience for me. I am very grateful to BMVA and TU Dortmund for their generous financial contribution, which allowed me to attend this very exciting and interesting conference.

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BMVA Thesis Archive

In order to promote and improve access to the large base of high quality PhD research undertaken in Computer Vision in the UK, the BMVA maintains an online repository. This provides a single source archive of all past, current and future PhD work undertaken in this area in UK academic institutions.

The service allows students to quickly and easily share the results of their work with the Computer Vision community, nationally and internationally, and it is a useful database for searching and reviewing previous PhD research work undertaken in the UK.

The real value of this service can only be realised if the UK community support the effort and so the BMVA would like to encourage all members of UK academic institutions to contribute material to the repository. Contributions are required to be in PDF format and supplements such as videos and images are welcome.

The PhD repository can be accessed through the main BMVA website (www.bmva.org). If you have any problems submitting your thesis to the repository please contact Aphrodite Galata.

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Report on ISBI 2011

ISBI 2011 was held in Chicago. The Windy city lived up to its name providing us with a bracing wind from across Lake Michigan. The conference itself was held just south of the centre of Chicago at the Hyatt Regency McCormick Place. Staying in the attached hotel it was sometimes easy to forget you were a taxi ride away from the third largest city in the USA.



View from 26th floor of the conference hotel looking north towards downtown Chicago.

This was the first time I have attended ISBI and I was pleased to have had my paper on detecting damage in vertebrae accepted for poster presentation as the acceptance rates were 18% for oral sessions and 46% for poster sessions. The conference was well organised and the cookies accompanying the afternoon coffee were of particular note.

The conference started with a morning of tutorials followed by the first of 4 plenary talks. The first of these discussed bringing high resolution imaging to challenging biomedical settings, and was given by Dr Scott E. Fraser of CIT. Following this we faced the first of several difficult decisions in deciding which oral session to attend. The usual suspects (registration, segmentation, classification and reconstruction) were all represented as well as some more specialist subjects such as diffusion imaging and wavelets. My interests pushed me into choosing registration.

Each day started with a poster session, followed by a plenary talk and 3 oral sessions. On the second day I found the plenary talk by Dr Takeo Kanade on tracking large numbers of cells particularly interesting: in a later oral session his student was able to fill in some of the technical details, which cannot be included in a plenary talk. I think that plenary talks which often link together a broad range of research or provide the ‘big picture’ are most useful to less experienced researchers such as myself.

Also on the Thursday was the student networking lunch – an event billed as opportunity to share experiences of our supervisors and studentships in complete honesty. As such we were all sworn to secrecy but I can safely say that the range of student experiences in any country or even within individual institutions is as wide as that of all students.

My own poster was presented in Friday's 8:15 am poster session. My fears that these early sessions would be poorly attended proved unfounded. Perhaps European researchers still suffering from jet lag had no problem being up so early!

The final day finished at lunch, meaning even the final sessions were well attended. As well as providing the start of a week's holiday in America I found ISBI a very useful experience. The most constructive aspects of conferences for me are discovering the questions other researchers ask about your own work, particular where they have a different background to yours. Whilst only a few presentations were directly relevant to me, understanding how my work fits into the full range of research and picking up new ideas is something that can only really be gained by attending international conferences in person.

I would like to thank BMVA for providing the travel bursary that supported me in attending this useful and interesting international conference.

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BMVA Distinguished Fellow 2012 – *Call for Nominations*

The BMVA Executive Committee seeks nominations for the *Distinguished Fellow 2012* award. This prestigious award is given to one person only each year in recognition to his/her services to the British Machine Vision community. The nominees must be distinguished researchers, based in the UK, who have contributed significantly to the field of research and the reputation of the British Machine Vision Community both nationally and internationally. Nominations, *with a few lines of rationale*, should be sent to Professor Roy Davies, Chair of the Distinguished Fellow Award Panel, by 1 September 2011.

Professor Roy Davies
Chair, Distinguished Fellow Award Panel
email: e.r.davies@rhul.ac.uk

Don Braggins Passes Away

It is with great sadness that the UK Industrial Vision Association (UKIVA) announces the death of former director Don Braggins, at the age of 70, following the diagnosis an inoperable brain tumour in October 2010. Don was a very popular and highly regarded figure in the world of industrial vision and made an outstanding contribution to the UKIVA.



Don Braggins

Don's 'Machine Vision Consultancy' was one of the founder members of the Association in 1992 and then in 1995 he took over its administration. This was a role he continued, as well as providing technical support, for the following 14 years, before overseeing the transition of the Association into a Special Interest Group of the Processing & Packaging Machinery Association (PPMA) in 2009. He continued as a consultant to the Association until December 2010.

In addition to the role he played for the Association, Don was active in many other areas of vision. He was elected a Fellow of SPIE in 1990. He was a member of the jury for the annual 'Innovation' prize at the Vision exhibition in Stuttgart from 2000 to 2009, and served on the Executive Committee of the European Machine Vision Association for six years.

Don was passionate about spreading the word on the uses of vision industry – the prime objective of the UKIVA, and he authored numerous articles on the subject. In addition, from 2005 to 2009 he acted as Associate Editor for Machine Vision for the peer-reviewed SPIE journal, *Optical Engineering*. There is no doubt that the high regard that the world of vision holds for Don has helped the UKIVA become the force that it is today and he will be sorely missed. He leaves a wife, 2 children and 5 grandchildren.

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Janine Berriedale
PPMA²
email: janine.berriedale@ppma.co.uk

Successes at the University of Surrey!

- Congratulations to Olusegun Oshin, Andrew Gilbert and Richard Bowden of the *Centre for Vision, Speech and Signal Processing* for winning the best paper prize at the recent Iberian Conference on Pattern Recognition and Image Analysis (IbPRIA 2011), for their paper entitled “There’s more than one way to get out of car: Automatic Mode Finding for Action Recognition in the Wild”.
- Congratulations to Bud Goswami of the *Centre for Vision, Speech and Signal Processing* on winning the EBF European Biometric Industry Research Award 2010 for his work on “Speaker Authentication using Video Based Lip Information”.
- Congratulations to Zdenek Kalal, who studies at the *Centre for Vision, Speech and Signal Processing*, on receiving the ‘Technology Everywhere’ award at a ceremony hosted by EPSRC, the UK’s research funding council, and IBM, for his work on smart camera tracking techniques. The award recognises his contribution to developing computing technologies that impact modern society. His project entitled ‘Predator: A Smart Camera that Learns from Experience’ examines the challenges in following an object moving through video. The system can follow objects: for example, it can track a tip of a pen that can be held in the mouth and act as a computer mouse for a paralyzed person.

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IAPR Fellowships

Members of the BMVA may not be aware that the Association is affiliated to the *International Association of Pattern Recognition* (IAPR), which is its mother-organisation. This is important as members of daughter associations are eligible to be nominated for fellowship of the IAPR. IAPR fellowships are prestigious and are awarded in recognition of members’ ‘scientific/engineering excellence’ and ‘well-known international achievements in the field of pattern recognition’. The awards take place every two years at the *IAPR International Conference on Pattern Recognition* (ICPR), consideration of nominations having been undertaken some months before the actual conference.

Members have two routes to fellowship. One is via their national association (in our case the BMVA): the other is directly with the IAPR, in which case they must be nominated by an existing IAPR fellow. In neither case may a member nominate him- or herself. The normal IAPR expectation is the first option, i.e. via the national association, which is able to provide more advice and help, and has the advantage of knowing the expected standards.

In September/October, the BMVA will be considering members whom it feels it can nominate in the coming round. Members who feel they could be in the running can ask the BMVA Executive Committee for advice in this matter. I will be happy to help by communicating to the Committee that advice is required.

For further information about IAPR fellowships, see the IAPR website, which provides extensive information on the topic:

<http://www.iapr.org/fellowsandawards/?ar=3>

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Time to think what you want to include in the next issue of BMVA News!

Copy deadline: 10 September 2011

Editor

²PPMA is now a main contact point for the UKIVA.

Editorial

(continued from p.2)

FPGAs are all programmable and thus anyone can now be a hardware expert merely by doing a bit of programming. Am I exaggerating or even fantasising? As always, it's difficult in our subject, or with computers and computer applications in general, to be able to predict even five years ahead. And that means that we will all have to watch our socks in case others put them on.

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4th International Conference on Imaging for Crime Detection and Prevention (ICDP 2011)

This conference, one of a well-known series organised by IET's *Vision and Imaging* Network, will take place at Kingston University, London, UK on 3–4 November 2011. It is co-sponsored by IET's *Vision and Imaging* Network, BMVA, UKIVA, UCL, IEEE UK&RI Chapters (SigPro, CAS, I&M).

This conference follows the successful IDSS (Intelligent Distributed Surveillance Systems) events held in 2003 and 2004 and ICDP 2005, 2006 and 2009, to bring together researchers, industry, end-users, law-enforcing agencies and citizens groups to share experiences and explore areas where additional research, development and better working practices are needed, identify possible collaboration and consider the societal impact of such technologies.

The conference aims to create an important networking forum in which participants can discuss the present and future of image-based technologies for crime detection and prevention.

ICDP (and its predecessor IDSS) has traditionally been a special meeting point of different disciplines (computer science, social science, engineering, management, etc.) and an opportunity for a wide range of stakeholders to discuss the many different aspects of the application of imaging technologies in this socially crucial domain. Keynote speakers from experienced practitioners, industrial session, exhibition, academic papers. Papers will be indexed in the IET's Digital Library and IEEE Xplore. Extended version of best

papers to be considered for publication in the IET's Computer Vision journal.

Paper submission timetable

Submission of full papers (6 pages):	18 July 2011
Notification of acceptance:	23 Sept 2011
Submission of camera-ready papers:	7 Oct 2011

<http://www.icdp-conf.org>

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CVMP 2011 will be held at the BFI, South Bank, London on 16 and 17 November 2011. The deadline for submission of full papers has been extended to 30 June 2011. Further details of online submission and paper formats are available on the CVMP website:

www.cvmf-conference.org

This year CVMP will feature a stellar line-up of presenters from the motion picture industry.

Keynote Speakers

- Sylvain Paris Researcher at Adobe Systems Inc.
- Nicola Hoyle, FX Supervisor at Double Negative
- Jeremy Doig, Director of Video Tech at Google
- Roberto Cipolla, Professor of Information Engineering at University of Cambridge (Recently Director of Toshiba Research Europe)

Invited Speakers

- Peter Centen, Chief Scientist at Grass Valley
- Thorsten Herfet, Intel

Keep checking the website for up to date information. Early Bird Registration is now open: save £100 on Full Registration!

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AVA/BMVA Symposium on Biological and Computer Vision

On 26 May 2011, the first joint meeting between the Applied Vision Association (AVA) and the BMVA was held at Cardiff University. The aim of the meeting was to bring together vision researchers from both disciplines – each of which has world leading researchers based in the UK – and to begin a dialogue. As many other researchers and countries have shown, it is possible to have success in the combination of the two disciplines. Indeed, it could be argued that some of the most interesting questions lie somewhere in between.

The format for the day was novel for most regular AVA or BMVA one-day meeting attendees. Each abstract submitted was given a poster to present, with orals being left to three invited speakers. The first poster session consisted of ‘Biological’ vision while the second was ‘Computer’ vision. The aim here was again to encourage people from one discipline to find out what interesting research was happening in the other. In total, 70 posters were presented on the day, and over 100 people attended – made up from academia, industry and funding councils. The list of accepted abstracts and posters can be found on the meeting website (http://psych.cf.ac.uk/ava_bmva/index.html.) Upon submission, authors were also asked whether they would like to have their abstract appear in the journal *Perception*. This is a regular feature of the annual AVA meeting, and was enthusiastically subscribed to by members of both communities.

The first invited talk of the day was given by Professor John Frisby from the University of Sheffield, who enthusiastically and entertainingly reminded both communities of their shared roots. This was primarily by reminding us of the research inspired by David Marr, and the formation of our disciplines.

The second invited talk was given by Professor John Tsotsos from the University of York. Professor Tsotsos has for 30 years performed research on the boundary of human and computer vision, and gave us some insight into his work. One inspiring aspect of Professor Tsotsos’ career is how he has managed to stay multidisciplinary in his research – an often difficult task given the difficulty of acquiring such funding. In this respect, perhaps some credit is also owed to the Canadian government’s funding model. In order for our two disciplines to successfully converge it is perhaps prudent to take lessons from their approach.

The final invited talk was by Professor Michele Rucci from Boston University. Professor Rucci again gave a talk of the highest quality on active vision in humans

and robots. His compelling talk on fixational eye movement was testament to what can be achieved with the sophisticated integration of both human and computer vision expertise.

The final part of the day was a panel discussion with representatives from both disciplines as well as a member of the ICT programme at EPSRC. The main discussion points were centred on opportunities for joint funding as well as continued dialog and collaboration.

The clear message from both the panel meeting and the day as a whole was that both fields were willing to continue contributing to an annual event. There is much we can gain by doing so, as demonstrated by both the keynote speakers and the fruitful discussions taking place throughout the day. As such, the organisers of the Cardiff meeting will soon be looking for 2012 venues and organisers.

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V&L Net Workshop on Vision and Language – Call for Papers

This workshop will take place in the Huxley Building, University of Brighton on 15 September 2011. It is organised by the *EPSRC Network on Vision and Language (V&L Net)*, and is sponsored and endorsed by the BMVA.

V&L Net is a forum for researchers from the fields of Computer Vision and Language Processing, to meet, exchange ideas, expertise and technology, and form new partnerships. It aims to create a lasting interdisciplinary research community situated at the language–vision interface, jointly working towards solutions for some of today’s toughest computational challenges, including image and video search, description of visual content and text-to-image generation.

Workshop Aims

The Vision and Language Workshop is chiefly intended to be a networking and community building event for the computer vision and language processing communities. It will give us an opportunity to meet and get to know each other. This process will be supported by an informal approach characterised by diverse networking activities and a large number of brief oral presentations combined with poster presentations.

The Vision and Language Workshop is free for full *V&L Net* members. *V&L Net* will furthermore cover the cost of one night's accommodation in Brighton and economy-class travel within the UK for full *V&L Net* members presenting an accepted poster. Full details can be found on the workshop page of the *V&L Net* website (for contact details see below).

Call for Papers

The Vision & Language Workshop organisers invite the submission of abstracts addressing any aspect of research that involves both vision and language.

We encourage a wide range of different types of abstracts/posters, including but not limited to the following:

- Outlines of project ideas, in particular from those seeking collaborators
- Presentations of existing projects and research programmes
- Reports of research in progress
- Reports of research results
- System demos.

Specific research topics include, but are by no means limited to:

- Assistive methodologies
- Computational modelling of human vision and language
- Facial animation for speech
- Image and video description
- Image and video labelling and annotation
- Image and video retrieval
- Language-driven animation
- Multimodal human-computer communication
- Text-to-image generation.

Accepted abstracts will be presented at the workshop in the form of brief 'teaser' presentations, followed by a poster presentation during the workshop poster session.

Submission Guidelines

Submitted abstracts should be 1–2 pages in length. PDF format is strongly preferred. Please send abstracts no later than 7 August 2011 to vl-net@brighton.ac.uk.

Mini-posters for WLTM Notice Board

Delegates are furthermore encouraged to bring along to the workshop A3 mini-posters for our 'Would-like-to-meet' notice board. The idea is for mini-posters to describe collaborations sought, profile research groups, advertise publications, and similar items.

Outline Programme

Morning:

Introduction and Welcome
 Computer Vision Invited Talk (speaker t.b.a.)
 Language Processing Invited Talk (speaker t.b.a.)
 Speed Networking Session
 Feedback to *V&L Net*
 Lunch Break

Afternoon:

Teaser Presentations for Posters
 Poster Session
 'Would-like-to-meet' Notice Board
 Evening Drinks

Important Dates

Submission of Abstracts: 7 Aug 2011
 Notification of Acceptance: 15 Aug 2011
 Workshop on Vision and Language: 15 Sept 2011

Organisers

Anja Belz, University of Brighton
 Darren Cosker, University of Bath
 Frank Keller, University of Edinburgh
 Dimitrios Makris, Kingston University

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<http://www.vlnet.org.uk/VL-Workshop-2011.html>