BMVA News

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http://www.bmva.org/

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 December 2013.

Contents

Editorial*: The Laziness Syndrome*

Having devoted several editorials to a leisurely examination of idealised archaeological and other thoughts about the development of computer vision, it was refreshing to attend BMVC and to be thrust back into the cold light of reality: after all – as I have repeatedly told generations of students – there is nothing more important than the original data. And there it was staring me in the face: there is nowadays strong coherent interaction between vision workers, pulling the subject forward at a far faster rate than at any earlier time. For we used to work not only in a veritable babble of languages, but also in a veritable babble of computer languages: for example, I can remember using Fortran, PPL (our own Picture Processing Language), Pascal and C++ for vision. But nowadays the whole scientific world seems to work coherently in English, and the vision world seems to work coherently using MatLab. This has meant that people can buy relevant toolboxes, swap code modules, and also use MatLab code for communicating software ideas. The result is that starting graduate students and others can immediately get to work using off-the-shelf modules without having to continually re-invent the wheel. It almost doesn't matter if you don't know what Canny is, you can just get the code, mount it, and it runs; then you can get RANSAC and weld that in, with hardly any worries about reliability, compatibility, and minor matters about understanding the principles or what tricks the code contains. After all, you don't think about how a TV works every time you switch it on – you just use it. Hence you can go right up to the frontiers of the subject and start inventing and implementing, with near-zero lead time. Of course there ought to be a caution against using modules whose innards you don't really understand. However, life's not like that: you try things out, and if something doesn't work as planned, you do a

workaround, or replace the boosting or bag-of-words program with one you *can* manage to figure out. While it used to be said that necessity is the mother of invention, it is perhaps truer that *laziness* is the mother of invention. Anyway, programming has been ameliorated by 'a least effort syndrome', and has become so Lego-like that beginners can progress rapidly with negligible wasted effort.

But is that really what has caused the explosive development of vision over the past decade? An epidemic is defined as growth in the numbers of deaths substantially exceeding what would readily be expected. The difference between BMVC 2013 and BMVC 2003 seems to warrant such a description: i.e., the incredible progress has to be looked at as an 'epidemic' in the systematic growth of vision knowledge over that period. Few of the topics from BMVC 2003 seem to be recognisable and active in 2013.

In fact, I don't think use of English as a global world language (or rather, as a *scientific* world language), with MatLab helping it on, is quite sufficient to explain things. Something else must have happened. In particular, since Google Inc. came on the scene in 1998, we have been in the Very Modern Era, and this year should be reckoned as AG (Anno Googliensis) 15. I'm not sure that Twitter has helped much, nor LinkedIn or other examples of social networks, though Google Scholar, Orcid and the like have been busy spreading the word on what people are doing around the globe. Knowing what is going on is half the battle: the other half is getting your hands on the actual papers, patents and, of course, the actual MatLab code. And it is clear that you can do all this in seconds, by using Google to raid people's websites for all this material.

Long gone are the days when I used to send off six request cards to the British Library each week, and then wait several weeks for the papers to gradually trickle in. It was also useful to apply parallel processing and keep on sending for papers, though the whole process was grossly inefficient, as (a) the need for a paper was often gone by the time it arrived, (b) many of the papers were anyway irrelevant when you eventually looked at them. While I certainly wouldn't want to back to those bad old days, there were far fewer papers then than now. Indeed, in another decade, the numbers of papers will have grown so greatly that we humans won't be able to manage the flow of information. No problem – we only have to program computers to digest all the information and tell us what we really need to know. Will that be a MatLab program or an enhanced Google one I wonder?

> Professor Roy Davies
> Editor, BMVA News
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Letter to the Editor

I don't know how other readers feel, but I think that the best bits of BMVA News are the thoughtful editorials.

Keep them coming!

> Bob Fisher
> University of Edinburgh
> email: rbf@inf.ed.ac.uk

BMVA Executive Committee, 2013–2014

Following the elections that took place over the summer, we can now present the BMVA Executive Committee for 2013–2014.

Elected by Ordinary Members in September 2012:

Dr N.A. Thacker
Dr A. Clark
Dr T. Breckon
Dr C. Twining

Elected by Ordinary Members in September 2013:

Dr M. Mirmehdi
Dr S. Mahmoodi
Professor J. Illingworth
Professor E. R. Davies
Dr L. Agapito

Notes:

1. Dr A. Fitzgibbon is to retire as Chair but, in the first instance, will join the Committee as an ex-officio member for a period of 1 year.
2. Dr S. Pollard and Mr P. Tar will continue as co-opted members in the roles of industrial liaison and new media publicity.
3. Dr A. Gilbert is co-opted as BMVA Meetings Organiser.
4. Dr A. Clark will take over as Chair on 1 October.

An updated list of officers will be published when Dr Clark is in situ as the new Chair.

> Dr Neil Thacker
> Manchester University
> email: neil.a.thacker@manchester.ac.uk

Around and About at BMVC

The Reception in the Wills Memorial Building

Tom Barnes (Head of Aardman's Technical Team) presenting his company's pirate animation film "The Pirates! In an Adventure with Scientists!"

Tom Barnes gave a fascinating account of how the Pirate animations were made, not forgetting how Darwin and Queen Victoria entered the story!
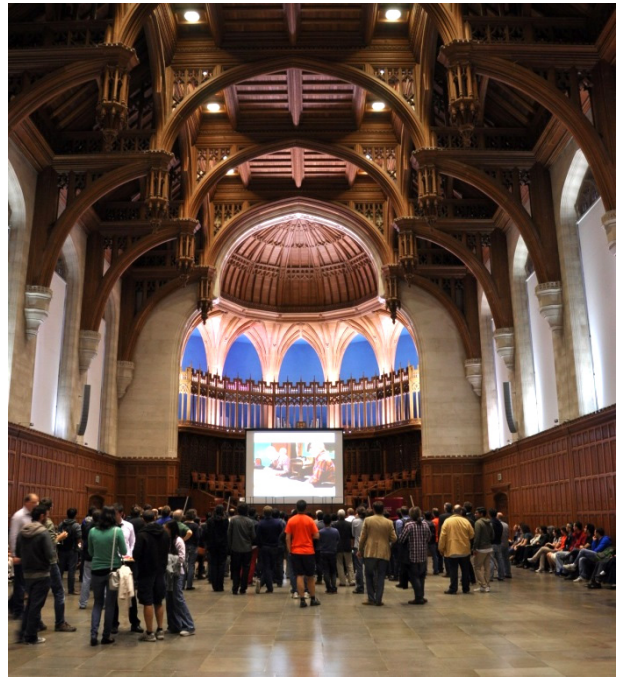
View of the presentation from afar, showing the splendour of the Great Hall in the Memorial Building.

Professors Majid Mirmehdi and Tom Drummond: the latter being welcomed back for the week after returning to his native Australia three years ago.

Cigdem Beyan and Bastiaan Boom enjoying the Reception.

Jim Braux-Zin and Alastair Barber at the Reception.

Tutorial presenter Dr Adam Coates (Stanford University).

The Lectures

Tutorial presenter Dr Andreas Krause (ETH Zürich) with an interesting message.

The Bristol Organising Committee was out in force! Left to right: Adeline Paiement, Walterio Mayol-Cuevas, Majid Mirmehdi, Dima Damen and Tilo Burghardt.

Attentive audience at the start of the conference.

Invited speaker Professor Frank Dellaert (Georgia Institute of Technology) gave an impassioned performance throughout.

Session Chair Tim Ellis puts his own question to the speaker.

Peer Neubert starts digging himself out of a hole of his own making!

Gwenn Englebienne (University of Amsterdam)

Session Chair Andrew Fitzgibbon (MS Cambridge) makes a perceptive point.

Emanuele Rodola (Technical University of Munich)

The Posters

Lunch!

Hani Altwaijri (UC San Diego) after an animated discussion about his poster!
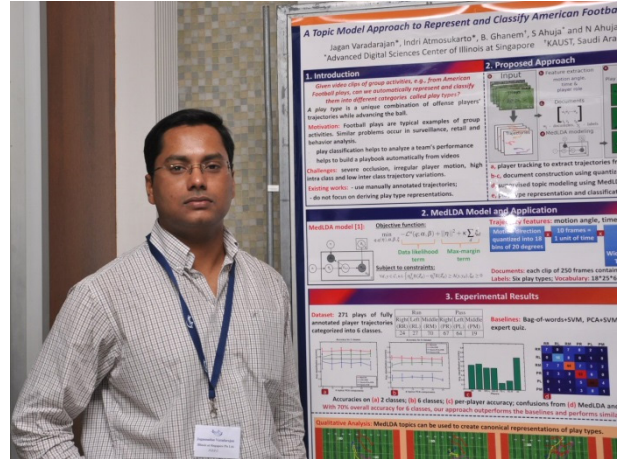
Jagan Varadarajan (ADSC Singapore) ready to discuss his work.
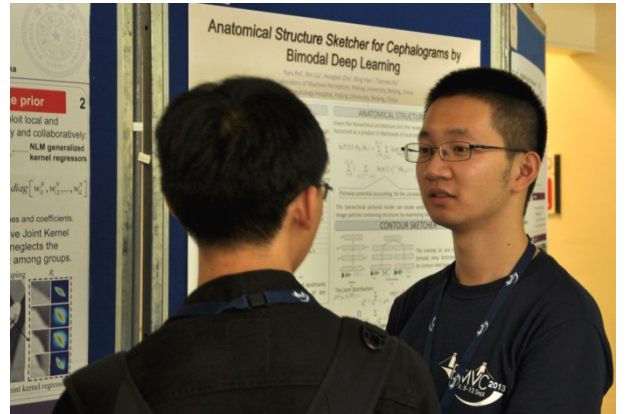
Another discussion at the posters.
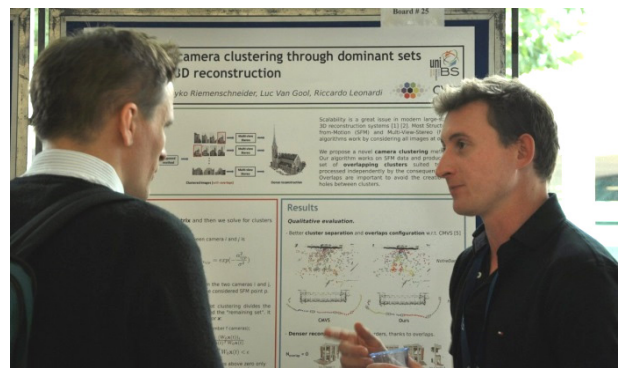
Hayko Riemenschneider (ETH Zürich) explains his work to a visitor.
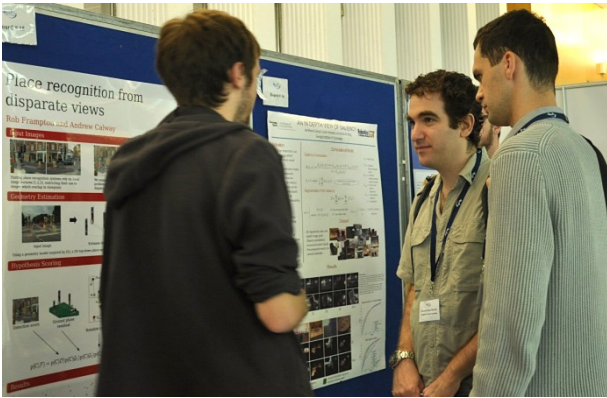
Rob Frampton (Bristol University) answers questions from two interested delegates.

Close-up of Dr Edward Rosten (Computer Vision Consulting).

Carolina Raposo ready to present her poster.

The Banquet in the Bristol Council Hall

The banqueting room

Drinks all round!

Making new friends …

An animated group …

Still awaiting the food …

Discussion between Professors Roy Davies, Frank Dellaert and Roberto Cipolla.

Roberto Cipolla turns around to talk to Tom Drummond and Edward Rosten.

Edward Rosten and José Martínez-Carranza who organised the Student Workshop.

Old friends Walterio Mayol-Cuevas and Andrew Davison (the September 2012 issue of BMVA News records that they also sat together at BMVC 2012!).

Tilo Burghardt, Michel Valstar and Adam Coates.

Matti Pietikäinen, Stephen Pollard and Frank Dellaert

Organisers Antonina Timofejeva and Dima Damen talk to Roy Davies.

Prizes and announcements

Hayko Riemenschneider receives the Best Poster Prize from Walterio Mayol-Cuevas, on behalf of Daniel Kuettel and Vittorio Ferrari.

Roberto Cipolla and Andrew Fitzgibbon look on with fascination.

Magnus Burenius (KTH Stockholm) receives the Best Industry Paper Prize from Walterio Mayol-Cuevas.

Andrew Fitzgibbon, Gerard Pons-Moll and Jonathan Taylor receive the Best Science Paper from Dima Damen.

Oliver Demetz (Saarland University) receives the Maria Petrou Prize from Roy Davies.

Andrew Fitzgibbon receives the Sullivan Thesis Prize from Dima Damen, on behalf of Patrick Ott.

Roberto Cipolla makes his Distinguished Fellow acceptance speech.

Dr Michel Valstar presents his plans for BMVC 2014, to be held at Nottingham University.

Dr Michel Valstar

The Student Workshop

Roz Sandwell (Bristol University) presenting.

Invited speaker Dr Gabriel Brostow (UCL).

Qi Wu (University of Bath) giving his talk.

Invited speaker Dr Edward Rosten (Computer Vision Consulting).

Finally, I would like to acknowledge the incomparable support of Osian Haines (pictured on p. 16) who took most of the photos, thereby helping me to select these memorable views of the life of the conference. They also allow me to echo everyone's gratitude to Dima, Majid, Tilo and Walterio (not to mention numerous other helpers!) for organising this highly successful and incredibly well-run conference at the Bristol.

Professor Roy Davies
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Prizes and Awards at BMVC 2013

Best Poster Prize
"Learning to approximate global shape priors for figure-ground segmentation" by Daniel Kuettel (ETH Zürich) and Vittorio Ferrari (University of Edinburgh)

Best Industry Paper Prize
"Multi-view Body Part Recognition with Random Forests" by Vahid Kazemi, Magnus Burenius, Hossein Azizpour and Josephine Sullivan (all at KTH Stockholm)

Best Science Paper Prize
"Metric Regression Forests for Human Pose Estimation" by Gerard Pons-Moll (Leibniz University Hannover), Jonathan Taylor (University of Toronto), Jamie Shotton (MS Cambridge), Aaron Hertzmann (MS Cambridge) and Andrew Fitzgibbon (MS Cambridge)

Maria Petrou Prize for Invariance in Computer Vision
"The Complete Rank Transform: A Tool for Accurate and Morphologically Invariant Matching of Structures" by Oliver Demetz, David Hafner and Joachim Weickert (all at Saarland University)

Sullivan Thesis Prize
"Segmentation Features, Visibility Modelling and Shared Parts for Object Detection" by Patrick Ott (University of Leeds)
with an Honourable Mention for
"Improving the Effectiveness of Local Feature Detection" by Shoaib Ehsan (University of Essex)

BMVA Distinguished Fellow 2013
Roberto Cipolla (Cambridge University and Toshiba Research)

Unfortunately, Patrick Ott was unable to attend BMVC to receive the Sullivan Thesis Prize. However, he sent the following message for me to read out at the conference:

"I feel incredibly honoured for being awarded this prestigious prize. I realise that competition is tough, which makes this even more valuable for me. Unfortunately I could not appear in person to read these lines to you. One of the downsides of switching from academia to industry is that in my new job, I am not able to plan my day as freely as I used to back when I was a PhD student. It is no overstatement when I say that the PhD itself was a very rocky road and I can only encourage the many PhD students in the audience to keep working hard, constantly pushing forward and not to be discouraged by bad experimental results. You will get there.

There are many people out there whom I would like to thank but please forgive me for dedicating this moment to the one person who is not out there anymore. My late supervisor Dr Mark Everingham was a constant source of inspiration to me. Much of the work in my thesis would have not been possible without his wisdom and guidance. We once had a very emotional disagreement about a paper submission, which later actually turned into a CVPR poster. After the submission Mark told me that he only pushed me so hard because he knew I could be better and maybe this is what he meant. This prize is as much mine as it is his accomplishment. I would like to dedicate it to him and urge everybody to remember what a great researcher, colleague and friend he was."

In Remembrance of Professor Maria Petrou
Before presenting the new prize being given by the BMVA in memory of Maria Petrou, Roy Davies made a short personal speech about her life and work, and how she had influenced him and many others.

Professor Maria Petrou
1953 – 2012

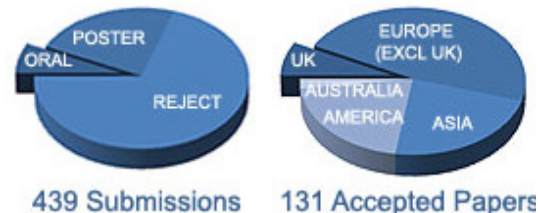Dima Damen
University of Bristol
email: damen@cs.bris.ac.uk

Social Networking Opportunities through the BMVA

The BMVA is expanding its social media presence with a new Facebook page, Twitter feed and g+ group. These channels will be aimed at increasing interaction and improving communication between members of the British machine vision community. As one might expect, regular BMVA updates and announcements will be posted detailing upcoming meetings, conferences and events. However, these updates will only play a small part, as the largest contribution to the community's new

social network will be from you. The network is intended to promote the community as a whole. To this end, all members are encouraged to contribute by sharing updates about their own work and projects. If you already have a social media page for your research then let us know so we can link to it and share your work with a wider audience. If you don't have a social media presence then consider starting one up and allowing the BMVA to help direct traffic in your direction via our new social networking hub. This opportunity might be of particular interest to PhD and MSc students as an early career promotion and networking tool. To get involved, search for The BMVA on Facebook or g+, or @TheBMVA on Twitter. Please help spread the word by telling your friends, students, colleagues and collaborators about these new channels. For more information about the BMVA social network contact the Social Media Officer via paul.d.tar@gmail.com.

Paul Tar
University of Manchester
email: paul.d.tar@gmail.com

BMVC 2013 Statistics

- overall paper submissions received (excluding empty or bogus submissions): 439
- usually three independent reviews per paper plus two independent AC reports plus discussion option
- at least four reviews per reviewer
- proportion of reviews that were on time: 80%.

Tilo Burkhardt
University of Bristol
email: burghard@compsci.bristol.ac.uk

Report on ISVC 2013

Kalimera! Hello from Rethymno, Crete and the 9th International Symposium on Visual Computing (ISVC 2013) held on 29–31 July at the beautiful Aquila Rithymna Beach Hotel. Rethymno is the third largest town in Crete and is very popular with tourists: it combines a long sandy beach strip of hotels with an old town culture and heritage mix.[2]

Aquila Rithymna Beach Hotel

Beach view

Over 220 submissions were made to the main symposium, with a 45% acceptance rate, yielding 63 oral and 35 posters alongside 32 special track orals. Each day featured two keynotes with four parallel sessions. Topics included computer vision, computer graphics, virtual reality and visualisation with special tracks including bioimaging, 3D, digital cultural heritage, sparse methods, multimodal data streams and intelligent environments.

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[2]Literally, "Kalimera!" is Greek for "Good morning!", but can also mean "Good day!" – Ed.

Presentation highlights included the following talks. Alathari Thamer (University of Southampton with Mark Nixon) was solving the issue of counting coins without taking them out the jar. Usually some poor person would have the unenviable task of counting large numbers of coins stored in jars; however, computer vision posed a solution using pressure space to highlight the locations of touching coins – in a paper entitled "Pressure based segmentation in volumetric images". Serge Belongie (University of California) demonstrated a hybrid human–computer approach for bird classification using a visual 20 questions game approach – his paper being entitled "Visual recognition with humans in the loop". This combination indicated that human input increases performance while computer vision reduces the required interaction. Denis Zorin (New York University) described a visual technique capable of identifying structural problems in 3D models prior to printing. This provided a distinct advantage over the traditional trial-and-error approach which would have been both time-consuming and frustrating to say the least: the paper was entitled "Worst-case structural analysis". Their validation was the exciting task of dropping 3D printed models and capturing their demise at 1000 fps. Mel Slater (University College London) presented an interesting Virtual Reality experiment (among many) where shy and confident men were compared for anxiety level when talking to a virtual female – in a paper entitled "Socially anxious and confident men interact with a forward virtual woman: an experiment study". For those familiar with the TV show "The Big Bang Theory", the character Raj would benefit from this.


Conversations at the poster session

The poster session was well attended and a busy hour for everyone. This was the first international conference at which I had an oral and poster presentation, both being well attended.

The outdoor banquet midway through the conference was a feast of local food where plates were piled high,

full of mains and deserts. We were also treated to traditional and Modern Greek dancing performed by beautifully dressed woman and very flexible men who gracefully leapt around the stage with rhythmical leg slapping. For the keen, the stage was opened for us to learn a few moves – a rare sight to see so many computer vision researchers dancing!
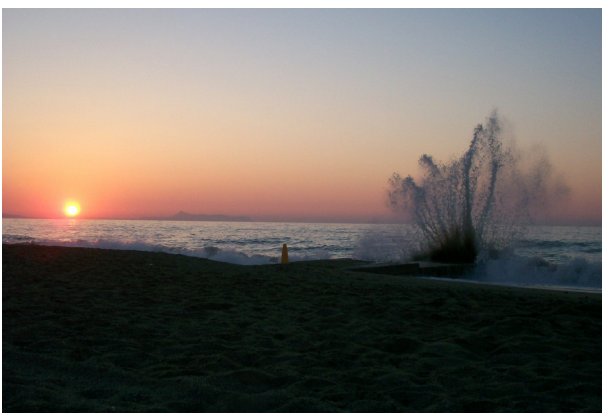

Cooking up a feast for the banquet
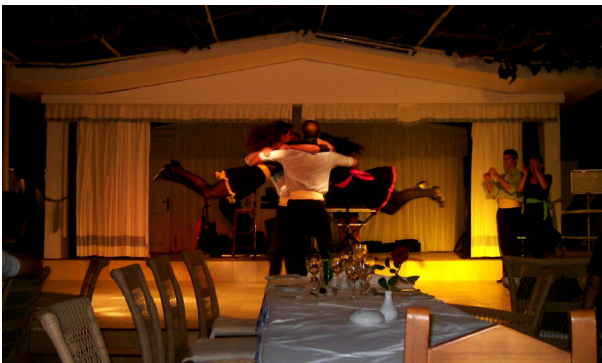
Greek dancers – airborne women

For enthusiasts, you could admire the sunrise and sunset from the comfort of the beach, and if you still had energy at the end of the day you could head down to the beach to enjoy watersports such as parasailing.

Sunset at the beach

Yes, that's me!

I would like to thank the BMVA for funding my travel. More details about the conference can be found at www.isvc.net: the proceedings will be published by Springer-Verlag in Lecture Notes in Computer Science (LNCS).

Tenika Whytock
Heriot-Watt University
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Report on IMSC 2013

The recent 16th International Mars Society Convention at the University of Colorado, Boulder comprised four days of packed plenary sessions, outreach programs and presentations from an eclectic crowd of enthusiastic experts, students and amateurs. NASA scientists and engineers described their work on Mars landers; students presented results from simulated off-world greenhouses; private sector entrepreneurs promised the exploitation of asteroid resources and the founding of future Mars colonies; and I presented our Manchester University pattern recognition system for making measurements from planetary images.

The University Memorial Center (with the American 'er') played host to around 400 attendees during the event, with over a dozen invited keynote speakers presenting over the course of four mornings, and dozens more individuals presenting across three parallel track sessions each afternoon. The range of topics spanned disciplines from engineering to life sciences, from radiation monitoring to reusable heat-shields, and from composting with worms to corridor discussions about time travel through wormholes.

The conference was hosted by Dr Robert Zubrin, founder of the society and author of 'The case for Mars', and showcased the ideas of some big names in

the Mars business. Amongst the most inspirational proposals were those of space tourist Dennis Tito (Inspiration Mars Foundation), who plans to send the first humans on a Mars flyby in 2018, and Bas Lansdorp (Mars One) who is calling upon the world to help create the first Mars settlement by the early 2020s. Whilst the feasibility of some proposals was questionable, there was no doubting the will and enthusiasm of those looking to expand the empire of humans out to the Red Planet and beyond. With so much going on I'll attempt to filter the proceedings to give an imaging science perspective, beginning with plenary speakers who may benefit from some machine vision.

The venue

Crowd in main venue

There was no shortage of expensive image acquisition equipment, as John Brophy from the Jet Propulsion Laboratory described the on-going Dawn Mission to the largest of the asteroids. Whilst his presentation focused on the use of solar electric propulsion, he presented several stunningly high resolution images of the surface of Vesta taken from the Dawn spacecraft. These were contrasted with those provided by the Hubble Space Telescope, which were small and extremely blurry in comparison. The study of the thousands of Vesta images will occupy researchers as they search for evidence of the origins of the solar system on these ancient bodies. At the other end of the asteroid scale, Chris Voorhees of Planetary Resources described his company's ARKYD space telescope, a partially Crowdfunded venture, which

will soon be scanning the heavens for moving dots of light in their search for small resource-rich rocks which they hope to mine using robotic craft, perhaps within a decade. In both cases, an automated assistant would be of great value in analysing the returned data.


Speakers with Mars flag

About Mars, Dr Nick Schneider from the University of Colorado detailed the workings of the soon to be launched MAVEN mission, targeting the Red Planet's upper atmosphere, ionosphere and interactions with the solar wind. The Orbiter consists of an instrument suite for various forms of spectroscopy, including a neutral gas and ion mass spectrometer, and an imaging ultraviolet spectrometer. These will be used to image the Martian atmosphere with reference to its chemical composition. Dr Jim Bell of The Planetary Society presented extremely high resolution images taken on the surface of the planet from the surface rovers Opportunity and Curiosity. The panoramic views around Gale crater from Curiosity could be zoomed in to incredible levels of detail, almost revealing individual grains, whilst the rover's hand-lens could zoom in even closer to selected samples. The list of high profile imaging devices and their endless streams of data presents a huge logistical challenge for those relatively few experts responsible for their analysis and interpretation.

Imaging also played a significant role in some track sessions. Jim Secosky, a former teacher, described his investigations into Martian ice deposits using HiRISE (High Resolution Imaging Science Experiment) data from the Mars Reconnaissance Orbiter. He used many views of the surface, some of which he personally requested as targets for the HiRISE team to image, in order to demonstrate changes in surfaces with seasons and slowly flowing dust-buried glaciers. And then there was my own contribution, showing how surface area measurements of user-defined terrains could be extracted from HiRISE data in a quantitative way, including a detailed error theory for the prediction of measurement accuracies. With a generous 30 minutes granted to each speaker, I articulated my views and the views of my supervisor, Dr Neil Thacker, that making

measurements using pattern recognition requires more than just off-the-shelf components and ROC style evaluations. With the aid of many slides and figures of histograms I explained how statistical methods, such as likelihood and error propagation, could be applied to make quantity estimates with the associated error estimates which are required for useful scientific interpretation.
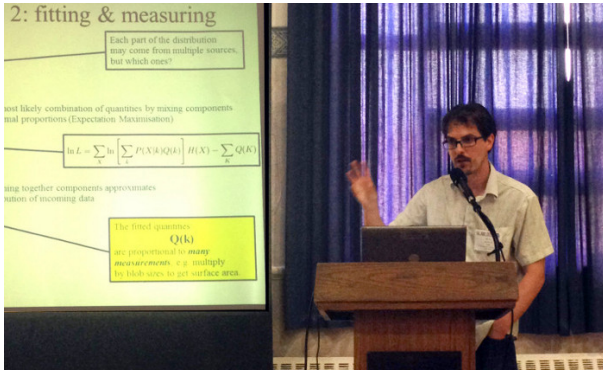
My presentation

The non-vision related work was too vast to condense into this short report, but a great deal of the conference's content can be found on the Mars Society website (http://www.marssociety.org), including some links to YouTube videos. The Mars Papers Archive will also soon be updated with full papers from all speakers. Details of our own work at the University of Manchester can be found at http://www.tina-vision.net and also on Facebook/maptheplanetsproject.

I would like to take the opportunity to give a big thanks to the BMVA for providing a generous travel bursary, without which my visit to Colorado and chance to present to such a diverse audience would not have been possible.

Paul Tar
University of Manchester
email: paul.d.tar@gmail.com

Osian Haines – BMVC *photographer extraordinaire!*

Call for Nominations for IAPR Awards

As many of you will know, BMVA is an IAPR Affiliated Society. This puts our members under a much larger international umbrella, and in particular makes them eligible for certain IAPR Awards. Notable amongst these are three strongly contested awards, Fellowship of the IAPR, and receipt of the KS Fu and JK Aggarwal Awards. All such awards are made at the ICPR conference, which takes place biennially under the auspices of the IAPR.

The next ICPR conference is to be held in Stockholm, Sweden during 24–28 August 2014: hence consideration of awards has to be made early in 2014. The actual deadlines for nominations for the awards are:

KS Fu award: 15 January 2014
JK Aggarwal award: 15 January 2014
Fellowship of the IAPR: 31 January 2014

Part of the function of the BMVA Executive Committee is the nomination of suitably qualified members (members cannot nominate themselves).

It would be too tedious to reiterate the relevant regulations here, and in fact they are very well laid out on the IAPR website, together with the relevant forms and instructions:

http://iapr.org/fellowsandawards/?ar=3
http://iapr.org/fellowsandawards/index.php
http://iapr.org/fellowsandawards/awards_kingsunfu.php
http://iapr.org/fellowsandawards/awards_aggarwal.php

It is worth clarifying that the KS Fu award is for lifetime achievement and the JK Aggarwal award is for mid-career researchers.

Further advice and help may be obtained from the BMVA Executive Committee. As in previous years, I will be happy for members to approach me in the first instance.[3]

Professor Roy Davies
Editor, BMVA News
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STOP PRESS!
Nottingham University is to be Host to BMVC 2014!

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[3]In fact, this may currently be the best option, as a new Chair has been appointed from 1 October, and other officers are also coming in.

Computer Vision Student Symposium

Call for Participation

This one-day BMVA technical meeting will be held in London on 5 February 2014.

Chair: Simon Hadfield

We are pleased to invite potential speakers and attendees to a one-day BMVA technical meeting at the BCS in London. The meeting's goal is to promote collaborative computer vision research in the UK, particularly that involving students and early career researchers. Attendees will also receive a broad overview of cutting edge work being undertaken across all areas of vision, together with opportunities for networking and the exchange of ideas.

This provides an excellent opportunity to advertise 'in progress' or recently published work, and to obtain feedback via discussion with other researchers. To facilitate this, the meeting will comprise large poster sessions, complemented by a small number of orals, including keynotes by Andrew Fitzgibbon and Vittorio Ferrari. It's important to note that, presenting work at this technical meeting does not prevent future publications, nor does it require the work to be previously unpublished.

For further details, see the BMVA website at:

http://www.bmva.org/meetings

If you are interested in presenting work broadly related to Computer Vision, Graphics or Machine Learning, please submit a brief abstract to s.hadfield@surrey.ac.uk by 22 November 2013. Note that attendance will be free for presenters.

Simon Hadfield
University of Surrey
email: s.hadfield@surrey.ac.uk

Reconstructing a Dynamic World

This BMVA Technical Meeting was held at the BCS in London on 10 July 2013 and was chaired by Chris Russell and Lourdes Agapito (both now at University College London). The theme of the meeting was 'Reconstructing a Dynamic World'. A variety of related problems were explored, including: multi-view dynamic scene reconstruction; single-view deformable object reconstruction; stereo reconstruction in keyhole surgery; and diverse uses of Kinect. The meeting was extremely well attended by academics from around the country and people from industry including representatives from The Foundry, MirriAd, Sony, and Microsoft.

The meeting began with an interesting keynote talk given by Adrian Hilton (University of Surrey). He talked about 4D vision in the wild, including joint segmentation and reconstruction, outdoor 3D video capture, techniques used in non-rigid reconstruction and also open challenges for 4D dynamic vision. His group has successfully developed new technology to produce virtual camera views and 3D stereo of sports events from the broadcast cameras used by the BBC in soccer and rugby. In addition, they have collaborated with many companies from the film, broadcast, games, communication and consumer electronics industries, including Sony and Filmlight. It was exciting to see the impressive work that has come out of his lab and which has been successfully used in industry.

The second keynote talk was given by Jamie Shotton (Microsoft Research, Cambridge) – one of the key researchers of Kinect. He presented his recent work, including generative model-based human pose estimation and Kinect-based camera tracking. The first work was an extension of the well-known Kinect human pose estimation. Rather than classifying each pixel as one of predefined body parts, he relaxed the problem into one of non-linear regression and mapped each pixel

Adrian Hilton (University of Surrey) presenting his keynote talk on 4D vision in the wild.

to a predefined human coordinate system using decision forests. He further showed how similar techniques could be used in camera localisation. He also pointed out that one of the key contributions to the reliability of Kinect is the huge library of synthetic training data.

After a short break, Simon Hadfield (University of Surrey) discussed his work on scene flow estimation. Unlike previous approaches, he used a sampling-based algorithm to estimate 3D motion. He demonstrated that this method is comparable to the current state-of-the-art but with a fraction of the computational cost. Then, George Vogiatzis (Aston University) showed his work on online depth fusion. To improve the depth-merging result of Kinect fusion, he proposed a generative model for depth estimation that can explicitly model occlusion and outliers. As he showed, his method is more robust to depth discontinuities and outliers, while still fast enough for real-time. After that, Julien Valentin (Oxford Brookes University) presented his work on mesh-based semantic labelling for indoor and outdoor scenes. Valentin approached semantic segmentation as labelling a CRF defined over a mesh-based reconstruction. Compared with standard image-based approaches, this one benefits from the temporal continuity of a persistent model, and direct access to 3D knowledge of the scene. The final talk before lunch was given by Wenbin Li (University of Bath); he introduced a Laplacian mesh-based regulariser into optical flow estimation and showed promising results comparing with other methods.

After lunch, our final keynote speaker, Adrien Bartoli (Université d'Auvergne) gave an interesting talk on single-view template-based 3D reconstruction. He talked about how to use isometric constraints and reference shapes to deal with this ill-posed problem. Lots of interesting work has been done to obtain point correspondence by deformable image registration. He also discussed the techniques needed to make it robust to deformation and self-occlusion. It was particularly impressive to see his techniques applied to the challenging problem of minimally invasive surgery to provide deformable 3D models of internal tissues to surgeons.

Lili Tao (University of Central Lancashire) introduced her work on 3D deformable shape reconstruction. Here, manifold learning was used to find a 3D deformable shape manifold from 3D ground-truth data. From this, she reconstructed 3D deformable objects from 2D images. This session ended with an exciting talk from Andrew Fitzgibbon (Microsoft Cambridge). He described his work on non-rigid reconstruction of textureless objects from monocular images. In the beginning, he gave a unified view of orthographic reconstruction, rigid reconstruction and non-rigid reconstruction. Then focused on the optimization part of the problem, he gave several suggestions on practical optimization problems.

After a short break, Stamatia Giannarou (Imperial College London) presented her work on deformable structure from motion by fusing visual and inertial cues. She showed that some of the research results had been successfully applied to medical imaging applications. The second speaker was Anton Van Den Hengel (University of Adelaide); he talked about his work on

deconstruction from multiple images and showed how to reconstruct objects by decomposing them into a sparse set of parts. He gave a great introduction about why we need parts to reason about the world and to interact with it, and then showed how sparse part-based representations can be applied to reconstruction. Then Marco Visentini-Scarzanella (Imperial College London) presented work on applying 3D reconstruction techniques to endoscopic surgery. They developed a real-time stereo reconstruction system which can be used in robotically assisted minimally invasive surgery. The last talk of this meeting is given by Sara Vicente (University College London). She discussed her recent work on reconstruction from a pair of images. Based on a reference shape of the same object, she showed how a different view of the deformable object can be reconstructed with her new method. It is very impressive to see that many deformable objects can be reconstructed from just two images.

In conclusion, we had a successful technical meeting full of great talks. It is rather exciting to get people talking to each other in this kind of technical meetings, with much of the really interesting discussion happening outside the talk sessions. I would always recommend these one-day technical meetings: this one was well worth attending, with excellent talks and delicious food.

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Fifth International Conference on Imaging for Crime Prevention and Detection (ICDP-13)

This conference will take place in Kingston University, London on 16–17 December 2013. It is organised under the auspices of IET's Vision and Imaging Network, with sponsorship by the IEEE's Social Implications of Technology Society and the BMVA. It follows on from the successful IDSS (Intelligent Distributed Surveillance Systems) events held in 2003 and 2004 and ICDP 2005, 2006, 2009 and 2011 to bring together researchers, industry, end-users, law-enforcing agencies and citizens groups to share experiences and explore areas where additional research and development are needed, identify possible collaboration and consider the societal impact of such technologies.

Relevant topics will relate to Imaging Surveillance technologies from academia, industry, NGOs and others.

Keynote talks and special sessions

- Dr Josh Davis, Department of Psychology and Counselling, University of Greenwich: "Super-recognisers in the police – an exceptional human resource for the identification of suspects from crime scene images"
- Mick Neville, Detective Chief Inspector, Metropolitan Police Service: "Catching criminals caught on camera – how the Met Police is leading the world"
- Sharon Girling, OBE: "Investigating child abuse images – how technology is closing the net on offenders"
- Special Industrial Session and European Union Projects session
- Incorporating an i-LIDS Challenge: "Detecting events in compressed video".

Key dates

Paper submission: 15 September
Notification of acceptance: 25 October
Submission of camera-ready papers: 11 November

There will be delegate fee discounts for authors, students and members of the IET and sponsoring organisations.

For further information please see the conference web site (http://www.icdp-conf.org) or contact Sergio Velastin.

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Call for Expressions of Interest to Host BMVC 2015

The BMVA Executive Committee would like any interested parties to inform them of their interest in hosting BMVC 2015. At this stage only an expression of interest is required: pending discussion by the Executive Committee, successful parties will be asked to supply an official bid to hold the conference.

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