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 March 2013.

Contents

Editorial: *Legacies of Great People*

By some quirk of upbringing or odd interpretation – or the fact that I had learnt Latin in my schooldays – I came to think that a legacy was something that one left behind one in one's will. It was never a word that I would use as an adjective, as a colleague did quite recently when he talked of 'legacy software'. That was nothing to do with any overt decision that someone made and included in their will, but rather an epithet describing something that someone had left behind, maybe without even passing away first.

And so it is that great people leave behind them legacies of enormous importance to others, may it be a whole subject area in some cases or an invention or two in others. This year we have lost two of the most important and creative actors in our subject, each with vital legacies – namely Mark Everingham and Maria Petrou, people whom we sorely miss and can't bear to be parted from. The passing away of both in one year is all the more tragic because of being unforewarned (though a few might have gathered that Maria had been ill for some months). Tributes to Mark were included in the September issue, and this issue presents our tributes to Maria.

Over time, Maria had become a giant of creativity, hard work, incredible energy and enormous enthusiasm, and had accomplished a huge amount. Indeed, she cannot be said, even at the age of 59 when she died, to have reached her peak: her star had been rising ineluctably all the time. Interestingly, she will be remembered not only as someone who pushed forward the frontiers of the subject but also as a very human person who interacted with, influenced and strongly enthused a very large number of other workers. I might add that I would not

be writing this editorial had she not appointed me as Newsletter Editor in her time as Chair of the BMVA Executive Committee. If there was any mistake in that, I guess it was that she didn't tell me when to stop!

Her legacy to the subject is certain to be very substantial, though such things cannot be judged in full without the passage of time. These thoughts led me back to Einstein who of course was a paragon of legacy-making. Here the surprise is that he didn't really believe in some of his own theories. He is well known to have said "God does not play dice", but there he was making up theories involving probabilities that he eschewed intellectually while finding that he had to use them as they provided the only or at least the simplest and most effective explanations of certain types of physical event. Actually, when I learnt about these theories as a Physics student, I couldn't understand why he had had these difficulties, but to some extent it is easy to think as I did as it corresponds to being wise after the event. In any case, the people who cannot face certain types of fact eventually die out, leaving only those who were brought up to understand and accept them. This is another instance of natural selection at work. The ideas were correct and acceptable: it was only their inventors that had reservations. In a sense, the legacy finally left behind is not the one that was intended: in fact, the important, correct parts of the legacy remain but not the other parts, which the inventor imagined would also be propagated.

In the end, the world will not necessarily accept all that we devise or discover. You can explain an idea to someone and they may appear to 'accept' it (especially if you present some sort of scientific proof), but whether they will go on and actually use it is a different thing altogether. People vote with their feet. Their brains tell them one thing but their feet may make them walk in a different direction. For in science it is necessary not only to convince but to 'sell'. Sometimes it is only by a snazzy demonstration that one can sell an idea. Or by rampant enthusiasm, which is something Maria had in spadefulls, and like the exemplary teacher that she was (as well as being a vibrant problem solver and researcher), she undoubtedly appreciated that and never missed the opportunity to 'sell' her ideas as well as invent them.

Professor Roy Davies
Editor, BMVA News
email: e.r.davies@rhul.ac.uk

Report on the 2nd V&L Net *Vision and Language* Workshop

The 2nd V&L Net Workshop on *Vision and Language* (VL'12) took place at the University of Sheffield during 13–14 December. The purpose of the workshop was to bring the computer vision and language processing communities together and to facilitate community building and networking between them. It was organised by V&L Net (the EPSRC Network on *Vision and Language*) and sponsored by the BMVA.

The programme of the first day consisted of two parallel sessions of tutorials that provided each of the two communities with the opportunity to learn about the main methodologies and recent developments in the alternate community. More specifically, three 'vision' tutorials were aimed at participants working predominantly with language: these tutorials were on "Datasets for Visual Object Recognition", "Local Feature Extraction" and "Machine Learning Methods for CV" presented by Professor Chris Williams (University of Edinburgh), Dr Krystian Mikolajczyk (University of Surrey) and Dr Toby Breckon (Cranfield University), respectively. At the same time, Professor Ted Briscoe (University of Cambridge), Professor Rob Gaizauskas and Dr Lucia Specia, (University of Sheffield) delivered tutorials on "Parsing and Analysis", "Information Retrieval/Extraction" and "Machine Translation", respectively, to the 'vision' participants.

The second day was dedicated to cross-disciplinary research involving both vision and language. The first invited speaker, Dr Katerina Pastra (Cognitive Systems Research Institute, Athens), presented some of her recent work in her presentation: "Are all verbs equal? Language in Action within the Embodied Cognition Perspective". Dr Peter Mika (Yahoo Inc., Barcelona) represented the industrial perspective, discussing the challenges and the potential of "Making the Web Searchable with Data and Images". In addition, 6 technical presentations and 8 poster presentations discussed current and potential research which profits from the synergy between the two communities.

Finally, the workshop was wrapped up by an informal discussion on the future of cross-disciplinary research between vision and language. Overall, the event promoted a technical dialogue between the two communities and contributed to building bridges between the research areas of computer vision and language processing, and at the same time provided networking opportunities to V&L Net members and other participants.

We are currently in the process of putting all the abstracts, slides, posters and mini-posters from the workshop online at:

   http://www.vlnet.org.uk/VL-Workshop-2012.html

Workshop organisers
Anja Belz, University of Brighton
Kalina Bontcheva, University of Sheffield
Darren Cosker, University of Bath
Dimitrios Makris, Kingston University

   Dimitrios Makris
   Kingston University
   email: d.makris@kingston.ac.uk

John Illingworth – *BMVA Distinguished Fellow 2012*

At BMVC 2012, the conference t-shirts were designed around the theme of 23 years of BMVC and the Alvey Vision Conference before it. Thus we might think of computer vision in the UK has having "gone mainstream" about 23 years ago. One of the key contributors to UK computer vision throughout those decades has been John Illingworth. Like many computer vision researchers in those days, John began life a physicist. He read physics at Birmingham University, and then came to Oxford to study for his doctorate in the department of Particle Physics. Finishing his thesis, he moved in 1983 to the Rutherford Appleton Laboratory, where he met Josef Kittler, and beginning to think about the true path of research: computer vision.

He arrived for his first day of work at RAL rather wet behind the ears, not because he was inexperienced, but because he had heard a commotion in the river outside his house, and had dived in to the Thames at 3 am to rescue a drowning man. I realize that the award we are bestowing tonight cannot compete with the medal for bravery that he was awarded by the British Humane Association on that occasion, but I hope that we will at least come close.

As I said, his time at RAL signalled the movement from physics to computer vision. He produced several very influential articles over the next decades, generating many thousands of citations, some of which are very relevant today with the rediscovery of the power of the Hough transform, and I strongly recommend a read of his articles from those years ago. If you think you've come up with a way to fix some difficulty with the Hough transform, I'm quite confident that you'll find it in Illingworth's papers if you haven't already read them.

When I started my career 20 years ago, I did a Master's project on the Hough transform, and to me Illingworth was some sort of supreme being, so I was awed to meet him in person when we worked on a joint project together, and indeed I recall it was John who gave me encouragement to develop the idea which led to my very first paper, in 1992. John's lifesaving skills also came in useful when we both attended a conference in Boston that year, and some rather large American sportsmen took issue with my hair, which was then rather more blue than it is today.

John moved to Surrey in 1987, at the same time as Josef Kittler, working on all aspects of range data interpretation and 3D modelling. Working with Terry Windeatt, Adrian Hilton, Andrew Stoddart, among many others, Surrey became a powerhouse of computer vision, and John was promoted to a personal chair in 1999. Since then he has continued to publish widely in many areas of computer vision, and you can tell from his wide range of collaborators how collegiate a researcher he is. His colleagues describe him as someone who always has an eye out for other people, guiding them at every stage of their careers.

John has also contributed tremendously to the BMVA over the years: he organized BMVC here in Surrey in 1993, was chairman of the organization for several years, and he was the driving force behind the establishment of the Computer Vision summer school which has now been running for over a decade. He is a Fellow of the Institution of Electrical Engineers and was a co-editor of the IEE journal *Vision, Image and Signal Processing*. I am honoured to name him as the BMVA Distinguished Fellow for 2012.

   Andrew Fitzgibbon
   BMVA Chair
   email: awf@microsoft.com

Report on MICCAI 2012

The 15th International Conference on Medical Image Computing and Computer Assisted Intervention was held in early October in summery Nice, the capital of the French Riviera. From the 781 submissions, 252 papers were accepted (32% acceptance ratio). 37 oral papers were presented during single-track plenary sessions, and the rest during poster sessions. This year, for the first time, there was the possibility of displaying dynamic material on large flat screens, and this was very popular. I presented my poster "A diffusion model for detecting and classifying vesicle fusion and undocking events", and being able to demonstrate my results on the screen was extremely useful: I hope that the additions of screens to poster sessions will become standard in future conferences.

Professor Sir Michael Brady presenting during the student event

The number of workshops this year rose to 32, resulting in two full days of workshops. The first day of workshops ended with a special event organised by students for students. Professor Sir Michael Brady gave an entertaining talk on "Your career in Industry and Academia". He talked about the numerous companies he founded, mostly to do with imaging and emphasised the importance of collaboration between industry and academia to produce successful research that can be applied in the real world.

The first day of the main conference started with a keynote which represented the computer assisted intervention side of the conference and was given by Professor Marescaux, the chief of the digestive surgery Department of the University of Strasbourg Hospital. In his talk "Surgery for Life Innovation: Information Age and Robotics", he outlined how robotic surgery has been able to improve surgical gesture precision and efficiency. He showed how using articulated arms, the surgeon is able to perform operations from a distance, sitting in a comfortable seat, with no risk to make any awkward movement due to trembling or to a brusque gesture. According to Professor Marescaux, automatic control remains today not available due to huge

difficulties to predict, analyse or control organ deformations and to adjust in real-time the robotic movements. The evolution of surgery thus needs a revolution to overcome all these current limits. This revolution will consist in combining the best aspects of minimally invasive techniques from separate specialties, image analysis techniques, patient-specific simulation, augmented reality and robotics. The resulting approach will lead to image-guided minimally invasive hybrid surgery.

Reception at the Palais Sarde

The first day ended with an impressive cocktail reception at the Palais Sarde which was first a ducal palace, and then residence of the sovereigns of the Savoy States, to which Nice belonged since 1388.
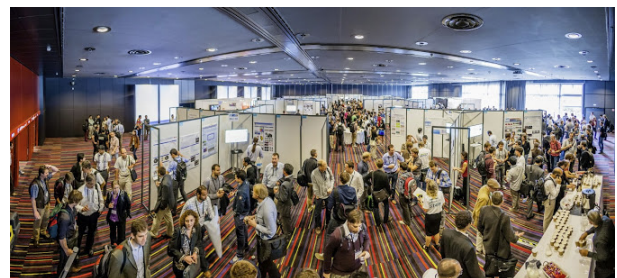
Poster session

The keynote presentation during the second day also had a great focus on clinical applications and was given by Professor of Cardiology Michel Hassaguerre in a

great talk named "Preventing sudden cardiac death: role of structural and functional imaging". He explained that sudden cardiac death is responsible for 350,000 deaths each year in Europe. However the identification of the vulnerable subjects is the fundamental problem in the reduction of this pathology, and a major scientific challenge. He showed how the role of structural and functional MRI imaging has improved patient-care by providing valuable and unprecedented guidance in the therapeutic management of several cardiac and non-cardiac disorders and that many of these modalities have replaced the invasive imaging techniques as gold standards (e.g., MRI or CT have largely replaced cardiac catheterization in congenital heart problems). He then demonstrated how a novel use of diffusion MR called track density imaging has been able to reveal the 3D arrangement of fibres within the ventricular syncytium and differentiate healthy muscle fibres (long continuous strands) from those surviving within the scar or at its borderzone (broken strands). The latter are considered to form an arrhythmogenic substrate and generate the so called 'late potentials' during sinus rhythm and are therefore very valuable targets for surgery.

Keynote lecture in the Acropolis convention centre

After the third and last day of talks all 1000 or so participants of the conference were taken on buses for an evening in Monaco at the famous Oceanographic Museum. The museum provided great views over Monaco and many exotic fish to admire. However the catering staff were overwhelmed by the hungry scientists that were competing over small bites of food as soon as they appeared from the kitchen.

The Oceanographic Museum of Monaco

The conference concluded with the awards ceremony. The awards that were presented included the 'Enduring Impact Award', an award for publications with measurable contributions that have proven, persistent impact on the field of medical image analysis and interventions: this was won by Professor Jerry Prince. The Young Scientist Publication Impact Award went to Dr Caroline Brun who in 2009 obtained a PhD in Biomedical Physics from UCLA and already enjoys an H-index of 18.

I am grateful for the generous support from the BMVA which enabled me to travel to this conference. After an interesting and exhausting week in sunny Nice, I was sad to have to return to rainy England.

Lorenz Berger
Oxford University
email: lorenz.berger@dtc.ox.ac.uk

Report on ICIP 2012

The 19th International Conference on Image Processing, sponsored by the IEEE Signal Processing Society, took place in Orlando, Florida, USA, during 30 September – 3 October 2012. The purpose of ICIP is to bring together leading engineers and scientists in the field of image and video processing from around the world. The conference itself lasted for four days with a main technical program, eight tutorials, three plenary talks, three workshops, three special sessions and several technical demonstrations and exhibitions. This year's ICIP received over 2000 manuscript submissions from authors spread across the world. The final technical program for the conference included 28 lectures and 48 poster sessions encompassing 786 papers (the acceptance rate was under 38.6%) which covered a wide range of imaging, video and computer vision research.

Welcome reception

The conference began with tutorial sessions on 30 September, the day before the main conference. I attended one by Dr Patrick Wolfe from Harvard University, who gave a lecture on "Graph-Based Methods in Image Processing". This tutorial provided an introduction to graph-based methods and their basic applications as well as their implementation in modern image processing. Since techniques that use graphs for the representation and manipulation of data have been widely investigated within the fields of image processing and image analysis, Dr Wolfe began the lecture with a review of graph-based image processing applications, such as image segmentation, gesture recognition etc., followed by some basic information about of graphs including graph cuts algorithms and spectral clustering. After an enjoyable discussions with other attendees during the break, the topic moved to advanced graph-based regularization, graph-based diffusion operators, amongst other state-of-the-art approaches, e.g., nonlocal means. This was an interesting and worthwhile tutorial as it covered the most significant aspects of graph-based representations and techniques for image processing and analysis.


Workshop on Real Time Communications and Media Signal Processing in Chrome-Media at Google, given by Marco Paniconi

The parallel sessions began after the welcoming remarks and a plenary talk given by Dr Markus Gross from Disney Research Zurich and ETH Zurich, in which he discussed 3D–stereo technologies designed at Disney Research including automatic disparity control for stereo capture, non-linear disparity mapping, 2D to 3D conversion, view interpolation, and lightfield processing. I spent half of the day listening to the lecture session "3D, Stereo and Depth I" which seemed the most closely related to my own work. This session was comprised of several interesting talks concentrating on photometric stereo, monocular image reconstruction, depth sensing based methods, etc.

The following two days of the main conference also opened with plenary talks "Reverse engineering the human visual system" and "Revealing the distant universe with space observatories", given by Dr Jack L. Gallant and Dr Henry C. Ferguson respectively. I presented my paper entitled "Non-rigid structure from motion with incremental shape prior" in the poster session "3D, Stereo and Depth II" in late afternoon on the second day of the main conference. During the presentation, I described our new way of solving the non-rigid structure from motion problem by introducing an incremental approach to the estimation of deformable objects. The presentation went quite well and gave me a great opportunity to discuss the topic with other researchers and obtain valuable and constructive feedback from them.
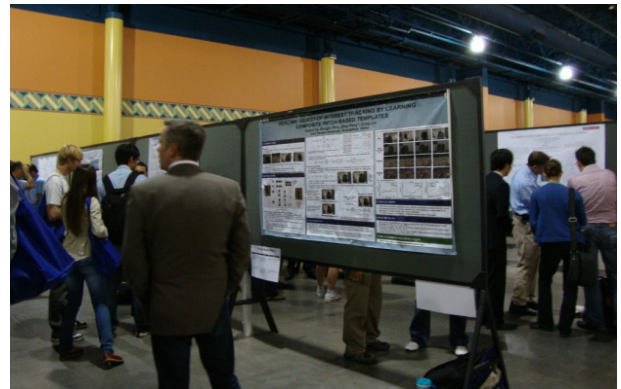
A poster session on the first day of the conference

Castle in the Disney's Magic Kingdom

Another thing worth mentioning was the conference mobile app, developed new for this year. This provided

easy-to-use interactive capabilities to enhance attendees' event experience. The Dashboard kept attendees organized with up-to-the-minute exhibitor, speaker, and event information. You could organize your own schedule with just one click. The app received important real-time communications and alerts from the event organizer. For example, the app was able to inform me when the welcome reception was moved from outside to an indoor ballroom because of bad weather. In particular, attendees could use the app to connect with colleagues or the people we had just met using the Friends feature that really made "keeping in touch" easier.

As one of the biggest conferences in image processing, this year's ICIP was well organized and was successful in all aspects, both the technical program and social events. More information about this year's ICIP is available on the conference website:

http://www.icip2012.com/

The conference venue was located at the Disney Coronado Springs Resort, centre of Walt Disney World, a suburb of Orlando. The city is located in the central region of Florida. As it is best known for the Walt Disney World and Universal theme parks, the city is nicknamed "The theme park capital of the world". The city itself was friendly and welcoming and full of tourist sites, and with its year-round mild weather left an incredible impression on everyone. The next ICIP conference will take place in Melbourne, Australia during 15–18 September 2013.

Finally, I would like to take this opportunity to express my gratitude for the generous support of the British Machine Vision Association, which made it possible for me to attend this successful and stimulating conference.

Lili Tao
University of Central Lancashire
email: lltao@uclan.ac.uk

Bring International Conferences to the UK

With the UK being one of the leading countries in computer vision research, we should reflect this leadership by hosting major international computer vision conferences. In the past we have had the first ICCV (1987), ECCV 1996, and ICPR 2004, as well as a host of related international conferences and workshops (Face and Gesture, IJCAI, …). One potential inhibitor to making a bid for such a conference is the sometimes

alarming financial outlay required, and in particular the possibility of significant exposure in the case of a calamity. This is where the BMVA can help: the BMVA has funds available to underwrite conference bids, as well as being a significant repository of knowledge based on experiences of running BMVC for many years, and of course BMVA members are frequently chairs of CVPR, ICCV etc. Thus, please think about bidding for an upcoming international conference, and talk to the BMVA (in the first instance, email chair@bmva.org) about underwriting and support.

Andrew Fitzgibbon
BMVA Chair
email: awf@microsoft.com

News about BMVA Technical Meetings

The British Machine Vision Association organises a series of one-day technical meetings (symposia) in London. Each meeting is chaired by a member of the UK academic computer vision community and addresses a specific topic in Machine Vision. The meetings usually have 6–10 speakers and are attended by 30–100 people.

At this stage, the program for 2013 includes the following meetings:

- 15 May: *Vision in an increasingly mobile world.* Chair: Toby Breckon. (See the Call for Participation on p. 8.)
- 11 July: *Rigid, non-rigid and articulated reconstruction from video*. Chairs: Lourdes Agapito and Chris Russell
- 13 October: *Machine vision for industrial automation*. Chair: Barry Piorkowski.

There still room for more meetings especially later this year. This is not an onerous task and involves: (i) organizing a program of speakers (by call for papers or invitation), (ii) chairing the meeting on the day. All other arrangements (finances, food, registration, room-booking, etc.) will be taken care of by the BMVA.

For up-to-date information on scheduled meetings, programs and CfPs, please visit the BMVA meetings webpage: http://www.bmva.org/meetings

Andrew Gilbert
University of Surrey
email: a.gilbert@surrey.ac.uk

Vision in an Increasingly Mobile World

One-day BMVA technical meeting in London, UK, on 15 May 2013

Chair: Toby Breckon (Cranfield University)

Event poster:
http://public.cranfield.ac.uk/c5354/events/bmva_symp_mobile13.pdf

Call for Participation deadline: 7 March 2013

The ubiquitous and pervasive nature of modern mobile computing, in the form of smart phones, tablets and even low-footprint embedded systems in on-vehicle/autonomous deployment, has led to a vibrant new arena for focussed computer vision research. This is coupled both with increasing mobile sensing quality and increased connectivity for cloud-enabled applications.

This development creates interesting opportunities and challenges for computer vision research looking at issues such as real-time and low-power processing techniques, the potential integration of secondary sensor information (motion, GPS, audio etc.) and the use of alternative processing models utilizing both local device capabilities and on-line processing. Present research in such areas is set against the backdrop of a range of new application domains with an unprecedented mainstream consumer user base readily available.

The aim of this meeting is to bring together researchers and practitioners, from industry and academia, interested in all aspects of mobile computer vision – both within consumer devices, autonomous/embedded systems and novel deployment domains. Submissions are invited for approaches using aspects of mobile computer vision or general techniques shown to be suitable for mobile use in the general following areas:

- autonomous systems applications, remote sensor use
- computational photography
- feature extraction and representation approaches
- generalised video analysis
- multi-modal sensor fusion
- novel applications and deployment
- object detection, tracking and recognition
- people, face and gesture tracking + the human–computer interface
- vision for enhanced visualization and graphics
- vision for quality assurance, medical diagnosis, etc.

Other topics within any area of mobile-type applications for computer vision, image processing or image analysis will also be considered for inclusion.

Please submit an extended summary of about one page A4 (max 2 pages) in **PDF** format. Send contributions by email attachment (1Mb max please) to Toby Breckon (toby.breckon@cranfield.ac.uk) by 7 March 2013.

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

> Andrew Gilbert
> University of Surrey
> email: a.gilbert@surrey.ac.uk

Attend the 5th Intelligent Imaging Programme Event

The Imaging Group of the Electronics, Sensors and Photonics KTN and the Harwell Imaging Partnership would like to invite you to the 5th edition of its flagship event, the Intelligent Imaging Programme, on 14 February at the Rutherford Appleton Laboratory, Harwell, Didcot, OX11 0QX.

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.

Our event offers you an opportunity to network with and hear presentations from a range of leading companies and academics covering everything from imaging hardware to image processing and display and applications in a diverse range of sectors. These include:

- Head up and eyes out – advances in head and helmet mounted displays: Alex Cameron, BAe Systems
- Holographic volumetric 3D displays and visualisation: Javid Khan, Holoxica
- Imaging life from space and at close-range: Jan-Peter Muller, University College London
- Innovations in image capture and understanding in life sciences, entertainment and engineering: Tom Shannon, OMG
- Mini gamma ray camera for use within intensive care and operating theatres: John Lees, Gamma Technologies
- Synchrotron imaging of turbine blades: Dave Rugg, Rolls Royce
- Tensor and vector visualisation: Robert Laramee, University of Swansea

- Who do you think you are? – Some challenges for image analysis in biometrics and person identification: Mike Fairhurst, University of Kent.

To view the full agenda, see the following website: https://connect.innovateuk.org/web/intelligent-imaging-programme/overview

Simon Aliwell
Electronics, Sensors, Photonics KTN
email: simon.aliwell@espktn.org

An Appreciation of Professor Maria Petrou, FREng[2]

Maria joined the University of Surrey in 1988 as Lecturer in Image Analysis, after a brief career as a postdoctoral research fellow at the University of Oxford, University of Reading, and the Rutherford Appleton Laboratory. She played a key role in the development of the Centre for Vision, Speech and Signal Processing, and deserves all the credit for its growth in the areas of Remote Sensing and Medical Imaging. In recognition of her outstanding research achievements, she was rapidly promoted to increasingly senior academic positions, culminating in Professor of Image Analysis in 1998. By being the first-ever female engineering Professor at the University of Surrey, her appointment to chair made history. She enjoyed teaching as much as research. Her Wiley book on Image Analysis, published in 1999, was very popular, and was reprinted several times.

In the scientific community, Maria is famous for her outstanding contributions to image analysis and its application, especially to remote sensing. She proposed

a completely novel image representation for image matching known as trace transform. She developed advanced techniques for edge and line detection, for texture analysis and for image segmentation. She was a specialist in colour image processing and developed an award winning stereo-based 3D mensuration system for the stone industry. The number of citations to her work runs into thousands.

She also contributed enthusiastically and tirelessly to the activities of professional societies in various capacities. She served as Chairman of the BMVA during 1999–2002. She was on the editorial board of several scientific journals, including IEEE *Transactions on Image Processing* (1994–98). She was heavily involved in the organisation of many scientific conferences. In the IET, she served as an Honorary Editor of IET *Electronics Letters*, as an elected member of the Council of IET (2004–2007), as a Trustee of IET (2007–2009), and as a member of the Publications Board of IET (2006–2008). In the International Association for Pattern Recognition (IAPR) she held the post of Chairman of IAPR Technical Committee TC7: Remote Sensing (1998–2002), and that of IAPR Treasurer during 2002–2006.

In the period 1994–1998 she served as IAPR Newsletter Editor. She loved that job which gave her an opportunity to share her sense of humour with the IAPR community. She also enjoyed drawing cartoons, which lightened many issues of the IAPR Newsletter.

The external recognition of her academic achievements, and contributions to professional activities include many accolades. She was elected Fellow of IEE in 1998, and Fellow of IAPR in 2000. In 2004 she was elected Fellow of the Royal Academy of Engineering and in 2006 she was awarded the title of Distinguished Fellow of BMVA. Professor Petrou left the University in 2005 to lead the Communications and Signal Processing Group at the Department of Electrical Engineering, Imperial College London. In 2009 she became the Director of the Informatics and Telematics Institute in the Centre for Research and Development, Hellas, in Thessaloniki, Greece.

Maria's outstanding achievements were the product of the combination of her scientific excellence and hard work, as well as her enormous courage.

Maria's energy, devotion, professionalism, empathy and friendship marked the lives of many of us, and of her students, in an unforgettable way. It was a pleasure to work with her and to benefit from her wisdom and generosity. It was a privilege to know her. She will be sadly missed, both at Surrey, and by her friends and

---

[2]This article is reproduced by kind permission of the Royal Academy of Engineering from their website:
http://www.raeng.org.uk/about/fellowship/appreciation/pdf/MariaPetrou.pdf

colleagues in the international pattern recognition and image analysis community.

> Professor Josef Kittler, FREng
> Head of Department
> Department of Electronic Engineering
> University of Surrey

Maria Petrou (1953–2012)[3]

I first met Maria in 1987. Josef Kittler had just moved from the Rutherford Lab to Surrey with John Illingworth, and we were looking for someone to replace John on the Alvey 2D object recognition project. Maria applied, dazzled at interview and was offered an Atlas Fellowship at St Hilda's College along with the RA job. We shared an office, and she quickly set to work on the task Josef had asked her to look at – the optimisation of edge and line detection, and particularly to review Canny's edge detection criteria to see if they could be used to derive an optimal filter (it should be recalled that Canny had only implemented a Gaussian approximation).

It was soon clear to me that Maria had been trained in a highly rigorous way – on Part Three of the Cambridge Mathematical Tripos. In Cambridge this is used to filter out the best mathematical physicists for postgraduate research in fields that include astronomy, cosmology and particle theory. The Part Three is considered by many as an extreme form of voluntary self-torture. With this rigorous training, Maria was within weeks able to design, cross-check and implement the filter in three ways – using not only symbolic computation, but also two different numerical schemes – all without the appearance of breaking sweat. At heart she was a true problem solver.

Within a year of arriving at RAL she took up a lectureship at Surrey. She quickly progressed to professor before moving on to Imperial and then CERTH in Thessaloniki. We met regularly at various PhD exams and conferences, where we would catch up on our lives and careers. She seemed to thrive on the challenges posed by changes in her life. Once we bumped into each other at a conference when she was in the process of moving from Surrey to Imperial. She was in the middle of negotiating the purchase of her flat in Covent Garden. Not the person to normally allow a mobile phone to rule her life, she raced from the sessions each time the Estate Agent phoned. She clearly

relished the future excitement of living in central London. When she later took up the directorship at CERTH, she seemed to thrive on dividing her life between London and her home town of Saloniki. I also remember the pleasure she took in revising her popular text book with her son Costas. The last time we met was for a hastily rearranged viva, days before she went into surgery to remove a recently discovered lump.

I for one will miss her both as colleague and as a friend, and will remember her sense of humour and how bravely she confronted her final illness.

> Edwin Hancock
> University of York
> email: edwin.hancock@york.ac.uk

Special Issue of Pattern Recognition Letters

Celebrating the Life and Work of Maria Petrou

Maria Petrou was an outstanding scientist who interacted with and strongly influenced very many in the fields of image processing and machine vision, and who worked tirelessly to make a great many innovations in the subject – not least by introducing the trace transform, which became something of a hallmark of her abilities. She also led research groups, first at the University of Surrey, then at Imperial, and finally at CERTH in Thessaloniki. Thus it is extremely fitting that Pattern Recognition Letters is to publish a special issue celebrating her life and work.

The aim of the special edition will be to celebrate Maria's life and work by publishing a collection of scientific articles and personal reflections illuminating her own contributions. Guest editors Josef Kittler (University of Surrey) and Edwin Hancock (University of York) are inviting contributions that fall in three main categories:

1. Short personal recollections of Maria and her life and work, covering the main phases of her career, which included places like Greece, Cambridge, Oxford, Reading, the Rutherford Lab, Guildford, London and Thessaloniki. It is expected that photographs will provide a key element of this category of the special issue.

2. Reviews that place Maria's work in the context of the literature of the subject.

---

[3]Parts of this article are reproduced by kind permission of Pattern Recognition.

3. Original scientific papers that have relevance to Maria's research interests. Posthumous papers with Maria as co-author are also a possibility.

It is expected that the bulk of the papers in the SI will be in the third category.

Deadlines

- submission of papers for review: 1 June 2013 (submission open from 1 May 2013 on http://ees.elsevier.com/prletters/)
- first reviews/decisions: 15 August 2013
- revised papers: 1 October 2013
- publication: 1 January 2014.

Full details appear in Pattern Recognition Letters, and online at:

> http://www.journals.elsevier.com/pattern-recognition-letters/call-for-papers/celebrating-the-life-and-work-of-maria-petrou/

The original call for articles itself contains much further information on Maria's life and work, and makes interesting reading.

> Professor Roy Davies
> Editor, BMVA News
> email: e.r.davies@rhul.ac.uk

Further Tributes to Maria

Apart from the appreciations by Josef Kittler and Edwin Hancock included above (the first of which was published by the Royal Academy of Engineering), two notable obituaries have appeared in the Guardian and the Daily Telegraph:

> http://www.guardian.co.uk/technology/2012/dec/04/maria-petrou

> http://www.telegraph.co.uk/news/obituaries/science-obituaries/9670656/Professor-Maria-Petrou.html.

> Professor Roy Davies
> Editor, BMVA News
> email: e.r.davies@rhul.ac.uk

BMVC 2013 – Call for Papers

The 24th British Machine Vision Conference (BMVC) will be held at the University of Bristol during 9–13 September 2013. The host City of Bristol is located in the South West of the United Kingdom two hours from London. BMVC is one of the major international conferences on computer vision and related areas. It is organised by the BMVA.

Authors are invited to submit full-length high-quality papers in computer vision, image processing and machine vision. Submitted papers will be refereed for their originality, presentation, empirical results, and quality of evaluation. Topics include, but are not limited to:

- Activity and behaviour recognition
- Document processing and recognition
- Image processing techniques and methods
- Model-based vision
- Motion, flow and tracking
- Object and object class recognition
- Person, face and gesture tracking
- Real-time and robot vision
- 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 plus the traditional tutorial.

Confirmed keynote speakers are Professor Andrew Zisserman (University of Oxford) and Professor Frank Dellaert (Georgia Tech.).

Important dates

Full paper submission:	24 April 2013
Notification of acceptance:	1 July 2013

Camera-ready paper & author registration: 25 July 2013
Start of conference: 9 Sept 2013

For more information please visit:

    http://bmvc2013.bristol.ac.uk

Conference Chairs: Tilo Burghardt, Walterio Mayol-Cuevas and Majid Mirmehdi

    Dr Walterio W. Mayol-Cuevas
    University of Bristol
    email: wmayol@cs.bris.ac.uk

MIUA 2013 – First Call for papers

Medical Image Understanding and Analysis

This year, MIUA will be held at Birmingham during 17–19 July 2013.

MIUA is the principal UK forum for communicating research progress in image analysis in the medical and biomedical sciences. MIUA 2013 is the 17th in the series of successful annual meetings and will be held on the Birmingham University campus. MIUA prides itself on attracting papers on a wide range of topics from a variety of viewpoints, offering many opportunities for discussion and inspiration.

MIUA is a single-track meeting with oral and poster presentations. All accepted contributions will be published and the full proceedings will be available at the conference and online. Selected papers will be invited for publication in the online journal, *Annals of the BMVA*, and prizes will be awarded for the best work.

Technical papers (6 pages) and review papers (8 pages) are solicited on any topic within the scope of the conference. Each paper will be evaluated by three reviewers. Challenge abstracts (2 pages) are also solicited. These should outline challenging image analysis applications and/or unsolved problems from a clinical perspective. Contributions from across the spectrum of medical image analysis – from technical advances to novel practical applications – are welcome. Note that contributions are welcomed and encouraged both from inside and outside the UK.

The University of Birmingham has its own railway station ("University") and is easily accessible by train and other modes of public transport. The conference dinner will be held at the Edgbaston Cricket Ground pavilion.

Important Dates

Submission deadline: 18 March 2013
Notification of acceptance: 13 May 2013
Deadline for final camera-ready copy: 27 May 2013
Early registration: 13 June 2013
MIUA 2013 itself: 17–19 July 2013

Further details about the conference, paper submission, scope and venue can be found at:

    http://www.miua.org.uk

Contact us at: miua2013@cs.bham.ac.uk

    Ela Claridge: Conference Chair
    University of Birmingham
    email: e.claridge@cs.bham.ac.uk

Good News for Machine Vision

A new survey of the *Global Machine Vision and Vision Guided Robotics* market, 2011–2015 has just been produced and is available from Research and Markets Ltd.

In the report, TechNavio's analysts forecast that the *Global Machine Vision and Vision-Guided Robotics* market will grow at a CAGR (compound annual growth rate) of 9.74% over the period 2011–2015. One of the key factors contributing to this market growth is the increasing demand from non-conventional industries. This particular market has also been witnessing the development of next-generation machine vision products.

This should be good news for Machine Vision workers, as 9.74% growth rate for another 3 years means 32% more growth over this period, and more jobs and work for us all!

For more information refer to:

    http://www.researchandmarkets.com/publication/51yin9/global_machine_vision_and_vision_guided_robot

    Amy Cole, Senior Manager
    Research and Markets Ltd
    email: amy.cole@researchandmarkets.com

Travel Bursaries for International Conferences

In order to encourage UK postgraduate students to present work at international conferences, the BMVA issues bursaries to help cover the travel and conference costs. A number of such bursaries, of up to £750 each, are issued annually. In return, the recipient is expected to write a report on the conference for inclusion in the newsletter, or do equivalent work for the BMVA website as agreed with the bursaries officer.

To be eligible, you must be: (1) a student at a UK university; (2) a BMVA member; (3) presenting work at a major conference within the BMVA's remit.

For further details including method of application, see the following BMVA website at:

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

Dr Adrian F Clark
University of Essex
email: alien@essex.ac.uk

BMVA Sullivan Thesis Prize – Call for Nominations

The BMVA annually awards a Best Thesis prize (to commemorate the contribution made by the late Professor Geoff Sullivan) to the best doctoral thesis submitted to a UK University, in the field of computer or natural vision. Recommendations for the prize are considered by a Selection Panel appointed annually by the BMVA Executive Committee, and the prize is presented at the British Machine Vision Conference, held annually during September.

The BMVA Executive Committee now seeks nominations for the Sullivan Prize for theses examined during the calendar year 2012. Please send any nominations to the BMVA Secretary, Dr Neil Thacker (secretary@bmva.org) by 1 March 2013. Nominated theses should be made publically available through the BMVA thesis archive prior to nomination. For further information, see http://www.bmva.org/sullivan.

Dr Andrew Fitzgibbon
BMVA Chair
email: awf@microsoft.com

STOP PRESS – *Miroslaw Bober Returns to Academia!*

Miroslaw Bober has been at Mitsubishi Electric UK for some years and recently made the big step back to academia with a chair at the University of Surrey. I expect to bring further news of his career and appointment in the next issue of BMVA News.

Professor Roy Davies
Editor, BMVA News
email: e.r.davies@rhul.ac.uk

Call for Articles for BMVA News

Deadlines are:

- 10 March
- 10 June
- 10 September
- 10 December.