



BRISTOL VISION INSTITUTE

BVI REFRESH – AUTUMN 2012

Welcome to the BVI newsletter – keeping you up to date with the latest BVI news.

EVENTS

Richard Gregory Lecture 2012

The 2012 Richard Gregory Lecture, held in memory of great interdisciplinary thinker, Professor Richard Gregory, was presented by Mike Land, Professor of Neurobiology at the University of Sussex.



Mike explored the amazing eyes and visual worlds of the animal kingdom in this memorable lecture.

Bristol to host BMVC2013



The Visual Information Laboratory is to host next year's British Machine Vision Conference (BMVC2013) from 9-13th September 2013. This

will offer an exciting programme of events, including excellent invited speakers, topical tutorials and a Student Workshop.

Keep up with all VI-Lab news and events [here](#)

Seminar Series

The eagerly awaited BVI seminar series kicked off on Friday October 12th at 4pm in the Experimental Psychology building. [Dr Shelby Temple](#), School of Biosciences opened the series with his talk, followed by wine and nibbles.

You can find details of all seminars [here](#)

BVI Core Group Forum

The next BVI Core Group Forum will take on 30 November 2012 2:00-4:00pm in the Verdon Smith Room, Royal Fort Lodge. We are looking for volunteers to represent all disciplines and groups across BVI.

2012 Young Researchers Colloquium



The 2012 Young Vision Researcher's Colloquium was held at the University of Bristol, organised together with the University of the West of England and Cardiff University. With

13 talks and numerous poster presentations, the day was attended by around 80 people and was a great success. Dr Adriana Briscoe's (UC Irvine) was a guest speaker on butterfly colour vision and the keynote presentation was given by Professor Daniel Osorio (University of Sussex), who delivered an excellent lecture on our present understanding of the evolution of colour vision. In the spirit of BVI's interdisciplinary aims, the day presented a very diverse range of vision-related studies, covering biological materials for reflective mirrors, traffic sign recognition, cognitive search and camouflage.

Camouflage Workshop

The first BVI Camouflage Workshop brought together people from across the BVI community involved with or interested in camouflage research. A mix of PG students and research staff from 5 research groups attended. An introduction was given by Prof Innes Cuthill and Dr Adam Shohet, Head of the Stealth Technologies section of QinetiQ, also attended. With excellent discussion on research ideas and future collaboration, the workshop was a major success showing the benefits of interdisciplinary collaboration. For further information contact L.Talas@bristol.ac.uk i.cuthill@bristol.ac.uk.

VISUAL MOVERS AND SHAKERS

Congratulations!

Dr Dima Al Damen, a much valued VI-Lab Research Assistant has been appointed a Lectureship at UoB, to commence January 1st 2013

Dr John McGonigle completed his PhD in July this year under the Supervision of Prof Majid Mirmehdi. Dr Aaron Zhang was awarded his PhD in July 2012 and is now working as an RA with Prof Bull.

In Biological Sciences; *Heather Whitney* (ERC Research Fellow) and *Nick Roberts* (BBSRC David Phillips Fellow) have both gained proleptic lectureships. Heather studies plant-pollinator interactions, including the mechanisms and functions of iridescence in plants. Nick studies the photonics mechanisms behind vision and colour production in animals.

A Warm Welcome

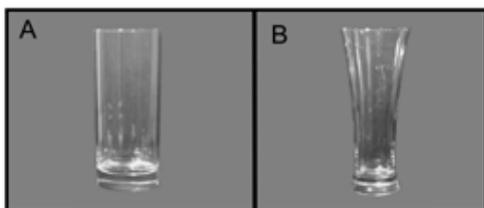
Simon Maskell joins VI-Lab as a visiting Industrial Professor. Simon Specialises in video surveillance and tracking at QinetiQ. *Oliver Moolan-Feroze* joins VI-Lab funded by a GTA award and Tobias Perret who is funded by EPSRC/Jaguar.

Another exciting new addition that expands BVI's expertise is *Jakob Vinther*, a joint lectureship between Biological and Earth Sciences who, among diverse research interests in evolutionary biology and palaeontology, is the scientist who discovered that you can reconstruct fossil dinosaur and bird feather colours from their preserved ultrastructure.

Last but not least *Jen Hawkins* has joined the BVI management team as administrator. Please feed any ideas on events or other initiatives to Jen.

RESEARCH NEWS

How glass shape affects your drinking



The speed at which we drink alcohol may be influenced by a visual misperception. Participants in a recent Bristol study were almost twice as slow when drinking alcohol from a straight-sided glass compared to a curved glass. There was no difference in drinking rates from the glasses when the drink was non-alcoholic! Participants were presented numerous pictures of the two glasses containing varying volumes of liquid. The data show that there was greater error in accurately judging the halfway point of the curved glass: it was consistently located too low. Furthermore, the degree of this error seemed to be associated with the speed of drinking. [See the full paper here](#)

Bristol-BBC Immersive Technology Laboratory- Beyond 3D!

Funded by EPSRC, this new research collaboration builds on the strengths of Bristol Vision Institute and BBC R&D with associated partners including BBC NHU and Aardman. The work spans engineering (Bull, Thomas (BBC)) and psychology (Gilchrist) with application to the creative arts (Flaxton). The research will provide key underpinnings for future consumer and professional technology and services, in particular related to the rate-quality trade offs for new high frame rate and high dynamic range display formats. The new facility supports a subjective testing laboratory which (based on the work of Troscianko and Hinde) will, for the first time enable accurate assessment of the presence created by a particular format and display environment. For further details contact David Bull [dave.bull@bristol.ac.uk].

Biped Robot Vision

A remarkable aspect of animals as 'biomechatronic' systems is the performance of their control system given its relatively simple sensors. Although the technology exists to produce image sensors that can outperform the eyes of humans and cheetahs, there is no artificial approximation of the visual perception capacity of animals. A £550k EPSRC research grant has been awarded to BVI (Burn, Bull, Mayol-Cuevas and Gilchrist) to investigate the use of artificial visual perception for control of locomotion in legged robots. There is much known about the way humans use vision to control locomotion. This has however, yet to be translated to the engineering disciplines of machine vision and robotics. For further details contact J. Burn [j.f.burn@bristol.ac.uk].

EPSRC funding for BVI in video compression

The predicted growth in demand for bandwidth, especially for mobile services will be driven by video. David Bull (VI-Lab), Dimitris Agrafiotis (VI-Lab) and Roland Baddeley (Experimental Psychology) have won a new £600k research grant to investigate perceptual redundancy in, and new representations for, digital video content. In collaboration with BBC and HHI-Fraunhofer Berlin, the team will investigate video compression schemes where an analysis/synthesis framework replaces the conventional energy minimisation approach. Early results by Zhang and Bull, modelling scene content using computer graphic techniques is already producing world-leading results and has the potential to create a new content-driven framework for video compression. For further details contact David Bull [dave.bull@bristol.ac.uk].