

BRISTOL VISION INSTITUTE



BVI REFRESH AUTUMN 2017

EVENTS



We can't always believe our eyes

A blue plaque was unveiled earlier this year to commemorate the life and work of the great interdisciplinary thinker, Professor Richard Gregory.

Richard was a leading Bristol academic, psychologist, and inspiration for BVI, whose interest was in **visual illusions** and what these revealed about human perception. The plaque was unveiled by the Right Honourable Lord Mayor of Bristol, Councillor Jeff Lovell, together with family, friends and colleagues of Richard at the **Workhouse Kitchen**, at the bottom of St Michael's Hill, a central point for vision scientists.

read more: [Blue Plaque](#)

Bristol Drone Cinematography Workshop

On 6th December at Engineers House, Bristol, Bristol Vision Institute's Visual Information Lab will host an event where experts in drone cinematography – users, producers, and technologists – explore the future potential for this exciting and growing area. The workshop will cover the rules, requirements, tools and constraints of shooting with drones, in particular the use of multiple drone platforms.



Registrations: [HERE](#)

BVI Platform Showcase

On 8th December BVI will showcase nine of its 12 recipients of Platform Grant funding in an end of year celebration.

This will be held at the Watershed FROM 2PM with speakers including: Felix Mercer Moss, Aaron Zhang, Paul Hill, Gaurav Malhotra, Angeliki Katsenou, Alex Mackin, David Gibson, Henry Knowles and Steve Hinde.

Richard Gregory Memorial Lecture 2017

The Science of Seeing Differently

This year's Richard Gregory Memorial Lecture was given by Neuroscientist **Dr Beau Lotto**, Founder and CEO of **Lab of Misfits Studio**, the world's first neuro-design studio. In the lecture, **The Science of Seeing Differently**, Dr Lotto took the audience on a fascinating and entertaining journey, explaining how perception provides the foundations of human experience. To join our mailing list to find out about next year's Memorial Lecture please email bvi-enquiries@bristol.ac.uk. Below photo (L to R) – Prof Guy Orpen, Dr Beau Lotto, Prof David Bull.



VISUAL MOVERS AND SHAKERS

Leverhulme Early Career Fellowship

Leverhulme Early Career Fellowships are awarded to leading researchers beginning their academic careers.

These prestigious fellowships are highly competitive with only 35 awarded in 2017 in the category of Science. VI-Lab Research Fellow, Dr. Angeliki Katsenou, was one of the successful applicants from the University of Bristol. Her topic of research is "Perceptual video analysis for deep compression" and the duration of the fellowship is 36 months with a starting date March 1st 2018.

read more: [HERE](#)

BVI Seminar Series 2017-2018

BVI seminars start at 4 PM and are held in Bristol University's Life Sciences Building. Talks are 1 hour long and conclude with a Q and A and a drinks and nibbles reception. For more information and to be added to our mailing list to find out about our seminars please email bvi-enquiries@bristol.ac.uk.

Friday 24th November 2017 - **Dr Cees Snoek** - University of Amsterdam
Friday 8th December 2017 - Platform Presentations
Friday 26th January 2018 - **Dr Nello Crisiani** - University of Bristol
Friday 9th February 2018 - **Dr Harriet Allen** - Nottingham University
Friday 23rd February 2018 - **Dr Martin Rolfs** - Humboldt University, Berlin
Friday 9th March 2018 - **Dr Filipe Cristino** - Bangor University
Friday 23rd March 2018 - **Dr Lauren Sumner-Rooney** - Oxford University
Friday 13th April 2018 - **Dr Ute Leonards** - University of Bristol
Friday 27th April 2018 - **Dr Andrew Calway** - University of Bristol - Localisation and Mapping with Vision
Friday 11th May 2018 - **Dr Sarah Street** - University of Bristol
Friday 25th May 2018 - **Dr Kristian Moen** - University of Bristol
Friday 8th June 2018 - **Dr Andrew Wallace** - Heriot-Watt University, Edinburgh - What if it rains? Sensing for vehicle autonomy in bad weather.

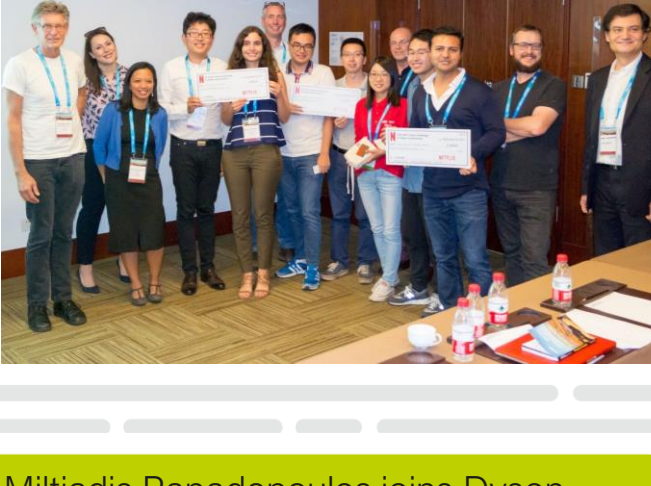
Further information including abstract and biography will be provided on our [Website](#), [Twitter](#) and [Facebook](#) pages leading up to each seminar talk.



New BVI Platform awards

The BVI EPSRC Platform Grant, Vision for the Future, entered its second phase of research awards in 2017 providing research funding of over £200,000 to BVI researchers.

Dr Aaron Zhang (Perceptual Resolution Adaptation for Immersive Video); Dr Henry Knowles (The Virtual Raptor: Learning Realistic Deep Models of Visual Attention); Dr Ilse Daly (Scanning the World: Bioinspiration for Hyperspectral Pushbroom Imaging from the Scanning Eyes of Mantis Shrimp); Dr Angeliki Katsenou (Deep Analysis and Classification of Video Texture), Dr Alex Mackin (Adaptive Formats: Investigating the Interplay Between Common on Video Parameters); Dr Paul Hill (Perceptual Denoising), Dr Stephen Hinde (Immersion as a Social Phenomenon: Engineering the Audience Experience); Dr. Gaurav Malhotra (Seeing through noise); and Dr. Pui Anantrasichai (Safe footstep prediction in low light conditions). A third round of research awards will be initiated in 2018 along with further secondment opportunities.



From A to Z with Amazon

Walterio Mayo-Cuevas, Professor in Robotics, Computer Vision and Mobile Systems, from BVI's Visual Information Laboratory, has recently started a one-year long placement with Amazon.

Due to the highly confidential nature of this project we hope to have more information to share when Walterio returns to Bristol in 2018.

read more: [HERE](#)

VI-Lab hits ICIP in China

BVI's Visual Information Laboratory had a strong presence at this year's IEEE International Conference on Image Processing in Beijing, China.

ICIP is the premier international conference in the field of image and video processing. Besides the presented papers, Angeliki Katsenou and David Bull co-organised with RWTH, Aachen and The University of Nantes, a Grand Challenge on Video Compression. The challenge had the purpose of inviting researchers from across the world to deliver codecs that surpassed the state of the art in compression performance.

read more: [HERE](#)

Miltiadis Papadopoulos joins Dyson

Miltiadis Papadopoulos, who is currently completing his PhD in Perceptually Augmented Rate Quality Optimization will start work with Dyson in November 2017.

Mitidis will be employed as an Advanced Embedded Electronics Engineer with a specialisation in vision systems and vision sensor technologies. He will be part of a newly formed team in the Research Design Development (RDD) department, with responsibilities including embedded software and hardware design and prototyping.

NEW PEOPLE

BVI management welcomes new members

The BVI Management Team has recently expanded to welcome two new members.



Dr Angela Piccini

These are **Dr Angela Piccini** Reader in Screen Media, Department of Film and Television and **Dr Angeliki Katsenou** Postgraduate Representative Department of Electrical and Electronic Engineering whose work focuses on signal processing and video compression.



Dr Angeliki Katsenou

Camo Lab's new students

Leah Costello, Kelly Ray and Benito Wainwright have just started Masters by Research in the Camouflage Group in the School of Biological Sciences. All graduated this year from undergraduate programmes at the University of Bristol.



RESEARCH NEWS



Artist in residence: The Impossible Garden

The year-long residency of BVI's Artist in Residence Luke Jerram has turned a corner as we near the completion of Ophthalmologist Cathy Williams' grant from The Leverhulme Trust.

Luke, whose works include the giant Park and Slide installation on Bristol's Park Street and the Glass Microbiology artworks housed in museums of New York and London, has been spending one day a week exploring the complexity and impact of brain related vision problems at Bristol Vision Institute. The focus of his residency is to create a work that will raise awareness about the nature of cerebral visual impairment (CVI) and explore the nature of perception and vision. Currently plans are being developed to establish a temporary exhibition of illusions in the University of Bristol's Botanical Gardens. To be on the mailing list to be invited to this exciting new project please email bvi-enquiries@bristol.ac.uk.

read more: [HERE](#)



'Bandit-masked' feathered dinosaur

Researchers from the University of Bristol have revealed how a small feathered dinosaur used its eyes, patterned, including a bandit mask-like stripe across its colour, to avoid being detected by its predators and prey.

The small dinosaur showed a 'counter-shaded' pattern with a dark back and light belly, a pattern used by many modern animals to make the body look flatter and less 3D. This stops animals standing out from their background, making them harder to spot, avoiding detection from would-be predators and predators. This work is a collaboration between BVI and member of BVI, has shown that the precise pattern of countershading relates to the specific environments in which animals live. Animals living in open habitats, such as savannahs, often have a counter-shaded pattern that goes from dark to light sharply and high on the side of the body, while those living in more closed habitats, like forests, usually change from dark to light much lower and more gradually.

University Team wins Video Compression Grand Challenge

Researchers in BVI's Visual Information Laboratory have been working with international partners to develop cutting edge video compression technology for several years. Their most recent innovation, ViSTRa, outperformed all competitors in the recent IEEE Video Compression Grand Challenge, being recognised as the most innovative technology.

Developed by researcher Dr Fan Zhang, PhD student Mariana Afonso and Professor David Bull, the patented ViSTRa technology is based on perceptually optimised resampling within the encoder. The codec has attracted considerable attention from industry and the team is currently preparing a contribution to the next generation of MPEG video coding standards, 'Beyond HEVC'. Student of Bristol PhD student, Mariana Afonso was awarded the Netflix University Prize by Anne Aaron and Ioannis Katsavounides.



read more: [HERE](#)

Inside the Mind of the Audience

In work financed through an Impact Accelerator grant and the BVI EPSRC Platform Grant, Dr Stephen Hinde, supervised by Professor Iain Gilchrist and Professor David Bull, are working on research into the psychological measurement of immersion while audiences watch media.

This research is a collaboration between the Bristol Vision Institute, Aardman Animation, BBC R&D and the Watershed. Media here includes both programmes for the broadcast industry and film for the cinema industries. In an initial broadcast media experiment with BBC R&D, levels of immersion have been compared between audiences watching Planet Earth 2 in High Dynamic Range Format with those watching in Standard Definition Format. The team's novel approach demonstrated high levels of discriminatory power and offers significant potential.

read more: [HERE](#)



Bristol announced as a UNESCO City of Film

The University of Bristol has welcomed exciting news that Bristol has been named a UNESCO City of Film.

Dr Angela Piccini, from the University of Bristol's School of Arts, was the university's representative for the project and co-wrote the bid with partners, outlining the institution's potential participation by the Departments of Film & Television, Anthropology & Archaeology, and Theatre and the Faculty of Engineering and Bristol Vision Institute. Angela said "UNESCO City of Film status attempts to draw together all of the diverse film, television, and screen media activities across the city - from silent film to virtual reality."

read more: [HERE](#)

Predicting Harmful Algal Blooms

Work in generating an early warning system for Harmful Algal Blooms (HAB) has been initiated within BVI.

HAB-contaminated seafood produce toxic reactions and can be fatal and can have a catastrophic economic impact on coastal tourism and fishery economies. This work is a collaboration between BVI (Paul Hill and David Bull) and Khalifa University in the United Arab Emirates funded by the British council and has therefore focused on the impact of HABs within the Gulf. HABs within the Gulf have also a significant impact on desalination plants that may need to halt operations causing further economic / environmental impacts.

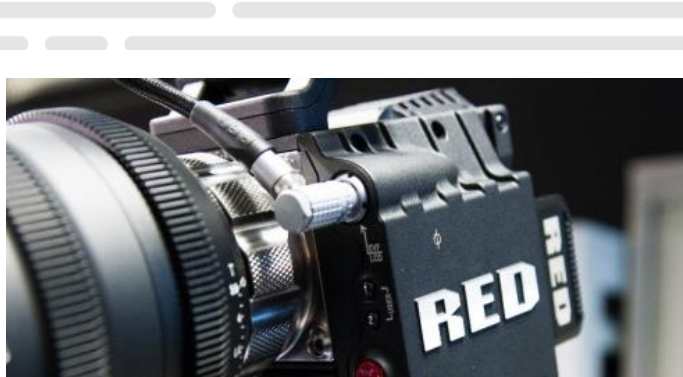
read more: [HERE](#)

Bristol partner with Google

With increased demands for better quality and more immersive and interactive visual services, video has become the primary driver of the internet.

A team of researchers from BVI has received funding under Google's Faculty Research Awards program to deliver the next generation of video compression technology. Google's worldwide research program identifies the best research from across the world in all of the areas relevant to its businesses. Only five UK universities were selected in 2017 - Bristol, Oxford, Cambridge, Edinburgh and UCL - and Bristol was one of only two universities worldwide to receive an award for research in video compression.

read more: [HERE](#)



BBC Data Science Research Partnership

BBC R&D has announced a five-year research partnership with eight UK Universities to unlock the potential of data in the media.

The Data Science Research Partnership will be at the forefront of machine learning in the media industry, helping create a more personal BBC that can inform, educate and entertain in new ways. The partnership brings together industry experts from across the BBC and world-leading UK researchers from the Universities of Bristol, Manchester, Edinburgh and Surrey, Imperial College London, Queen Mary University of London, Ulster University and University College London. The partnership will also collaborate with media and technology organisations from across the UK, Europe and internationally on a range of projects focused on obtaining a better understanding of audience behaviour and creating more immersive and personalised content. This strategic relationship builds on many years of close and successful collaboration with BVI.

read more: [HERE](#)

Making Wild Film History Archive Summary

The Wildfilm History Archive consists primarily of a physical archive of materials that originated from the WildFilmHistory (WFH) Project.

The project was launched by the Wildscreen Trust in 2008 with Heritage Lottery Funding (HLF) as a multi-media guide to the history and heritage of wildlife filmmaking from the 1890s, it was the brainchild of Christopher Parsons OBE - a visionary filmmaker, ex-head of the BBC's Natural History Unit, and co-founder of the Wildscreen Trust. A recent scoping study of a Wildfilm Archive commissioned jointly by the University of Bristol and Bristol Archives (through Wellcome Trust funding) is seeking feedback from potential users on their interest and likely use of the collection to help inform the University's decision to invest in the long-term preservation and custodianship of the Archive. For further information contact Debra Hiom, Assistant Director Research Services, Library Services.

To take part in the survey click: [HERE](#)

BVI hits Netflix

BVI researchers Mariana Afonso and Felix Mercer Moss each spent a two month secondment at Netflix over the summer of 2017, helping the company to optimise its coding and delivery of video content.



Further research

For more information on our other recent research please visit the BVI website: bristol.ac.uk/vision-institute/

Or contact us via:

Twitter: [@VisionInstitute](https://twitter.com/VisionInstitute)

Facebook: [@BristolVisionInstitute](https://www.facebook.com/BristolVisionInstitute)

Email: bvi-enquiries@bristol.ac.uk