



Anglia Ruskin
University

First_

May issue_

Welcome to our May edition of First_

It is really excellent to read of the success of our researchers all the way from those setting out on research careers to our very established colleagues.

We have now started planning for our next Research Conference on 15 January, 2019 where we will showcase the depth and breadth of what we do and we look forward to seeing as many of you as possible there.



Prof Mike Cole
Deputy Dean
(Research and External Income),
Faculty of Science & Technology,
Anglia Ruskin University

Funding of over €999K received for group project

Prof Hassan Shirvani, the project leader from our University, with colleagues Dr Habtom Mebrahtu and Dr Javaid Butt, were successful in securing Erasmus+ funding of €999,231, together with 10 partners from 6 countries including the UK, Greece, Italy, Poland, Romania, & Sweden.

The aim of the project is to bring Higher Education Institutes (HEIs) and Small to Medium Enterprises (SMEs) together by employing innovative methodologies for research and development, that includes the implementation of the first innovative industrial PhD path for SMEs.

SMEs are the foundation of Europe's economy, yet just 22% of them are positioned towards innovation. In this perspective, HEIs can and should strengthen them. What's required is a greater, more structured interaction among HEIs and SMEs and a higher ability of European universities to train industrial researchers and prepare them to deal with the unique cultural and research contexts of SMEs.

The GIENAHS project intends to contribute to the growth of innovation culture in European SMEs by developing a smart and common European standard of interaction, fostering a stronger collaboration between HEIs and SMEs through a new methodological approach, where they design industrial PhD pathways.

Hassan, Professor of engineering design and simulation, said during an interview on Italian TV, "There are some programmes in Europe that focus on the professional doctorate which satisfies the need of an individual in industry but not the need of the industry on innovation. The GIENAHS Alliance aims to address the strategic capture issue of the innovative contribution to knowledge which SME's over look due to commercialisation pressures and lack of interaction between HEIs. This results in considerable difficulties for the SME's in Europe to manage research and development processes."

The implementation of this research is being supported by our Faculty Projects Team.

If you would like more information about how our Projects Team could support you contact: fstprojects@anglia.ac.uk

For more information on this project, contact: hassan.shirvani@anglia.ac.uk

First published article for PhD researcher in Psychology

In April PhD researcher Cari-lène Mul, from our Department of Psychology, published her first peer-reviewed article in the Journal of Autism and Developmental Disorders.

Cari-lène's article, entitled 'The feeling of me feeling for you: Interoception, alexithymia and empathy in Autism', is a report on her study of interoception, alexithymia and empathy in people with autism. Interoception refers to the ability to sense things that come from inside of the body rather than from the outside world, such as sensations like heartbeat, hunger, thirst and lack of air. These bodily sensations are related to how we feel emotions.

Alexithymia is a condition where people have difficulty recognising, describing and

distinguishing their emotions. Cari-lène found that people with autism who had low interoceptive awareness tended to have higher levels of alexithymia and lower empathy than people with autism who had high interoceptive awareness, or people without autism.

Considering approximately 50% of people with autism also have alexithymia, these are important findings that may help explain some social difficulties, but also other mental health conditions which are related to alexithymia, such as anxiety and depression, in a lot of people with autism.

These findings also suggest that becoming more aware of bodily sensations (in a positive, non-anxious, mindful way) could be a beneficial therapeutic avenue for some people with autism.

Mul, C., Stagg, S. D., Herbelin, B. & Aspell, J. E., 2018. The feeling of me feeling for you: Interoception, alexithymia and empathy in Autism. *Journal of Autism and Developmental Disorders*. pp.1-15. doi.org/10.1007/s10803-018-3564-3

For more information about the study contact: cari-lene.mul@pgr.anglia.ac.uk



Cari-lène Mul, from our Department of Psychology

Support from sixth UK research council

The Global Sustainability Institute has received backing from the Science & Technology Facilities Council, the sixth of seven UK research council's, to provide funding to the GSI since their launch in 2011.

The funding will allow the Global Sustainability Institute (GSI) to benefit from expertise within the University of Cambridge's Department of Applied Mathematics and Theoretical Physics to carry out a review of data analysis techniques that could be applied to food systems and associated risks around the world.

When a country experiences a food production shock, through disease, drought, flooding, hail damage or wind, global food trade is expected to fill the gap. However, in 2007 and 2008 crop failures caused by drought, low levels of global stocks and the widespread use of export bans, led to a more than doubling of the price of wheat, maize, soybeans and rice.

For many developed countries the increase in grain price was easily absorbed and had marginal impact on food availability. For developing countries, domestic prices increased dramatically, triggering sometimes violent protests and, when governments responded with violence, the outbreak of civil unrest.

The GSI has been building models, gathering data and developing methods to explore the dynamics involved in civil unrest, financial instability and local responses associated with food production shocks. They hope the collaboration with the University of Cambridge can open up even more sophisticated approaches to data analysis that could yield new insights, and better inform policy and market based responses.

Prof Aled Jones, Director of the GSI, said, "We're delighted to have received funding from the STFC Food Network+ to help us engage with the astrophysics research

community at the University of Cambridge.

"Exploring this expertise in data analysis should allow us to find novel techniques that can be applied to better understand food price dynamics and the societal risks associated with market and government responses to food production shocks.

"Building on our success with European funding in projects such as SHAPE-ENERGY and MEDEAS this demonstrates how truly interdisciplinary we are. As an institute we believe that working across academic fields can bring new insight into tackling and understanding today's global challenges."

The GSI have also been recently celebrating their 7 year anniversary and the big move to new offices at 183 East Road, To top it off Aled was invited to give one of the VCs Inaugural Professorial Lectures, entitled 'The apocalypse: an update', which was widely attended earlier in May.

For more information on their research contact: aled.jones@anglia.ac.uk



Prof Aled Jones, Director, GSI

Dr Rajshree Hillstrom to deliver TEDx talk

Reader in Medical Engineering, Dr Rajshree Hillstrom, has been invited to deliver a TED talk at the RWTH Aachen University, Germany, on 9 June 2018.

The theme for this year's talks is 'Boldness'. Rajshree, Director of the Medical Engineering Research Group in our Faculty, will be talking about the application of engineering principles to seek solutions to medical problems, primarily in osteoarthritis, a debilitating and degenerative joint disease that increases with age and obesity.

TED is a non-profit organisation devoted to spreading "ideas worth sharing". This is usually in the form of short, interesting and powerful talks at annual conferences where impactful people are invited to share what they are passionate about. TED started in 1984 as a conference merging Technology, Entertainment and Design and now covers almost all topics, including science, business, global issues and art in over 100 languages. Past speakers include Bill Gates, Al Gore, Jane Goodall, Sir Richard Branson and Bono. TEDx events are planned and coordinated under a free license granted by TED. Three hundred people attended the last few TEDx events.

More information on the TEDx event can be found at: tedxrwthachen.de/2018/

For further information on her research contact: rajshree.hillstrom@anglia.ac.uk

Newsfeed round-up

From April 2018

'Providing a voice for trans and non-binary youth'

Dr Daragh McDermott and PhD researcher Sam Martin are looking at ways of empowering transgender male and non-binary youth, and helping them find a voice on the issues that matter to them most.

Read more at: www.anglia.ac.uk/science-and-technology/news

Conversation articles by our University academics overall were read 122,734 times during April 2018

Articles submitted by our Faculty and most read in April 2018

Dr Agatha Grela, Prof Michael Cole & Dr Lata Gautam

'Xanax: how does it work and what are the side effects?'

Published on April 11, 2018 - read 6,581 times during April.

Prof Viren Swami

'Do women really go for 'bad boys'? Here's the science that settles the question'

Published 19 May, 2016 - 6,789 read 7,611 times during April.

View The Conversation articles in full via our [Anglia Ruskin University news webpage](#)

Interested in writing for The Conversation? [Pitch your article suggestion directly to them or contact: \[jon.green@anglia.ac.uk\]\(mailto:jon.green@anglia.ac.uk\)](#)

Impact of Retinitis Pigmentosa on activities of daily living

Ahoora Baranian, PhD researcher with our Department of Sports & Exercise Sciences has been investigating the effect Retinitis Pigmentosa has on everyday activities.

Retinitis Pigmentosa (RP) is a genetically inherited eye disorder which leads to vision loss and in many cases full blindness, with currently no cure. RP starts with patchy loss in the peripheral vision which may progress to tunnel vision in later stages and effects the ability to complete many everyday activities that involve vision.

The aim of the research is to provide evidence-based advice on how to make tasks easier to complete, and to positively influence independence and quality of life among those with this eye disorder.

Information was collected through two questionnaires from over 500 participants, exploring activities that people with RP found most difficult to complete. The most difficult tasks were orienting in poor and bright light both indoors and outdoors, and avoiding peripheral obstacles outdoors.

The study went on to investigate standing balance stability to provide evidence of the role peripheral vision plays in standing postural stability, as a precursor to orientation and obstacle avoidance. Data was taken with 57 individuals (37 with RP).

When standing in habitual conditions, individuals with RP were able to regulate balance in a comparable manner to those with normal vision. However, balance control within the RP group deteriorated when standing in unstable situations, specifically when somatosensory information was disrupted. Findings also indicated that in the RP group, whilst somatosensory information appears to be the dominant source of sensory information for controlling balance compared to vision, vision is still utilised

in regulating balance, which was evident when the 'dominant' (somatosensory) sense was disrupted.

Avoiding peripheral obstacles was examined in the final stage of research. This was done in a biomechanical laboratory with 34 participants (18 with RP). Gait variables such as minimum foot clearance to obstacle, step length and step width were studied. This data is currently being analysed.

Ahoora said, "Results from the studies are being reported to those with RP through the charity 'RP Fighting Blindness' who've been very supportive from day one of this project. It's hoped the findings will help enhance the quality of life for those with RP".

RP Fighting Blindness helped recruit individuals and report the research findings. Ahoora was invited to 10 Downing Street as an ambassador of our University, celebrating the society's great charity work.

For more information contact: mohammad.baranian@pgr.anglia.ac.uk



Ahoora Baranian at No. 10 Downing Street

Psychology student wins first prize with conference poster

Farah Hina, a third year undergraduate student from our Department of Psychology, recently won first place with her conference poster at The British Psychological Society's Annual Conference 2018.

The Society's Annual Conference, held in May, attracts academics, researchers and practitioners from around the world and hosts top keynote speakers and presentations on recent research. Farah attended with Dr Jane Aspell and Dr Flavia Cardini, both lecturers and researchers from our Department of Psychology.

Farah was awarded the 2018 National British Psychological Society's prize for her poster entitled 'Behavioural and brain responses to interoceptive signals in musicians' and explains, "Interoception refers to the processing of signals originating inside the body. Many studies found that interoceptive processing is associated with an enhanced activity of Anterior Insula (AI). Additionally, neuroimaging evidence reported a significantly larger interaction in the AI of trained musicians compared to non-musicians, hence, a link between interoceptive processing and musical training is plausible.

"One previous study investigated this using heartbeat discrimination tasks, psychometric tests and self-reported dispositional traits and found higher interoceptive accuracy in professional musicians in comparison to non-musicians.

"Several lines of evidence show that Heartbeat Evoked Potential (HEP) is a suitable measure of interoceptive processing. Therefore, we furthered this study using the HEP and the heartbeat perception tasks to investigate interoceptive sensitivity (IS) with the Multidimensional Assessment of

Interoceptive Awareness (MAIA) to measure interoceptive awareness (IA) of participants with and without musical training."

In June 2017 Farah was awarded £2000 from the Wellcome Trust Biomedical Vacation Scholarship to take part in a research project under the supervision of Dr Jane Aspell. More recently she presented a poster at the Cambridge Neuroscience Seminar 2018 - Mental Plasticity & Development with PhD researcher Jenny Todd. With Farah's keen interest in interoception, we hope to see more from her after her graduation.

For more information on the research around interoception, contact: jane.aspell@anglia.ac.uk



Farah Hina, third year undergraduate

An intelligent plugin to reduce risks and empower internet users

Prof Alamgir Hossain and Dr Khin Lwin from our Anglia Ruskin IT Research Institute (ARIT) recently won £16K funding from Innovate UK to explore the development of a plugin against phishing and other cyber security threats.

The project entitled 'Risk2Click' aims to deliver an intelligent customisable plugin that will be available for users to add to their web browsers. The plugin will identify suspect web links from phishing emails, popups, spyware, ransomware and other cyber security threats and alert the user.

The challenge for the ARIT team is to develop a hybrid artificial intelligence algorithm that will use machine learning, data mining, computer vision and natural language processing to identify new threats and 'teach' the Risk2Click plugin to adapt accordingly.

For more information on the project contact: alamgir.hossain@anglia.ac.uk

Academic Staff starters

From April 2018

Dr Eleonora Vagnoni / Lecturer / Psychology / Research interests: how the brain represents the space around the body and what factors influence this representation, touch perception, autism, self/other distinction.

Congratulations!

PhD completers, April 2018

Dr Eldre Beukes

Vision & Hearing Sciences

Thesis title: *Audiology-guided Internet-based cognitive behavioural therapy for adults with tinnitus in the UK*

Supervisory team: Prof Peter Allen

Providing a voice for trans and non-binary youth

PhD researcher Sam Martin and their supervisor Dr Daragh McDermott, are looking at ways of empowering transgender male and non-binary youth, and helping them find a voice on the issues that matter to them most.

The QueerViBE programme combines interactive video tutorials that explore gender, power and prejudice, with online community-building exercises that allow young trans male and non-binary youth to discuss and share important topics.

The online research project, which is looking for volunteers, is being led by Sam Martin, a PhD researcher in our Department of Psychology, who identifies as non-binary (genderfluid). The project forms part of a wider study on queer masculinities and everyday prejudice.

Sam said, “We’re seeking the voices of trans male and non-binary youth to understand how they cope with and manage the negative experiences and messages of transphobia communicated on a daily basis.

“Too often it seems that trans and non-binary youth get spoken for, whether in the media or day to day. Everyone seems to have an opinion, but the views and experiences of trans and non-binary youth are not always being heard. We want to give some power and a voice back to young people in educating and informing others about their lives.

“QueerViBE will hopefully provide the tools and the platform to accomplish this. The aim is to see whether we can evidence positive changes in physical and mental wellbeing, as well as a number of other factors, over the course of the intervention and beyond.”

Dr Daragh McDermott, the project’s research supervisor said, “Trans male and non-binary youth face significant risk in terms of their physical and mental wellbeing. Through QueerViBE, it is our intention to provide a platform that supports the development of a healthy and positive gender identity for young people.”

QueerViBE is open to all transgender male, transmasculine, non-binary/gender non-conforming, intersex and questioning young people in the UK, aged between 16-21.

For further details, or to apply to take part, please contact:
sam.martin2@pgr.anglia.ac.uk or visit www.qvibe.org

Welcoming your feedback and news

If you’d like to share an article or piece of news in **First**, have comments on our newsletter or would like to find out more about our faculty’s research pursuits, please send your email to the editor, Nickie Efford-Eliraz: fst-first@anglia.ac.uk