

#PostersinParliament

POSTERS IN PARLIAMENT 2016

TUESDAY 2 FEBRUARY
THE JUBILEE ROOM

12.30pm-1.30pm: Exhibition one

2.00pm-3.00pm: Exhibition two

3.30pm-4.00pm: Speeches and prize giving

**BC
UR** BRITISH
CONFERENCE OF
UNDERGRADUATE
RESEARCH

Welcome to the fourth Posters in Parliament exhibition of research undertaken by undergraduate students from across the country. These students represent the next generation of innovators and academics.

Their discoveries are already helping to further our understanding of the big challenges facing the world today. This event is part of the British Conference of Undergraduate Research (BCUR), an open coalition of universities dedicated to encouraging a national culture of undergraduate research. BCUR grows every year, giving more and more undergraduate students the opportunity to experience real research at the cutting edge of their field. Many of them go on to publish their work in highly-rated journals and then develop their research even further as postgraduate research students.

Every year we award prizes for the two best posters. Each university has been asked to nominate a student for the second exhibition, which is where judging will take place. This year the judging panel is led by Sir Anthony Cleaver, (Chairman of NERC) and includes Professor Sir Colin Berry (Professor Emeritus, Queen Mary University of London), Nick Hillman (Director of HEPI), Julia Holdsworth (University of Hull), Kathryn James (Edinburgh Napier University) and Gregory Young (University of Montana). I am very grateful to everyone who has participated in the judging process, to Mark Hendrick MP for sponsoring the event and to the University of Central Lancashire as the hosting institution.

I hope you enjoy the exhibitions.

Professor Stuart Hampton-Reeves

Chair of the British Conference of Undergraduate Research

Posters in Parliament brings together a remarkable collection of the best undergraduate research from across the country. Today's exhibitions showcase the tremendous progress that UK universities have made with regards to embedding undergraduate research and demonstrates how research-informed teaching can profoundly enhance the quality of the student experience.

We know from our experience at the University of Central Lancashire how powerful undergraduate research can be and it is something to which we are deeply committed. To date over 400 interns have worked directly alongside University of Central Lancashire researchers on projects as diverse as digital publishing, wind power analysis, and smart bandage development.

Research and teaching are deeply intertwined. For undergraduate students, Posters in Parliament is a great opportunity to share research and ideas with students from other universities. The best students are enquiring students and their energy and innovation, their questions and discoveries, are needed if Britain is to succeed in the future. The modern world faces big challenges in a huge range of areas such as energy, health and sustainability but Posters in Parliament clearly demonstrates we have a new generation of emerging researchers able to meet those challenges.

Professor Mike Thomas

Vice-Chancellor, University of Central Lancashire

POSTERS IN PARLIAMENT 2016

EXHIBITION BACKGROUND

Posters in Parliament is an exhibition inspired by the US Posters on the Hill event in which the best students are sent by their universities to present their work to the House of Representatives and the Senate. This gives the opportunity for legislators and policy makers to see first-hand some of the innovative research taking place around the country. Posters in Parliament was established by the University of Central Lancashire and initially co-funded by a grant from HEFCE's Catalyst Fund. Since being established, the event has been coordinated and hosted by the University of Central Lancashire where the Chairman of BCUR, Professor Stuart Hampton-Reeves, is Director of Research in the College of Business, Law and Applied Social Sciences.

BCUR was founded in 2010 by a coalition of universities from across the sector and held its first conference at the University of Central Lancashire in Preston in April 2011. The conference meets annually, bringing students from across the UK to present their work. In 2016, the conference will be hosted by Manchester Metropolitan University.

TODAY'S PROGRAMME

12.30pm - 1.30pm: Exhibition one

2.00pm - 3.00pm: Exhibition two

3.30pm - 4.00pm: Speeches and prize giving

The exhibitions and prize giving will be in the Jubilee Room and adjoining IPU Room.

BCUR BRITISH
CONFERENCE OF
UNDERGRADUATE
RESEARCH

BLACKPOOL AND FYLDE COLLEGE • EXHIBITION ONE

Kate Newton katenewton3@gmail.com

Change management success factors, a comparison of themes within traditional project management literature and the perspectives of middle managers working within the English National Health Service

This qualitative study will investigate whether there are factors which specifically underpin successful change management projects within the National Health Service, and compare them with the features identified within traditional project management literature.

BLACKPOOL AND FYLDE COLLEGE • EXHIBITION TWO

Adrian Brooks adrian.brooks2@baesystems.com

Keeping the glass half-full - An investigation into the importance of PR in Public Sector Project management

With only around one-third of public sector projects being delivered on time and on budget, just how important is having good public relations in the delivery of successful projects?

BOURNEMOUTH UNIVERSITY • EXHIBITION ONE

Eleanor Green eleanorgreen@hotmail.co.uk

Animals and tourism: a sustainable relationship?

Exploring how the relationship between animals and tourism has developed over time and establishing the future of captive animal-based attractions in our ever-changing society.

BOURNEMOUTH UNIVERSITY • EXHIBITION TWO

Daniel Whitford i7682662@bournemouth.ac.uk

Detecting attacker personas

How to derive effective network security monitoring rules from attacker personas.

LONDON METROPOLITAN UNIVERSITY

• EXHIBITION ONE AND TWO

Angeliki Stika ANS1326@my.londonmet.ac.uk

Joshua O'Dude JOO0501@my.londonmet.ac.uk

A novel approach to the synthesis of biologically active heterocyclic compounds

The aim of this project is to synthesize the core structure of a 5-HT_{1B} receptor agonist, the pyrroloquinoxaline (CGS12066B) and analogues.

LONDON SCHOOL OF ECONOMICS • EXHIBITION ONE

Sophie Donszelmann sdonszelmann@gmail.com

Social movements against mining in Guatemala: a case study of static political cultures and fluid civil societies

While social movements against mining operations in Guatemala have not been successful in changing Guatemalan political institutions, they have been successful in consolidating the emergence of a rights culture among mobilising indigenous groups.

LONDON SCHOOL OF ECONOMICS • EXHIBITION TWO

Matthew Pennill mattpennill@hotmail.co.uk

Expectations, preferences, and voter turnout: an application of prospect theory to the calculus of voting

I construct and empirically test a rational choice model of voter turnout, incorporating insights from behavioural economics to explain observed levels of electoral participation.

MANCHESTER METROPOLITAN UNIVERSITY • EXHIBITION ONE

Victoria Tomlinson vicky.tomlinson@yahoo.co.uk

The effect of conscientiousness on prospective memory

The aim of this project was to try to determine if personality traits, more specifically the Big Five trait conscientiousness has any effect on a person's prospective memory. Therefore does a highly conscientious person have less prospective memory failure than a person who is not very conscientious?

MANCHESTER METROPOLITAN UNIVERSITY • EXHIBITION TWO

Jonathan Keen Jonathan.Keen@outlook.com

An assessment of the benefits and viability of a compensation scheme for communities adversely affected by airport operations to facilitate aviation growth

The research explored the willingness of airport passengers to pay to fund renewable energy infrastructure, supplying local communities with free renewable energy, to compensate for the negative impacts of airport operations.

NEWCASTLE COLLEGE • EXHIBITION ONE

Laura Watkins and Darren Wales

Exploring educational settings: comparing theories applied in public services

This project analyses how the ethos of teaching differs between educational areas of the Public Services, in particular through the application of learning theories in the Police and NHS respectively.

NEWCASTLE COLLEGE • EXHIBITION TWO

Ed Riley-Gibson

The psychological effects of sustaining a traumatic physically disabling injury during military operations and the use of sports participation as a method of psychological rehabilitation

This study explores how adaptive sports could serve as a method of psychological rehabilitation for veterans who have sustained traumatic physically disabling injuries.

NEWCASTLE UNIVERSITY • EXHIBITION TWO

Liam Owens l.owens@ncl.ac.uk

Separating the men from the boys: the discourse of masculine identity in Jeff Kinney's 'Diary of a Wimpy Kid'

This project considers the representation of masculinity in Jeff Kinney's popular children's series, 'Diary of a Wimpy Kid', using feminist discourse and critical literacy as a means of exploring what it means to be male in twenty-first-century children's literature.

POSTERS IN PARLIAMENT 2016 #PostersinParliament

NEWCASTLE UNIVERSITY • EXHIBITION ONE

Alice Kirkland a.kirkland@ncl.ac.uk

The Germans will never forgive the Jews for Auschwitz – is secondary Anti-Semitism present in Germany today?

A survey conducted among young Germans regarding their attitudes towards the Nazi regime, the Holocaust and Jews today.

NOTTINGHAM TRENT UNIVERSITY • EXHIBITION ONE

Holly Fowkes holly.fowkes2012@my.ntu.ac.uk

Resnooz - restoring your natural sleep through advanced product technology

Merging fabric innovations with commercially pleasing products, Resnooz will provide unique premium pyjamas that are proven to restore the wearers' natural sleep through ionised fabric technology.

NOTTINGHAM TRENT UNIVERSITY • EXHIBITION TWO

Jake Holdroyd

Bayesian modelling of platelet aggregation

Constructing a Bayesian computational model that explains the biological process of blood clotting using Metropolis Hastings, a Markov chain Monte Carlo Method.

OXFORD BROOKES UNIVERSITY • EXHIBITION ONE

Sammy Nguyen nqh.sammy@gmail.com

A research study on entrepreneurial activities in the high-tech sector in the UK

This research project explores the entrepreneurship reality of 'deep tech' companies whose fundamental technology innovations have high impacts on Research and Development (R&D) processes and the high-tech world to define the technology landscape in multidisciplinary sectors.

OXFORD BROOKES UNIVERSITY • EXHIBITION TWO

George McDonnell 12009687@brookes.ac.uk

Understanding traumatic brain injury patient rehabilitation through the user-centred design of a mobile application

A smartphone application was developed to further our understanding of rehabilitation progression in traumatic brain injury patients and their specific mobile usability requirements.

PLYMOUTH UNIVERSITY • EXHIBITION ONE

Kathryn Edwards kathryn.edwards@students.plymouth.ac.uk

Personal tutoring: what do BA Accounting and Finance students think?

An analysis of the comparisons between different types of students and their opinions on the personal tutoring system at Plymouth University.

PLYMOUTH UNIVERSITY • EXHIBITION TWO

Kirstyn Bowe kirstyn.bowe@students.plymouth.ac.uk

Attract Chinese inbound tourists to destinations in England: local destination management organisations' (DMOs) actions

A range of local DMOs in England was examined in relation to their actions to attract Chinese tourists, based on analyses of their official websites, relevant local newspapers, websites of national tourism boards, national newspapers and academic sources. It is apparent that the nature of local DMOs has changed since 2010, with a range of actions being adopted as they recognised the importance of Chinese inbound tourism to their regions.

QUEEN MARY UNIVERSITY OF LONDON • EXHIBITION ONE

Wanlin Li wanlin.li@se12.qmul.ac.uk

The investigation of stability of Negative Impedance Converters (NICs)

Investigating the use of NICs for broadband small antennas for application to mine detection using the Nuclear Quadrupole Resonance technique, for which current antenna technologies significantly hamper performance.

QUEEN MARY UNIVERSITY OF LONDON • EXHIBITION TWO

Aida Kafai Golahmadi a.kafaigolahmadi@se14.qmul.ac.uk

Identification of neuropeptide receptors using statistical homology inference

A statistical homology inference approach has been used in an attempt to predict ligands for orphan neuropeptide receptors.

STAFFORDSHIRE UNIVERSITY • EXHIBITION ONE

James King james@jamesking56.uk

How technology can aid road safety

A system developed which records a person's driving, allowing them to review their driving at a later date.

STAFFORDSHIRE UNIVERSITY • EXHIBITION TWO

Paul Krynauw paulkry@yahoo.com

Human tracking camera system

A system that utilises video processing in order to identify the specified object and subsequently track movement.

UNIVERSITY COLLEGE LONDON • EXHIBITION ONE

Amanda Campbell amanda@compa-tent.com

Compostable tensile structures

This interdisciplinary research developed an environmentally sustainable alternative to abandoned temporary structures, such as festival tents, by engineering composites from biodegradable materials.

UNIVERSITY COLLEGE LONDON • EXHIBITION TWO

Victoria Monro victoria.monro.15@ucl.ac.uk

Arming women with credit: why lending to women makes economic sense

This project consolidates some of the literature on the gender credit gap and an illustration of the economic gains - in particular, for the UK - from improving women's access to credit.

UNIVERSITY OF ABERDEEN • EXHIBITION ONE

Eloise Lynch eloise.lynch.12@aberdeen.ac.uk

Epigenetic enzyme plasticity is an output of multiple biological clocks that control reproductive physiology

mRNA expression of DNA methyltransferase enzymes and histone deacetylases in peripheral reproductive tissues is plastic across multiple timescales (seasonal, estrous cycle and 24hour).

UNIVERSITY OF ABERDEEN • EXHIBITION TWO

Julia Franke julia.k.franke.11@aberdeen.ac.uk

Real-time imaging of Axin2 and Lfng in the mammalian pre-somitic mesoderm

In exploring how dynamic signals can encode information, fluorescence and bioluminescence microscopy were used to observe oscillatory gene expression in the growing tail of mouse embryos.

UNIVERSITY OF CENTRAL LANCASHIRE • EXHIBITION ONE

Anya Snary Asnary@uclan.ac.uk

Increased carbonyl group oxidative stress in apolipoprotein E knockout (ApoE-/-) mice induced by experimental periodontitis

Mice infected with porphyromonas gingivalis displayed significantly increased oxidative stress in hippocampal regions compared to control subjects.

UNIVERSITY OF CENTRAL LANCASHIRE • EXHIBITION TWO

Jessica Oliver jeoliver@uclan.ac.uk

Decontamination of water using various ion-exchange systems

The use of magnetised resin for the removal of heavy metal ions via ion-exchange.

UNIVERSITY OF CHESTER • EXHIBITION ONE AND TWO

Damon Waterworth damonwaterworth@gmail.com

The impact of land use on Blackpool's coastal urban heat island

A project investigating the temporal and spatial characteristics of the Urban Heat Island phenomenon across Blackpool's urban area, exploring coastal influences and quantifying heat stress.

UNIVERSITY OF EAST LONDON • EXHIBITION ONE AND TWO

Karine Goudout kgoudout@hotmail.co.uk

The politics of looking

Understanding the power in the act of looking within identity politics of Contemporary dance in South Africa.

UNIVERSITY OF EXETER • EXHIBITION ONE

Sam Washer sw448@exeter.ac.uk

The relative expression of JNK1 splice variants during zebrafish development

The molecular signals that direct the developing heart into left and right chambers have been poorly understood, but this work has identified DNA transcripts with potential for this function, defects of which may be implicated in certain congenital heart conditions.

UNIVERSITY OF EXETER • EXHIBITION TWO

Bradley Brown bob203@exeter.ac.uk

TB or not TB

A novel DIVA test for *M. bovis*, the causative agent of bovine TB, using toehold riboswitches.

UNIVERSITY OF HUDDERSFIELD • EXHIBITION ONE

Farwah Bukhari u1151226@unimail.hud.ac.uk

Investigating the role of fatty acids as novel anti-tumour agents

This project investigated the potential anti-tumour activity of a novel omega-3 fatty acid derivative in a breast cancer cell line.

UNIVERSITY OF HUDDERSFIELD • EXHIBITION TWO

David Austin u1257068@unimail.hud.ac.uk

Sugar-powered catalysis for sustainable chemical synthesis

The aim of my project is to develop a novel bond forming method for the syntheses of drug like molecules; using palladium nanoparticles and sugar, a non-toxic and environmentally friendly reagent.

UNIVERSITY OF LEEDS • EXHIBITION ONE

Farkhanda Amin ll13fa@leeds.ac.uk

Researching mental health in Muslim women through the Prism of Islam

By embracing Islam it might offer approaches for Muslim women to overcome mental health issues, this topic is important due to the prevalence of poor mental health and stigma within this sector of the community.

UNIVERSITY OF LEEDS • EXHIBITION TWO

Menelaos Kanakis mn12mk@leeds.ac.uk

Building a humanoid robotic hand for use in robotic rehabilitation

Designing and building a humanoid robotic hand used to test and validate rehabilitation systems such as to decrease development time.

UNIVERSITY OF READING • EXHIBITION ONE

Erin Shearer erinshearer@hotmail.co.uk

The dual exploitation of mothering slaves in Antebellum America

The dual exploitation of female slaves refers to how slaveholders abused both women's labour and reproductive abilities, and encompasses the 'double shift', where women laboured for their masters and families in North and South Carolina during the Antebellum era (1815-1861).

UNIVERSITY OF READING • EXHIBITION TWO

Abigail Ford abbyford@live.co.uk

Developing experimental archaeology for research and teaching

The project aim was to assess how experimental archaeology can be used in teaching, and how it can also contribute to public engagement and research through designing a series of experiments that could be applied to all of these areas.

UNIVERSITY OF SHEFFIELD • EXHIBITION ONE

Ben Trevett btrevett1@sheffield.ac.uk

Using near field communication (NFC) to enhance an automated low cost device for the remote monitoring of glucose for type-1 diabetics using mobile phones

The project involved creating a device that would aid sufferers of diabetes by connecting to their glucose measuring device (glucometer), taking the readings from it and then transferring them to a mobile phone application via NFC. From here displayed to the user will be the option of uploading the readings to a database to be remotely monitored by their healthcare supervisor.

UNIVERSITY OF SHEFFIELD • EXHIBITION TWO

Jonathan Emery jemery1@sheffield.ac.uk

Business improvement districts: how inclusive of the public and their open space realm is this 'business' led urban management model?

The project involved a range of data collection techniques including on site questionnaires to establish how well known the 'business improvement district' model is and what affect it is having on the public and their realm.

UNIVERSITY OF SOUTHAMPTON • EXHIBITION ONE

Casey Morris cmm1g11@soton.ac.uk

Using the fruit-fly to investigate the relationship between Alzheimer's and Parkinson's Disease

This project uses a fruitfly model to explore the effects of coexistence of Parkinson's Disease and Alzheimer's Disease on disease-severity.

UNIVERSITY OF SOUTHAMPTON • EXHIBITION TWO

Shruti Verma shruti@vermas.co.uk

A pilot study: computational analysis of a cause and treatment of knee pain in young adults and adolescents

Analysing a potential biomechanical cause of common knee pain in young people and evaluating the benefit of a common treatment method, leading to further research to develop evidence based treatments.

UNIVERSITY OF SUSSEX • EXHIBITION ONE

Daniel Hajas dh256@sussex.ac.uk

Enhancing accessibility of STEM education for blind and visually impaired students using focused information mapping and a cross-modality platform

Research on how to convert visual information into sounds, tactile feedback and verbal description to help blind students understand scientific graphs.

UNIVERSITY OF SUSSEX • EXHIBITION TWO

Alex Earl ae229@sussex.ac.uk

Paternal mind-mindedness: associations with parent and child characteristics

Father warmth correlated with mind-mindedness (describing a child as of independent mind); gender differences were evident: fathers described sons more warmly and with more minded understanding than those describing daughters.

UNIVERSITY OF WALES TRINITY SAINT DAVID • EXHIBITION ONE

Jenna-Marie Heard jennaheard28@gmail.com

Representation or reality? Comparing the depictions in the tomb of Meryra to the non-elite skeletal remains in the South Tombs Cemetery

Examining the representations of Amarna citizens in order to construct a basis as to why Tel El-Amarna was considered to be a religious utopia when the realities of the skeletal remains suggest otherwise.

UNIVERSITY OF WALES TRINITY SAINT DAVID • EXHIBITION TWO

Rebecca Randall beckyrandall194@gmail.com

Researching the transition on Cyprus from Middle Cypriot to Late Cypriot and the visibility of the changes in the pottery and architectural styles

Changes in material culture resulting from the transition between two periods in bronze age Cyprus.

UNIVERSITY OF WARWICK • EXHIBITION ONE

Alice Brazil-Burns A.Brazil-Burns@warwick.ac.uk

Creating a digital theatre archive

The production of a digital theatre archive for dash arts.

UNIVERSITY OF WARWICK • EXHIBITION TWO

Akira Tiele fa.tiele@warwick.ac.uk

Point-of-care breath test for malabsorption

In order to establish standardised sampling procedures for clinical breath analysis, a breath capture device was developed to automatically and reproducibly collect breath samples.

UNIVERSITY OF YORK • EXHIBITION ONE

Rebecca Trollope ret530@york.ac.uk

Decoding the computing curriculum: researching key stakeholders' views on the implementation of computing in the national curriculum

Focusing on teacher training, continuing professional development and resource provision, this study researches stakeholders' views on the 2014 introduction of computing in the national curriculum.

UNIVERSITY OF YORK • EXHIBITION TWO

Anna Roach ar960@york.ac.uk

Should schools separate twins?

Investigating the relationship between twin separation and their friendships, school enjoyment and twin relationship.



**BC
UR** BRITISH
CONFERENCE OF
UNDERGRADUATE
RESEARCH

HIGHER EDUCATION
FUNDING COUNCIL FOR ENGLAND

hefce



uclan
University of Central Lancashire