



BRITISH CONFERENCE OF UNDERGRADUATE RESEARCH 2019

Abstracts

In alphabetical order of
author surname

Author Lobna El-Hawary and Maram Abbas, American University in Cairo

Title The Integration of Banking with Artificial Intelligence

Abstract Under the objective of bank automation, we are proposing the use of bots (using Machine Learning) in usual services like phone customer service and appointment booking. Through the integration of AI, the bot is assigned realistic human mannerisms that make a bot-customer interaction comparable and even better than an employee-customer interaction. The bot will be a better service giver due to its lack of human limitations, such as non-24/7 working hours for a single employee, human weaknesses (no room for human unprofessionalism), and a fool-proof instantly accessible pool of data. The objective of having such bots is to increase customer service efficiency through making them perform easy services that are very repetitive and considered to have a specific routine in accomplishing them. The customer will not even recognize they are talking to a bot and will have a smooth conversation. The bot should feel human-like and will not show any inhuman signals, ways of speech or signs of repetitive answers.

Author Anna Abrahamsson, University of Aberdeen

Title Functional Comparison between the Chicken and Human Isoforms of the Acid-Sensing Ion Channel 1a (ASIC1a)

Abstract Acid-sensing ion channels (ASICs) are transmembrane H⁺-gated and Na⁺-conducting ion channels in the nervous system that are activated by acidified extracellular pH. ASICs are involved in cerebral ischemia, learning and pain sensation. The crystal structure is only known for the chicken ASIC1 (cASIC1) and though the chicken and the human ASIC1 (hASIC1a) are 90% homologous, there are known differences in response during certain conditions, suggesting that the remaining 10% may contain important physiological and structural differences that we have yet to discover. Since most research is done on hASIC1a, this project focused on investigation of a few properties of cASIC1 and comparison of these with the human ASIC1a, in the hope of gaining deeper fundamental knowledge about cASIC1 but also learn more about hASIC1a. Since the binding site for some modulators are known in hASIC1a, we could insert point mutations of the corresponding amino acids in the cASIC1 genome and determine whether this changed the response to investigated modulators. Properties tested included biophysical, pharmacological and physiological. Methods used were site-directed mutagenesis, in vitro cRNA injection of *Xenopus laevis* and Two-Electrode Voltage-Clamp, where the oocytes were perfused with solutions of different pH and concentrations of modulator and the current measured. Initial results show that some properties of cASIC1 are not significantly different to their equivalents in hASIC1a whereas others show significant differences from hASIC1a, e.g. in desensitization, kinetics and certain modulators. To conclude, the results suggest some physiological differences between hASIC1a and cASIC1 in the non-homologous 10% of the ASIC1a genome.

Author Sham Abufalah, Solent University

Title Refugees and Football

Abstract I will be delivering an oral presentation about how sport has helped refugees to settle in England. In my presentation I will be concentrating on a Syrian community football team based in London, which started in 2017. This team helped this group of Syrian refugees from all around England to get know each other and play the sport they love. Sports play a big part in refugees' lives because it helps them in a variety of ways, such as learning English, getting to know people and staying healthy at the same time. Participation in can also be a benefit for refugees who flee to England because they now have facilities they did not have in their home countries to train and play matches, so there are greater prospects for refugees to make a living out of sports in England

Author Ade Adebawale, Durham University

Title Cognitive and Emotional Factors linked to Hallucination Proneness

Abstract Auditory verbal hallucinations (AVHs) cannot only be experienced by those individuals with schizophrenia and other psychotic disorders, but can also occur in 1.5 - 3% of the non-clinical population. AVHs can be related to biased reality-monitoring and biased reality-discrimination as assessed by the cognitive tasks - source memory and auditory signal detection. Emotional factors such as anxiety and loneliness can also be related to AVHs. Therefore, the purpose of this study is to examine the relationship between the cognitive tasks and the emotional factors with hallucination proneness. 81 non-clinical individuals aged between 18 & 75 participated. Participants spoke fluent English and had no hearing or memory impairments. Participants completed the cognitive tasks: Source Memory and Auditory Signal Detection, along with questionnaires: Launay-Slade Hallucination Scale, Depression, Anxiety and Stress Scale and the Revise UCLA Loneliness Scale. The correlation matrix revealed that there was a significant positive relationship between loneliness and hallucination proneness as well as between anxiety and hallucination proneness; however, no relationship was found for the cognitive task. Nonetheless, the regression analysis showed auditory signal detection, anxiety and loneliness significantly predicted hallucination proneness. Furthermore, a mediation regression, discovered that loneliness was fully mediated by anxiety, supporting the hypothesis that the two variables account for shared variance in predicting hallucination proneness. The findings advance the understanding of the cognitive mechanisms that underlie AVHs and give insight into identifying individual differences that may predict hallucination proneness.

Author Lanair Aderemi, Warwick University

Title The Biafran War: the Politics of Remembering, (mis)remembering and Forgetting

Abstract The Biafran War was a genocidal war that occurred between 1967 and 1970 as a result of political, economic and ethnic tensions that arose in Nigeria as well as the divide and rule strategy employed by the British which engendered

this conflict. Using the ontological position and critical realist stance that memories of wars such as the Biafran war are under constant internal influence (personal memories) and external influence (arts, literature, media) I argue that the memory of war and the (mis)remembering and forgetting of war is inherently political. Through qualitative research methods such as content analysis of research articles, I argue that there is a gap in research literature such as the absence of women's experiences in the Biafran war which contributes to the (mis)remembering and forgetting of histories. To conceptualise the history of the genocidal war, I highlight how memories of war are also social and personal. By using visual research methods to explore the politics of trauma in art and photography, I am able to better interpret these personal and social experiences of the Biafran war. Through close analysis of interview responses, oral narratives about the Biafran war and thematic readings of literature, I can further examine the effects such gaps in research literature have on the fabric of postcolonial Nigeria. Such findings demonstrate the impact of silence in shaping the post-colonial landscape of Nigeria as well as the epistemic violence that arises as a result of this mis(remembering) and forgetting.

Author Amir Afzul, University of Leeds

Title Paying for Treatment Online: Barrier or Enabler to Treatment for UK Patients?

Abstract Governmentally-commissioned services and products are free at the point of delivery for UK residents, but self-pay (on-demand) or private medical insurance options are also permitted. Of late, notable contextual shifts concerning health provisions, income, population interconnectivity, and education have led to more patients opting for self-pay alternatives. A growing demographic now pays for their treatments privately through the internet. This emerging form of e-health offers the opportunity to establish a new frontier in healthcare delivery and medical practice. Paying for treatments online is an area of surprisingly little literary exploration. This research describes four service categories by which patients procure treatment through e-commerce, namely; online pharmacies, over-the-counter treatment outlets, online consultation services, and procedural booking services. It aims to create a better understanding of the use of these services in the UK healthcare market.

Author Saqib Ahmad, University of Portsmouth

Title Understanding and Characterising the Feasibility of Proposed Dark Matter Candidate by Correlation with Cosmic Web Data.

Abstract My research focuses on trying to solve the problem involving the fundamental particles of dark matter. Dark matter, proposed by physicists in 1950s, came about after data suggested that the universe consists of six times more matter that we cannot actually observe. We know of its existence however, through calculating the force of gravity using the information of movement of stars within galaxies. This problem is one of the most fundamental challenges that physics faces today and in process of trying to solve this, new and exciting theories regarding constituent dark matter have arisen. The main problem in this reference is, what is the nature of dark and what is it made up of?

Though many models have been proposed which involve different kinds of particles, most of these models do not yet give us a very clear picture. Using the observational techniques in cosmology and applying the related data on these models, this research tries to explain which of these models is best suited for the dark matter picture. As most of them involve different variety of particles, I will also look for deeper understanding of these proposed theoretical particles. In the end the main aim of this research is to narrow down the constraints and have a closer understanding of the dark matter by excluding or eliminating any model which do not fit the observational or physical standards

Author Abiya Ahmed, Queen Mary University of London

Title Real or unreal? A qualitative study investigating the effects of in situ and off-site simulation training on student engagement during O&G placements

Abstract Background Labour wards are high-risk areas therefore preparing undergraduate students for training in one is vital. Engagement - defined as a student's level of integration and interaction with patients and the medical team - is important for ward-based learning. Existing research in Obstetrics and Gynaecology (O&G) simulation training highlights how it improves skill and knowledge. Little research has examined whether simulation training changes engagement during training; a vital component of learning. Learning from in situ simulations (defined by simulation occurring in the wards) and off-site simulations (taking place in a training suite) will be investigated to see how this affects engagement on an O&G placement. Methods: As part of their training, students attended and observed simulation training. In this research, focus groups were held with eight fourth year medical students to determine whether simulation training improved engagement during their O&G placements. Two focus groups were conducted; one for in situ simulations and one for off-site. Data was thematically analysed within a social constructivist framework. Results: Students discussed how their confidence improved during an emergency. They discussed how their understanding of the medical teams improved however, their participation and team role remain unchanged. These changes in their confidence and participation improved their ability to interact and engage on the wards. Conclusion: Simulation training improved student's confidence in clinical activities during emergencies therefore improving their learning. The training also improved students' understanding of ward-based communities of practice. Simulations targeted towards including medical students during emergencies has the potential to greatly improve medical student's engagement and learning experiences.

Author Adam Akhtar, University of Portsmouth

Title Theoretical and Computational modelling for Atomic and Electronic Structure Determination of Complex Materials using Density Functional Theory (DFT) calculations

Abstract The development of DFT calculations has enabled Theoretical Physicists to characterise material surfaces in astonishing detail (1×10^{-10} meters) which is 820,000 times smaller than the average width of a human hair. Due to

improvements in computational power, use of DFT has enabled Scientists to predict and simulate the position of atoms and electron density across any type of surface. If one can tell exactly where the atoms and electrons are in a material, then Physicists can precisely predict the behaviour of such materials with only a small percentage error. DFT calculation has become so essential to Material Science that society unknowingly benefits from its predictive power, daily. From designing more sensitive digitizer phone screens, to improved catalysts in industry, from ultra-hard materials and to those that function at extreme temperatures, DFT is indispensable. Without the implementation of DFT, technology would not be progressing at its current rate. During a placement at Wroclaw University, Poland, I worked on DFT calculations in a software called VASP to characterise SiC(111) on (Ultrathin) Pb layers. This material is of interest due to its high thermal conductivity making it a potential semiconductor candidate. Calculated results were then compared to STM (Scanning Tunnelling electron Microscope) images in the MBE (Molecular Beam Epitaxy) ultra-high vacuum systems. In summary, my current research involves using two software (Castep and VASP), to characterise a wide range of interesting, novel complex materials, such as lead/tin composites. I hope that my findings, if successful, will result in their integration within new technologies.

Author Arifa Akther, University of Warwick

Title A Proposal to Increase Clean Energy Access in Lesbos' Refugee Camps: A critical report proposing how, why and the implications of a market-based solution can help achieve a more inclusive SDG7.

Abstract Energy is fundamental for achieving high standards of life, as it weaves together economic growth, human development and environmental sustainability. Previously, energy was absent in the Millennium Development Goals, only recently being recognised as essential for development, forming a part of the Sustainable Development Goals (SDGs). This study recognises how SDG7: Energy for All, fails to include the energy needs of refugees. To address this, by using Moria Refugee Camp as a case study, the study will demonstrate how market-based solutions are the most practical and feasible solution to increase clean energy access for refugees. The aim is to create a framework, by combining the strengths of current models including Sustainable Energy Access Planning and Sustainable Energy 4 All Initiative, which can be transplanted across the European continent to increase refugee's access to clean energy. As a result, after a rigorous assessment of previously successful projects such as the Moving Energy Initiative, this study will identify and propose more applicable clean energy technologies for the island. A criterion will be set to compare alternative energy initiatives based on safety, affordability, reliability, practicality and its environmental impact. Although the discourse is centred on achieving a more inclusive SDG7, in the final section, the implication of the proposed new solution and key findings will be evaluated against how they impact the progress of the other SDG's. The argument put forward will highlight the significance clean energy access has in achieving SDG3: Good Health and Well-being, SDG5: Gender Equality and SDG13: (Action Against) Climate Change.

Author Arianna Albayati, Queen Mary University of London

Title The Evolution of X-ray Bursts in the “Bursting Pulsar” GRO J1744–28

Abstract GRO J1744–28, commonly known as the ‘Bursting Pulsar’, is a low mass X-ray binary (LMXB) containing a neutron star and an evolved giant star. In LMXBs the compact object accretes material from the companion star and, through various mechanisms, produces a large amount of X-ray radiation. X-ray bursts are described as sudden, powerful increases in X-ray intensity, lasting durations of seconds and have been categorised into two groups: Type I and Type II. The Bursting Pulsar, together with the Rapid Burster (MXB 1730-33), are the only two systems that display Type II bursts. They are thought to be caused by instabilities in the accretion disk, but as the physical processes behind Type II bursts are unclear, there is much motivation to study and quantify them. In order to create a framework for future study, we perform a study of all X-ray observations of all 3 known outbursts of the Bursting Pulsar which contained Type II bursts, including a population study of all Type II bursts seen by RXTE. These are analysed with our own software created with Python. We find that the bursts from this source are best described in four distinct ‘classes’ and that the characteristics of the bursts evolve in a predictable way. They are also qualitatively very different from those seen in the Rapid Burster, meaning that many theories on Type II bursts can be disregarded. These results will guide future studies and help to develop further theories on the causes of Type II X-ray bursts.

Author Hannah Aldrich, University of Lincoln

Title The Effect of Types of Likert Scales on Perceived Stress in University Undergraduate Students.

Abstract This study aims to investigate whether a Unipolar (0 to 10) or Bipolar (-5 to 5) scale type with labelled endpoints (using the word calm or stressed) impacts the perceived stress of Undergraduate students. This study reports questionnaire data from 63 undergraduate students aged 18-50. Perceived stress examined by inviting participants to respond to an adaption of the University Stress Scale. The data was analysed using two two-way between-subjects ANOVAs, A Chi-square test to establish the meaning of zero and t-tests to compare different demographic groups. The results of the questionnaire revealed that type of scale (Unipolar or Bipolar) and type of construct (calm or stressed) does not influence perception of stress. Therefore, institutions should not be concerned about the type of scale and construct they use in stress questionnaires. The items students scored highest on and the most talked about themes, as identified by a qualitative question in the questionnaire, should be the focus of the support universities put in place. Findings suggest that academic workload, academic achievement and lifestyle factors as the most stressful elements of being a university student. This support should be a practical facilitator instead of an informative guide as this will ensure students perform optimally.

Author Sophia Aldwinckle, University of Sheffield

Title Interaction of Mobile Genetic Elements in a Pathogen

Abstract Bacterial survival and growth are influenced by the dynamics of mobile genetic elements, which can confer advantageous traits, but come at a cost to their hosts. Mobile genetic elements have many different roles, but little is known about the way they interact with each other. This research examines potential interactions between two genetic entities; plasmids and bacteriophages, in a model of pathogenic infection. Understanding pathogen survival and the assistance of mobile genetic elements is vital to treatment, particularly in tackling increasing antibiotic resistance. Bacteriophages are viruses of bacteria, categorised into lytic and temperate 'phages'. While lytic phages destroy their bacteria hosts, temperate phages insert themselves into the genome and lie dormant as prophages. Prophages can undergo induction; becoming lytic and attacking competing bacteria populations, thereby aiding its host. Another genetic agent, plasmids are circular DNA fragments replicated and transferred between bacteria. They often encode desirable genes, such as for antibiotic resistance. *Pseudomonas aeruginosa* is an opportunistic pathogen known to cause chronic respiratory infection in cystic fibrosis patients, as seen in the Liverpool Epidemic Strain (LES). *Pseudomonas aeruginosa* has embedded in its genome multiple prophages, a common characteristic of pathogens. To understand plasmid and phage interactions in this pathogen, the effects of plasmid carriage on the host fitness in the context of prophage presence were observed through an in vivo fitness experiment. Plasmid carriage effects on phage resistance and infectivity were also investigated, in addition to mediation of these by an induced stress response, which triggers prophage induction.

Author Claire Allan, Solent University

Title The development of unmanned vessels and the legal issues faced by the industry particularly whether current legislation allows for their operation.

Abstract We live in an age of automation- there are already many examples of this in day to day life from unmanned cars to machinery, trains and aircraft however the final sector that remains to be conquered is the maritime industry. This is no easy feat, the ocean is a formidable place and seafarers are by nature, extremely traditional and suspicious of change. Is the industry ready to welcome the inevitable and can the companies developing these autonomous vessels conquer the daunting legal obstacles currently in their way? Many observers of the shipping industry are preoccupied with the technical difficulties of navigating large vessels through rough seas, and do not however notice the real barrier -the unwillingness of the underwriters to cover the risks. My research will also explore the legislative issues faced by the insurance companies and the resistance of the seafarers whose jobs have been put at risk by the introduction of automation. More significantly, I believe that the conference is an ideal platform to show the significant role that the maritime industry plays in everyone's day to day life and how the industry in the United Kingdom continues to grow successfully. The backbone of my research is a comprehensive literature review, which uses the highest quality of sources in order to prove that even though the technology is already available, we do not expect nor are we ready to see large cargo vessels on

the open ocean, sailing between different continents without seafarers on board any time soon.

Author Christina Allen, University of Portsmouth

Title Critical analysis of Gamification as a method of employee development

Abstract In recent years, Gamification has become an increasingly popular way to engage employees within business processes and optimise their Learning and Development. By utilizing game mechanics and game thinking, gamification endeavours to leverage employees' inherent competitive nature and desire to socialize and gain rewards for their achievements. The aim of my research is to investigate whether gamification is an effective tool to develop and engage employees, and whether people are indeed motivated by the competitive basis of gamification. As a recent trend in the Learning and Development space, there has been a significant increase the use of Gamification, but little research to evaluate its effectiveness now that it has been implemented for a substantial amount of time. This will provide an opportunity to re-evaluate the claims made by large research companies such as Gartner that predicted it would be used successfully by many industries. My data collection will consist of conducting semi-structured interviews with people in the e-learning and gamification industry, including managers using or considering using it in their business. The data collected from these interviews aim to provide a deeper insight into the views of practitioners within industry, regarding its success as a development tool and the impact on business processes. My anticipated conclusion is that opinion will be of both extremes, that practitioners either love it and fully endorse its use or hate it and do not think it is effective at all. My interest lies in the issues in practice and the reasons for these opinions.

Author Sian Allison, University of Reading

Title The Emergence and Persistence of Antibiotic Resistance in the Gut of Calves

Abstract Antimicrobial use in animals is considered a leading factor in the worldwide increase of Antimicrobial resistance (AMR). Calves receive large amounts of antibiotics for disease treatment and also via waste milk facilitating the emergence and dispersion of AMR in the gut. Considerable efforts have recently been made to reduce on-farm antibiotic use including the use of essential oils (EO) as alternatives to antibiotics. The aim of the current study was to investigate the longitudinal dynamics of AMR in the calf gut exposed to low concentration of antibiotics with and without Oregano EO. Two groups were used in this experiment the control group, fed waste milk with antibiotic residues and the second group fed waste milk and Oregano EO for the first 10 days. Bacterial colonies from faecal samples were plated on MacConkey

and Bile Esculin Azide agar, respectively, to count *E. coli* and *Enterococcus* colonies. Replica plating techniques were used to determine the proportion of *E. coli* colonies resistant to different antibiotics (amoxicillin, oxytetracycline, streptomycin, tylosin and cefquinome). Whereas resistant *Enterococcus* colonies were directly spread onto Bile Esculin Azide agar plates containing different antibiotics. This study found that EO could be used to reduce *E. coli* count in the gut of young cattle. EO also has the potential to reduce AMR in bacteria present in the animal gut exposed to very low concentration of antibiotic residues. From the research conducted EO could be used as an alternative to in-feed antibiotics by reducing the load of opportunistic pathogens.

Author	Almothana Altamimi, Oxford Brookes University
Title	A public engagement project seeking to develop an animation to improve preoperative guidance for endoscopy.
Abstract	<p>eHealth is a technique which improves health-care by using technology. It has garnered much attention and has seen a rise over the past decade. Preoperative anxiety is the feeling of uneasiness before a procedure, it has been linked to the reduced postoperative quality of life. The effect of eHealth on preoperative anxiety has been researched, but its specific effect in endoscopic procedures is still unclear. The objectives of the study are literature review to identify commonly associated anxieties which will be corroborated by surveying a group of the public that experienced endoscopy. Patient engagement is vital as it identifies whether some anxieties have been neglected or under-represented in the literature. An increase in the number of endoscopies performed is attributed to the substantial increase in preoperative anxiety. However, preoperative anxiety is also correlated with the amount of knowledge the patients receive before the procedure. Therefore, this indicates that patient engagement and education may alleviate it. However, not all types of patient engagement have been shown to reduce preoperative anxiety as pamphlets have shown no significant change. This is due partly to the overwhelming information they entail. Therefore, a more suitable and engaging approach such as eHealth is required. This study will develop an animation addressing the common anxieties in an attempt to reduce preoperative anxiety and improve preoperative guidance. The developed animation will be evaluated by professors, clinicians, and patients by a way of a survey to determine efficacy.</p>

Author	Nurul Athira Alzafray Mohamed Alnassif, University of Warwick
Title	Cyberbullying: Recognising Harms, Rethinking Laws
Abstract	<p>Cyberbullying, though relatively recent, is not a novel phenomenon. Because of its unique features of anonymity, its pervasive nature and its immediate circulation, cyberbullying causes far more damaging harms than traditional bullying. Past cases have prompted several jurisdictions to review and update their laws in mitigating the harms cyberbullying has caused, however, the UK Law remains silent in this matter. This study was conducted to address the harm of cyberbullying in young people (age 0-18) and the need of its criminalisation. Analysis showed that the current state of UK Law is</p>

inadequate to combat cyberbullying due to its distinctive nature, and as a result, cyberbullying cases rarely result in conviction. Following this, a comparative analysis was made to assess the existing cyberbullying laws in different jurisdictions and whether it is possible for the UK to adopt such legislation. Nonetheless, there is always a flip side to criminalisation. The law, sometimes, is not the best answer to social problems. Issues of territorial borders, causation, privacy and data breach, and freedom of speech, as well as the issue of criminalising minors are discussed, giving rise to question whether law is really the appropriate solution to this problem. This paper considered alternatives such as social actions and education in response to the challenges.

Author Robin Andrews, University of South Wales
Title Paranormal beliefs, critical thinking and academic achievement

Abstract Critical thinking skills are an important aspect of evaluating learning outcomes at university. This is especially the case for scientific disciplines, where assessments are used to measure and evidence critical thinking abilities. Despite this, research has shown that belief in the paranormal is widespread among university students. Paranormal beliefs defy basic scientific principles and do not stand up to critical scrutiny. My joint research with Dr Philip Tyson (USW) indicated a significant negative correlation between academic achievement and paranormal beliefs. Therefore we suggest that paranormal phenomena could be used as a learning aid, within Universities, in order to improve critical thinking ability and subsequently increase academic achievement.

Author Mariya Andriyevska and Tetsekela Anyiam-Osigwe, London School of Economics

Title Brexit and Grexit - the Rise to the Agenda. A Comparative Cnalysis

Abstract Within a year, the European Union saw two portmanteaus headlining its agenda; Grexit and Brexit. The, doubtful for many, prospect of a member state leaving the Union, not only entered the political discussion but was also voted for in two national referendums, in Greece (2015) and the UK (2016). So what were the problems and the political forces that brewed such a political solution? And can differences in such aspects between Britain and Greece explain the different courses taken after two referendums with the same outcome? The research paper is a qualitative analysis using John W. Kingdon's "Three Streams Framework" as well as extensions to the framework by Nikolaos Zahariadis. The analysis focuses on an 8-year time horizon (2010-2018). At the current stage, the research team has completed the analysis using secondary sources – the relevant literature as well as news sources, whose importance in portraying and shaping the events has been highlighted by researchers. The paper processes the key events and actors for both cases under the three streams of Kingdon's framework (problems, policies, politics) and thus provides an account for the rise of Brexit and Grexit from a public policy perspective. The analysis extends to the decision-making process and attempts to explain why only the British referendum was put into

motion although both had the same outcome. By its first publication in September, the paper will also incorporate five to seven interviews of key political actors in Greece and Britain and it will be published in its final form only after an official Brexit agreement. The research project aims to provide a comprehensive account of the political processes that led to the Brexit and Grexit referendums and their outcomes, using a major theory of policy change and its recent extensions. It seeks to produce insights regarding the problems and political interactions that cultivate anti-European Union sentiments, how exiting the Union can come about as a solution and how likely it is to be put in motion; prevalent issues in the current years of European Union instability.

Author Nusrat Jahin Angela, Newcastle University

Title Deconstructing Henri Fayol's view on Management

Abstract According to Henri Fayol (1945), to manage is to forecast, co-ordinate and control - which may be dismissed as an autocratic style of management. This research aims to understand and interpret Fayol's work in depth. It is a study of Fayol's perspective of Management through the analysis and comparison of his views to other notable researchers, and come to an effective conclusion regarding the concept of management. The paper closely looks at Fayol's five functions and fourteen principles of management to find the foundation of his ideas, considering his personal career and personality. Then the paper highlights the interpretation of Fayol's work by modern day researchers, bringing the focus onto how management is generally defined. It brings attention to authors who have a similar textbook approach like Campbell and Terry (1954), researchers with more flexibility like Harold Koontz (1972), and M.P Follette's (1925) creative approach. The paper goes on to critically examine management theories of other notable researchers, predominantly the works of Henry Mintzberg, developer of management roles, F.W. Taylor's scientific management theory and Max Weber's theory of bureaucracy and draws comparisons, highlighting points of similarity and differences. The paper concludes with the idea that management has a wide spectrum with scopes for further research to explore its many undiscovered traits, and that Fayol's theories have much more depth than initially believed. Perhaps the question is not whether Fayol is right or wrong, but rather how much we have been able to decipher it and its relevance to this day and time.

Author Leah Ashton, Staffordshire University

Title Chemical Interpretation of Post Mortem Interval Changes

Abstract Aquatic deaths can be difficult to investigate with a loss of forensic evidence due to the ever-changing environment affecting the rate of decomposition. There has been much research into decomposition stages, however current literature lacks a full understanding of the chemistry behind these different stages. This study investigated chemical aspects of mammalian decomposition in different aquatic environments to better understand the concept of the Post Mortem Interval (PMI). The aquatic environments

included both, hard water (a high mineral content) and soft water (small to no amounts of ions present) in which murine cadavers were placed. This research involved different analytical chemical methods; pH, conductivity and nitrate ion selectivity. Results to date have demonstrated similar trends between the soft and hard water experiments, but differences between these and the control samples. The values for the nitrate concentrations have shown a consistency across the specimens tested and throughout the period of testing up to 400 accumulated degree days (ADD), at which point the ion concentration increased rapidly, this trend was supported by the conductivity trend, which is suspected to be the same. An improved understanding of the chemical nature of decomposition in aquatic systems will aid the interpretation of the complex decomposition process and assist in better identifying a more accurate PMI estimation. Authors : Ashton L [1]* , Davidson A[2], Cooper S[2], Cassella JP[1] *Student and corresponding author 1] Department of Criminal Justice & Forensic Science, School of Law, Policing and Forensics, Science Centre, Staffordshire University, UK

Author Marcellus Augustine, UCL (University College London)

Title Elliptical Fourier Analysis of Tumoroid Morphology using High Resolution Episcopic Microscopy

Abstract Background: Tumour metastasis depends on multiple factors. The effects of tumour shape on metastasis, especially on a mechanistic level, is poorly understood. To target this, appropriate shape descriptors are required and a multi-scale in silico model of cancer growth and metastasis will be used; this requires the tumour shape to be recreated as an input. Greater knowledge of the factors influencing tumour shape, and how this influences metastasis could be translated into new, effective therapeutics. Aims: To develop a method to extract and reconstruct the 2D tumour morphology from a High Resolution Episcopic Microscopy dataset. Methods: A tumoroid dataset was segmented and a slice was chosen at random. Using the Canny method, the outline was extracted and equiangularly spaced radii emanating from the centroid were created. These intersected the boundary to produce sample outline points. Elliptical Fourier analysis was performed on these points, and the shape was reconstructed. These reconstructions were done using 3, 50 and the maximum number of harmonics to compare how the shape changes. The number of reconstruction points was varied to: 50, 200, 500 and 1000. Results: Increasing the harmonics used resulted in the shape incorporating more corners and straight edges. With the number of reconstruction points ≥ 200 , the outline shape was almost identical. Conclusion: Overall, elliptical Fourier analysis resulted in an accurate representation of the outline shape, with a residual of 4.0040 micrometres. The major difference was size, whilst outline differences were subtler.

Author Bradley Austin, University of Portsmouth

Title How do customers affect UK grocery employees' behaviour? A study of a store in southern Berkshire.

Abstract My research explores how customers affect UK grocery store employees' behaviour by studying a particular store. Although research suggests that

customers affect retail employees' behaviour and consequently business performance, there are few studies, which explicitly explore this in grocery stores. Therefore, my research aims to address this gap through exploration of employees' reactions to customer interactions. Consequently, my research uses an ethnographic method, working alongside employees, observing such behaviour and interviewing some of them to investigate preliminary findings in greater depth. Customer interactions and how these interactions can affect employee behaviour has been a large part of my six years of part-time customer-facing roles in grocery stores. The grocery stores in which I have been employed do not train people on how to cope with their emotions in customer-facing situations. Therefore, this research aims to contribute not only to academic research, but also potentially to grocery retail policy and practice. As outlined above, my research uses ethnography as observing micro-interactions between customers and grocery store employees at first-hand and then conducting semi-structured interviews with such employees appears to be the most suitable method of obtaining a full understanding of such contact and its effect. I anticipate that my research will show that negative customer-employee interactions, such as complaints, will result in negative employee behaviour, thus highlighting the need for training in this area. I also hope that it may disclose coping strategies which could add to practice and policy. This study also aims to suggest further research areas to explore.

Author	Majed Bader, Queen Mary, University of London
Title	Topological Study of Simulated Plasma Wake-field Acceleration in 2-D Linear and Blowout Regime using EPOCH
Abstract	<p>Plasma wake-field acceleration is at the frontier of accelerator physics. The relatively new technology is promising for a number of reasons; from potentially explaining particle acceleration at the edge of supermassive black holes to dramatically reducing the size of particle accelerators used in industry. Acceleration gradients orders of magnitude greater than current radio-frequency models have been achieved by plasma wake-field accelerators. A plasma wave is created by sending two bunches of charged particles at high energies through a plasma. The denser, leading bunch of particles form a wake in the background plasma, the wake is then capable of accelerating the trailing bunch of particles to high energies over short distances; often more than 10 GeV/m. This is significant when considering that roughly 30,000 particle accelerators are operational around the world today, the most powerful of which are used for particle physics research. A wide range of industries drives demand for these machines and research fields - reducing the size will ultimately contribute to the accessibility of the equipment. For example, hospitals use particle accelerators for cancer treatment and diagnosis. In this project the work of Tsiklauri (2018) on, one-dimensional plasma wake-field acceleration between linear and blowout regimes, is extended to two-dimensions using EPOCH, a state of the art particle-in-cell simulation package. Modifications brought about by two-dimensional effects are presented, as well as, a critical analysis of the results - visualisation and analysis of the topological dynamics is emphasised.</p>

Author Chadsley Atkins, Kieran Bajpai and Jeremy Rumball, The University of Exeter
Title The Radical Pair Mechanism and its Role in Avian Magnetoreception

Abstract What is life? A question widely philosophised, until in 1944 Erwin Schrödinger provided us with a curious postulate: life is quantum mechanical. Quantum mechanics forms the basis of physical reality and has captivated scientists with its profound and non-intuitive behaviour for over a century. However, everyday biological processes have rarely been linked to the intricacies of quantum physics. Interdisciplinary research on avian magnetoreception is now challenging this view. The remarkable ability of birds to utilise the Earth's weak magnetic field for orientation during their migratory voyages appears to rely on a truly quantum effect. The model centres around the photoexcitation of the protein cryptochrome, found within the bird's retina. Here, radical pairs are generated and undergo spin selective reactions, forming the basis of a magnetically sensitive chemical compass. Despite 'wet, warm and noisy' biological environments operating on energy scales orders of magnitude greater than the radical's magnetic interactions, inherently quantum effects inflict magnetosensitivity on the compass. This is thought to form the backbone of the avian magnetoreceptor. Using computational simulations, the quantum spin dynamics of the radical pair mechanism can be modelled by solving the stochastic Liouville-von Neumann equation. These simulations will determine whether an optimum relative orientation of the two radicals exists, which gives rise to maximal compass sensitivity. Our study will investigate the relationship between radical orientation and the quantum entanglement of the spin system. This research into the poorly understood complexities of animal magnetoreception will help bridge the gap between the biological and physical realms.

Author Mara Balasa, University of Warwick
Title A New Approach to Border Effects: Evidence From the European Union

Abstract This paper will add a new aspect to the existing debates in literature concerning border effects, namely a national identity facet that could be partly responsible for increasing the size of the border effect in the European Union. There is consensus within the literature that trade volumes are diminished by national borders and hence that border effects are significant. However, the exact causes of the border effects are still unclear and discrepancies lie in the way of constructing and estimating the models, the chosen variables and measurement methods. The objective of my paper is two-fold, namely to estimate the size of the European Union border effect through the specification of a gravity equation, as well as to analyse a new aspect of the border effect through the creation of a novel variable. The variable is constructed from Eurobarometer surveys and determines how attached citizens feel to their home country, therefore capturing the extent of nationalism in a given country. The research question of the paper is therefore: "Is the border effect significant in the European Union and, if so, does national identity play a role in it?".

Author Amanda Bali, University of Portsmouth

Title Optimising a synthetic genetic post-transcriptional switch in E.coli, to regulate what proteins it produces and when.

Abstract This research project deals with a key concept in synthetic biology- how to turn genes on and off. The research aims to create a synthetic switch that would improve the production of commercially important proteins. My work is different to the bulk of other genetic switches currently available to the biotech community, as it works at the 'post-transcriptional' (after bacterial DNA is made into mRNA), as opposed to 'transcriptional' level and therefore, could be significantly more efficient. Furthermore, this type of switch could form the basis for numerous other types of synthetic genetic regulatory elements (control the bacteria's production of proteins) for use in medicine and biotechnology. Our switch is based on the naturally occurring MicA system (an RNA that regulates gene production- acts like a switch naturally), which is important in Quorum sensing (bacterial communication). MicA has been mutated in the laboratory to make it a more suitable synthetic switch. A range of different techniques within molecular biology will be used- bacterial transformations, PCR (to amplify DNA) and protein expression- to make and test a number of these switches and find the one that performs best. Not only will this research develop a switch that can regulate gene expression for research purposes, it can be used in a wide number of pharmaceutical applications, like the production of medically important proteins. Economically, it would make protein production a far cheaper and less time-consuming process.

Author Matthew Ballam-Davies, Staffordshire University

Title The determination of pedestrian throw type using small-scale reconstruction.

Abstract By investigating the pedestrian throw type produced from an incident on a small-scale, the time spent of an actual investigation could be reduced. Several preliminary tests using different variables were performed. These preliminary tests used a hammer and a box to represent a vehicle and pedestrian, respectively. Results produced from these preliminary tests have determined the distance the small-scale simulated collisions can throw the differently weighted 'pedestrians'. The average distance for the unweighted 'pedestrian' to be launched was 1.724 m. From the boxes initial weight of 0.03796 kg, an additional 0.10547 kg was incrementally increased during testing, which resulted in a change in throw distance of 1.306 m to 1.933 m. To assist these tests, a trigger mechanism was re-developed. In the main work, a 1:24 scale model car and pedestrian were used and swung from two angle iron a-frames. From the main work, it was determined that from a vehicle being swung from 30°, 40° and 50°, the most common throw type produced is Bumper Vault. This was determined using the Searle equation and compared to a Pendulum motion equation. These results concluded that

there is no correlation between velocity as generated by the different swing angles and throw type produced in a collision.

Author Nicola Barker, University of Sussex

Title What Stops Children Attending School: A Study of Zimbabwe

Abstract Children, particularly in Sub-Saharan Africa, have lower attendance rates than that of the other parts of the world and there are still gender disparities in school attendance, despite improvements, but these are not as prevalent in Zimbabwe (UNICEF 2015, Ng'ondi 2012). Socio-demographic characteristics were found to be significant at contributing to school attendance, as was food assistance, support meetings and school fees (Ng'ondi 2012). Parent-child relationships are also significant; like the orphan status of the child and children who live with relatives further removed by blood than grandparents attend school at a lower rate than those who live with parents. The location of the household is also important as rural children are more likely to attend school than their urban counterpart of comparable wealth (Roby, Erickson and Nagaishi, 2016). Household wealth is commonly discussed as a strong predictor of school attendance across Africa, but not so much in Zimbabwe (Roby, Erickson and Nagaishi, 2016). This research explores variables to predict school attendance, such as a child's personal characteristics, household head characteristics and household circumstances. The data used is household survey data, collected on 2,314 school aged children, by the DFID-funded Migrating Out Of Poverty Research Consortium, in three districts of Zimbabwe in 2015. Stata software especially 'logit' regression was used to build an equation between 34 independent variables and Education Attendance (dependent variable). This research found age, language and absence of a household heads to be significant variables. This suggests where policy can be targeted to help improve attendance.

Author Mollie Barker, Staffordshire University

Title The creation of a grading system to aid in the determination of how far a piece of clothing was from a fire when the fire was ignited

Abstract Currently fabrics are rarely examined as evidence in fire investigations despite there being limited evidence remaining at the scene after a fire has occurred. Therefore, this research will allow fabrics to have a potential use in the investigations increasing the amount of evidence available at the scene. The aim of this research was to investigate whether more evidential information can be obtained from damaged clothing for fire investigations, and to create a grading scale of damage to determine the distance an individual was from a fire. The samples were analysed before and after the fire exposure using polarised light microscopy, stereo light microscopy, scanning electron microscopy and Fourier- transform infrared spectroscopy. The samples (polyester, cotton, acrylic, wool and nylon) were exposed to a fire and variables such as the exposure time (15, 30 and 60 seconds), distance (3, 5 and 7 cm) from the fire and accelerant (petrol, diesel, lighter fluid and white spirit) used were altered to see the impact these had on the damage caused to the fabric. The preliminary studies found that cotton was the most

flammable fabric that was analysed, and wool was the least flammable. Other findings were that the weave impacted on the flammability as a looser weave caused the fabric to burn at a faster rate. The weave will be taken into consideration when choosing garments to use in further studies, and a variety of other accelerants, exposure times and distances will be examined. I intend to present this as a poster.

Author Ken Barron, University of Leeds

Title Palpatronix: Surgical Robots with Haptic Feedback

Abstract The widespread adoption of robotically assisted surgery (RAS) has enabled surgeons to better perform a wide variety of operations, particularly in the fields of gynaecology and colorectal surgery. RAS presents many advantages to the surgeon over traditional minimally invasive surgery (MIS) such as more precise and dextrous control of instrumentation. However, a major limitation is that surgeons lose the ability to make use of haptics, the sense of touch, to guide their operations because current RAS systems lack sensory feedback. Consequently, it is widely recognised that implementing haptic feedback to restore this lost sensory information will be the next major evolution in RAS. The use of RAS has captured the public imagination, and interest in haptic technology has begun to spread beyond medical and technical specialists to the general public. Consequently, this project has been undertaken in collaboration between the University of Leeds and the Thackray Medical Museum to produce an interactive exhibit demonstrating the concept of using haptic feedback technology to advance surgical robots in the future. The project aims to develop a robotic manipulator that can interact with different materials, controlled by a haptic joystick. The user will remotely control the manipulator, just like surgeons during RAS, but here sensors will measure the grasping force at the manipulator to feed back to the user through the joystick and control systems will be designed to manage this interaction. Overall, the system will highlight how haptic feedback can be used to help surgeons discriminate between different materials through their 'feel'.

Author Lukasz Bartoszcze, University of Warwick

Title Are we religious because our states do not care for us? A substitution of religiosity by public services in the U.S.

Abstract Wider availability of data, as well as the extending scope of economics, prompted numerous researchers to revisit economic questions concerning religiosity. Religious attendance as an economic variable provides a vital testing ground for economic models to explain concepts of rationality, market competition and utility maximisation on the grounds of organised belief. Religious organisations remains a source of institutions, moral beliefs and controls a substantial share of global GDP. The motivations, use of proceeds and sometimes the scale of religious spending remains mostly unexplored. This study's primary motivation is to test the rationality of consumers' decisions concerning a unique good - religion - and the changing structure of the religious market as a result of state actions. Lack of micro-scale, quantitative research remains an important hindrance in the largely theory-based field of economics of religion. Focus on country-level data, instead of

cross-national comparisons, is useful in reducing the ever-existing problem of endogeneity. The presence of a substitution effect would mean that Lannacone's club goods model can predict changes in the behaviour of agents. It has research and policy consequences, not only providing additional evidence for the present results but also bearing implications for the religious organisations themselves. If the effect holds, higher public investments could lower the presence of extreme religious sects, not only in areas with numerous terrorist incidents but also in the U.S. This paper seeks to investigate this complicated relationship, basing its conclusions on previously unexplored data to examine the topic of great importance to the society.

Author Joanne Bell, Blackpool and The Fylde College

Title Virtual Learning Environments

Abstract The number of students and teachers using Virtual Learning Environments (VLE) has risen since they first rose to prominence with the turn of the millennium, therefore making teaching and learning less time consuming and more engaging for both parties. Yet, problems such as clutter, slow loading times and inaccessibility are still present in badly tailored VLEs, which contribute to students failing to engage with course resources effectively. VLEs need to keep students engaged and enable teachers to keep on track during the learning and teaching process. VLEs need to be well-constructed, suited for the course and less confusing for everyone. PHP is considered for many purposes within web development and seems to be the best software option for developing VLEs because it is widely adaptable and flexible. Using PHP, a VLE will be constructed considering Shneiderman's and Nilsen's heuristic approach to make the VLE user friendly and easily accessible. Notable VLE issues such as page loading time, number of clicks required to access files, and the use of white space will be addressed as key design considerations in the development process. Following the development and testing of an interactive Virtual Learning Environment, it is hoped that by simplifying the architecture, students will be able to interact better with online resources and have a more streamlined user experience which will likely improve student performance.

Author Linnea Berg, University of Sussex

Title Spooky Action at a Distance: Translating Textual and Traumatic Entanglement in the Poems of Bruno K. Öijer

Abstract Swedish poet Bruno K Öijer is a key literary figure who has never been published or critically written about in English. This pioneering project, part of the University of Sussex's Junior Research Associate Scheme 2018, is the first to translate Öijer's most recent collection (*And The Night Whispered Annabel Lee*) to English. The translation process is fundamental to the

conceptual framework 'Traumatic Entanglement' created to explore recurring themes of trauma absent from existing scholarship on the poet. Traumatic Entanglement builds on quantum entanglement which Albert Einstein referred to as 'spooky action at a distance'. This is the notion of non-localised and instantaneous communication between quantum-entangled particles. Arguing that trauma behaves similarly (i.e. acting at a large distance across time, space and mediums of representations), I emphasise the need for such non-localised entities (like trauma) to be translated. Through close textual analysis, I explore Öjjer's translations of individual trauma made collective (such as suicide) as well as the generational relationship of trauma between the dead, living and unborn. For example, throughout the collection, generational trauma is translated into the materialised presence of an absence whilst individual trauma (made collective) is translated through the pluralising of the traumatised child. Finally, translation removes borders in disciplinary, cultural and political ways. This is particularly pressing given our current socio-political context where regressive forces, promoting the building of punitive borders, are on the rise. It also resonates with the ongoing debates about the narrowness of University curricula.

Author John Best, Blackpool and the Fylde College

Title The potential for the reinvention of guesthouses in Blackpool

Abstract Improved awareness is required to transform the Blackpool guesthouses as not all of these businesses were started for growth, profit maximisation, or permanence; many were established with the needs and the preferences of the owners and their families being paramount. Demographics: Blackpool like many other seaside resorts in the UK has been in decline since the 1960s as British holidaymakers demographics have changed and the industrial heartland it once serviced has all but disappeared or moved location. Generation Y and Generation Z are looking for a different experience than those of the industrial era, is defined as changes in population and its size, age, structure, composition, employment, educational status and income. The aim of this study is to investigate the awareness of Blackpool guesthouse owners of the changing demands of the hospitality industry. This study set out to better understand and to explore current owners' awareness of emerging trends in the guesthouse sector. To investigate the extent to which current guesthouse owners are receptive to change. To assess whether the guesthouse owners are equipped to address the key requirements such as new technology of the evolving markets. To develop recommendations for guesthouse owners to meet the demand. Methodology The study will be deductive in approach, employing both qualitative and quantitative data. Research for this study is important to reverse the trend of bankruptcies in this micro-sector and to investigate the impact Airbnb and budget hotels such as Premier Inn, Travel Lodge have had on guesthouses in relation to tourism in Blackpool.

Author Nisharn Bhana, Queen Mary University of London

Title Visual changes to objects and spacetime when travelling at relativistic speeds.

Abstract Special Relativity is a theory introduced by Einstein (1905) which tackles and helps explain questions and phenomena regarding changes in space-time with respect to objects and observers in inertial frames (non-accelerating). General Relativity (1915) is the generalized version of Special Relativity; this provides a unified theory of gravity as a geometric property of space-time. I will portray some of the mathematics behind Special and General Relativity and use the computing program Mathematica to help visualize the consequences of moving at high speeds. To be specific in Special Relativity I will look at length contractions (When objects contract when moving close to the speed of light), relativistic aberration effect (relates angles in observers frame to angles of objects moving at some velocity) and modelling appearances of points, lines and other objects by means of Poincare Transforms. In general, relativity I will look at tensor algebra/calculus in order to consider large mass objects such as black holes. When visualizing the effects of moving very fast the mathematics of special and general relativity will be crucial. I will make simulations/images of what objects such as a black hole will look like when someone is travelling fast towards them. The resulting simulations/images of this will have the distortion effect we are used to seeing in magazines and Sci-Fi movies.

Author Natasha Bierrum, University of Sussex

Title Characterisation of novel materials with cold atom microscopy

Abstract I intend to present a poster. Abstract: Cold-atom microscopy is a method that allows the measurement of magnetic fields with the unique combination of picometre sensitivity and spatial resolution in the micron regime. It is ideally suited to map the conductivity paths of electrical currents, as those produce magnetic fields. An ensemble of rubidium atoms are used as the probe that are cooled to extremely low temperatures and trapped in a known magnetic potential. When such atomic probe is placed in the vicinity of the currents flowing through a sample, the associated magnetic fields interact with atoms and change their spatial distribution. Imaging the resulting distribution allows for the mapping of the magnetic field landscape from which electrical current paths can be inferred. Such mapping is invaluable in characterising the local surface electrical current density and its dynamics. In this project, we characterised a network of silver nanowires and optimised such sample for its use in the cold-atom microscope ultra-high vacuum environment. The polarisation of laser beams change on reflection, and reflectivity was studied and compared to other substrates. We built the Michelson interferometer to measure the flatness of the sample. Furthermore, we optimised the laser cooling stage that allows the atomic ensemble to be cooled from 250 microkelvin to 30 microkelvin. Forming the basis of novel touch screens and solar cells, the study of silver nanowire networks will not only broaden our knowledge of the physics of networked materials but also aid in the future development of these devices.

Author Aitana Bilinski and Katrina Lane, University of Warwick

Title The effects of self-affirmation techniques and message valence on the intention to reduce food waste.

Abstract Food waste is a globally significant matter with important environmental implications. Campaigns to reduce food waste behavior mainly target a sense of guilt and revolve around the negative impact of food waste; they are also mostly ineffective. The Self-affirmation theory suggests that self-affirmation techniques reduce defensive responses; and in turn, increase openness to potentially threatening information. The present study investigates a) the effect of self-affirmation techniques and positive messages for reducing household food waste; and b) whether these effects would differ between pre-university students current-university students. For this, 40 university students and 40 A-level students will be randomly assigned to either one of four conditions: (1) Self-affirmation with a Positive Message (2) Self-affirmation with Negative Message; (3) Control with a Positive Message: (4) Control with a Negative Message. All participants will be asked to report the amount of food wasted that week. Depending on the condition, participants will be asked to write about their values (condition 1 & 2) or the uses of a table (control - condition 3 & 4); and will be presented with a message entailing either the negative consequences of food waste (condition 2 & 4) or the positive impact of reducing food waste (condition 1 & 3). Subsequently, participants will be given PANAS to assess the emotional impact of the message and a questionnaire on their intentions to reduce food waste. After one week, participants will be contacted and asked to report their food waste behavior for that week.

Author Aimi Nadirah Binti Azmi, University of Warwick

Title The concept of guardianship through the lens of Islamic legal pluralism - an analysis on the requirement of guardian (wali) in Islamic marriage

Abstract Plurality of Islamic legal traditions has resulted in conflicting views on the concept of guardianship and the presence of male guardian in Islamic marriage. Some Muslim Sunni schools believe that an adult Muslim woman has the unqualified right to enter into marriage without the consent of her male guardian, while others contest this right. Primary question in this research arises from the nature of contract, in relation to the position of Muslim women in Islam and their rights to negotiate it independently of their male guardian. Through library-based research, this question will be answered by investigating the nature of Islamic marriage, whether it is a religious sacrament or contractual in nature. It will investigate the basis of the requirement of male guardian in Islamic marriage according to different Muslim schools of thought, by analysing different primary sources of Islamic law, such as Qur'an and Hadith. It will also explore the wisdoms of having the male guardian in Islamic marriage according to the Muslim scholars. This paper also aims to resolve the issue on whether the presence of male guardian in Islamic marriage is a socially constructed concept, based on the doctrine of equality hold by Hanafi's school and the concept of guardianship

as justified by Shafi'i school. This is done by comparing different Islamic jurisdictions that hold onto different schools, such as Pakistan (Hanafi's school) and Malaysia (Shafi'i school). This paper will also critically analyse the legal implications arising from the different positions hold by the Muslim schools.

Author Menna Bishop, London School of Economics

Title Overtime: What Motivates the Sacrifice?

Abstract This qualitative study explores the trade-offs involved in the decision to work overtime. Workweeks in the UK are among the longest and least regulated in Europe. They exceed 48 hours for 12% of workers overall and 28% of paid overtime workers. Revealed Preference Theory dictates that those working additional overtime shifts award less value to their leisure time, maximising utility by sacrificing more of it. However, this view conceals important factors likely to be involved in their decision, given the proven impact of long workweeks on wellbeing combined with financial constraints on household budgets. Thus, this study seeks to add nuance to our understanding of what motivates labour supply at the intensive margin. This is achieved by directly hearing the voices of overtime workers in qualitative interviews. Here, they exposed subtler constraints on their working hours, such as workplace pressure and lifestyle aspirations. Despite the fact that 10% of British employees work paid overtime, this area is critically under-researched and largely absent from public debate. Papers exploring motivations for long working hours often fail to disaggregate overtime from standard contract hours. We argue that overtime should be an area of independent significance for social policy research, given the specific incentives induced by the structure and magnitude of overtime pay. Our research is set in a large factory in South Wales, where overtime remains critical to the working culture. As a result, this paper also provides an insightful window into the experiences of Wales's contemporary industrial workers.

Author Nicola Blasetti, University of Warwick

Title Is the Green New Deal telling the Ecological Modernisation story in a successful (democratic) way? A case study of the contemporary environmental policy discourse in the USA

Abstract The proposal of a Green New Deal (GND) for the United States is gaining political momentum and world-wide media coverage. This study reconstructs the development the environmental policy discourse in the US, and tries to define whether the discourse deployed by the main promoter of the GND, Alexandria Ocasio-Cortez, fits within the dominant environmental narrative. Through the critical discourse analysis of the main documents outlining the (still vague) content of the GND, the paper's goal is to define whether Ocasio-Cortez's discourse is in line with the dominant discourse of Ecological Modernisation. Is the GND part of the mainstream discourse or is it trying to fill the gaps left by Ecological Modernization?

Author Daniel Bloomfield, Queen Mary University of London

Title Post-restoration evaluation of Natural Flood Management measures: River Frome, Stroud

Abstract Since the 17th Century, following thousands of years playing a significant role in the geomorphology and ecology of rivers, large wood (LW) has been removed by humans to improve navigability, protect infrastructure and reduce flooding. In recent decades changing attitudes has seen natural flood management (NFM) projects restore LW in rivers, but as yet there is a lack of data to evidence its positive impacts. In 2012, Stroud District Council began the Stroud Rural Sustainable Drainage (RSuDs) project, working with communities and land owners, to construct LW structures in the River Frome catchment aiming to reduce flood risk in built-up areas downstream. 6 years after the project began an early evaluation with respect to flood risk and physical habitat is timely. This presentation will address the following research questions: what affect has the installation of LW jams in the catchment of the River Frome had on flood risk? This is divided into 3 sections: a) analysis of hydrographs using rainfall and river level data split into pre- and post-restoration periods, b) analysis of hydrographs produced by flood modeller on a model with and without LW structures, and c) use of Modular River Physical (MoRPh) survey on a restored reach and a non-restored reach to compare the quality of physical habitats in both. It is expected that LW will have the effect of reducing the height of peak flows and the rate of rise on both types of hydrograph, and improve physical habitat quality.

Author Jack Bond, University of Exeter

Title The effect of fatiguing cycling on foot pressure, rearfoot motion and foot strike modality.

Abstract Running mechanics alteration with fatigue has been linked to increased chance of injury. Increases in knee flexion and ankle movement velocity and magnitude, as well as heel and big toe peak pressure at foot strike are shown following a fatiguing run. Cycling activates different muscles to running so the effect of fatigue could change running mechanics in different ways. As no study has measured shod pressure post fatiguing cycling, we aim to compare running before and after a race intensity cycling protocol in habitual triathletes. Kinematics will provide possible explanation for changed pressure distribution. 12 moderate level triathletes will take part in the study. A series of 10 running trials across an RScan pressure plate will occur before and after a 30-min cycle. The cycle will use repeated efforts to simulate a race situation. Running speed will be measured by timing gates with participants self-selecting their speed, having been instructed to run at a race pace. Kinematics will be measured in the sagittal and frontal plane at the knee and ankle joints with analysis in Tracker software. Shod pressure data will help determine foot strike modality and index. Results will suggest if running mechanics are altered due to fatigue from cycling. Changes could have

implications to training and competition in triathlon. Being able to limit these, changes could reduce injury likelihood and lead to better maintenance of performance during a specific triathlon scenario.

Author Georgica Bors, University of Sheffield

Title Twitter User Classification in 359 Different Health Conditions

Abstract Purpose - This work aims to conduct an analysis of the user profiles to identify typical stakeholders that engage in health-related communications on Twitter and apply natural language processing and machine learning methods to automatically classify these users to better understand these online social media communities. Design/methodology/approach - 1.5 million tweets were collected which were generated by over 450,000 Twitter users for 359 health conditions. A sample of 3,100 users were analysed and manually coded into six most common stakeholders based on their Twitter profiles. This was then used to develop machine learning models for automatic stakeholder classification. The best performing model was then applied to the entire dataset to analyse and compare the stakeholder compositions for different health conditions. Findings - Our best performing model based on deep convolutional neural network obtained an average of 85% in the F1 score. This was then used to identify the highest and lowest ranked health conditions by the number of different stakeholders that tweeted about them, where we discovered conditions that lack engagement of certain stakeholders. Originality/value - Our work is the first to study the different types of users that engage in health-related communication on the social media, applicable to a broad range of health conditions rather than specific ones studied in the previous work. Our tools and data are made available for future research and are first of this kind in the literature. Our findings are useful to public health authorities and researchers to raise awareness or better connect users.

Author Janine Bracht, University of Warwick

Title Cordelia is dead. The function of Cordelia as death in Shakespeare's King Lear.

Abstract The character of Cordelia in Shakespeare's King Lear is often referred to as one of "the greatest [victims]" (White 1982: 28). In contrast to that opinion, Cordelia seems to fulfil a more meaningful function considering the fact that she appears only in four scenes on stage during the whole play, though she influences the play from beginning to the end. She teaches Lear not only the distinction of truth and falsity, but also, and foremost, the recognition of the inescapability of death. Therefore, the function of Cordelia lies in her existence as death itself, appearing in order to demonstrate Lear's inescapable fate. She warns him with her initial "Nothing" and later fulfils this nothingness, meaning death. The aim of my research is to examine her function in detail with reference to her nothing, the consequences of her answer and her return as a supernatural or mother-like creature. Furthermore, two comparable fairy tales are used in order to outline the function of the King's youngest daughter. Finally, considering the fact that Cordelia is death, one could argue that she is just a production of Lear's phantasies driven by his fear of mortality. Her "Nothing" initiates the whole tragic action in order to make Lear recognise his

own mortality. Therefore, although past research has tended to focus on Cordelia's appearance as the victim of the tragedy, my research highlights her superiority. For this, a text-immanent approach was used in order to demonstrate a new perspective on the character of Cordelia.

Author Cassie Brewer, Exeter

Title Why is Menarche associated with School Absenteeism in Ethiopia?

Abstract Menstrual hygiene and management in developing countries has not received adequate attention. More than half of girls in North-eastern Ethiopia have been absent from school during menstruation. Furthermore, 22% of men believe that girls should not attend school when menstruating. This literature review aims to determine the factors causing this absenteeism among female adolescents in Ethiopia. PubMed database was searched using the terms "Ethiopia", "Menstruation" and "School". Selection was based on relevance and only full text, free papers published in English were included. Girls with access to sanitary products were less likely to be absent from school following the onset of menarche. Only 35% of female students have access to such products and 15% of non-attendees state that this is their primary reason for staying at home. 45% of girls in North-eastern Ethiopia are absent from school due to a lack of separate female toilets. Other facilities such as doors on toilet cubicles, disposal points and a water supply also result in girls managing menstruation at home. Poor knowledge about menstruation also increases absence; many girls were mistreated by male students because they were seen to be cursed by God. Many factors lead to school absence during menstruation but a lack of appropriate hygiene facilities seems to be at the core of the problem. Without proper knowledge, it is difficult to encourage the implementation of such facilities. Therefore, we need to research how we can improve education about menstruation, for all students.

Author Bethanie Brooke, University of Portsmouth

Title Gender Equality and GDR Architecture: what were women architects' experiences of the so-called gender equality in the GDR?

Abstract During its forty-year existence, the German Democratic Republic declared itself to be a gender-equal society. The state achieved an exceptionally high rate of female employment across many sectors thanks to initiatives aimed at getting women into work. Of those employed in architecture and construction, around 25% were women. Rebuilding East Germany after World War II and later dealing with the housing shortage was an important job, but how did the experiences of women in architecture measure up to the claims in the state's constitution? Provisions such as free childcare aimed to help lessen the 'double burden' shouldered by women under socialism, who were often expected to retain their traditional roles as wives and mothers whilst in full-time employment. However, very few women made it to top positions within the architecture industry, as well as in other sectors in the GDR. This study aims to fill an important gap in a young research area by using primary evidence from GDR archives to explore women's experiences as architects in a socialist state. The research draws on previously inaccessible materials from East German archives, interviews with former women architects, records

of their work and documents from the architecture sector itself to analyse the lives and experiences of these women. Preliminary findings suggest that gender equality had not been reached, illustrated by the lack of women in top positions in the architecture sector. Only three women in the GDR were ever employed as chief municipal architects, and one as a professor of architecture.

Author Chris Brown, University of Sussex

Title Tuneable Nanomaterial Substrates for studying Cellular Growth

Abstract I intend to give an oral presentation. The study of the interaction between cells and synthetic nanomaterial substrates is an exciting and active area of multidisciplinary research. The aim of my research was to study the effect of different nanomaterial substrates on the growth of different cell types, both cancerous and healthy, to identify cellular responses to substrate cues. Langmuir Bloggetry is a tool used to create two-dimensional nanomaterial films, with fine control over the chemical and physical properties of the substrate produced. In this way, we were able to finely tune the nanomaterial surface coverages. These substrates were characterised using highly sophisticated techniques including atomic force microscopy, high-resolution optical microscopy, and dynamic light scattering size analysis. Further, we studied the effect of nanomaterial substrates on cellular growth, for cell types including fibroblasts, glioblastoma multiforme (brain tumour cells), and bone carcinoma cells. For both healthy and cancerous cells we studied how the presence of nanomaterials affected the biological structure of individual cells, using fluorescent cell staining and high-resolution microscopy. Generally, this area of research could help further our understanding of cancer cell proliferation and metastasis, which could be vital in developing new diagnosis and treatment methods. Critically, it was found that cancerous cells appear to internalise the substrate material more than can be seen for healthy cells. This finding could potentially be used as a diagnosis technique or drug delivery mechanism; but much more investigation is needed.

Author Joshua Brown, University of South Wales

Title The prevalence of contract cheating; why do so many students do it, and how can universities support those under pressure?

Abstract Contract cheating is the process of students using external sources to complete their assignments for them, and submitting them as their own work. This is a concern consistent at all universities, including the University of South Wales. The presentation will look into the factors that lead to students choosing to contract cheat; whether pressure about deadlines or a lack of support centred around writing assignments. The study will consider the different demands of different subject areas, and the information that is available for students about plagiarism and the consequences of academic misconduct.

Author Phoebe Brown, Blackpool and the Fylde College

Title The Technology Effect: An Investigation into Technology Optimism in the Research and Development Projects of BAE Systems

Abstract 'Any sufficiently advanced technology is indistinguishable from magic.' (Clarke, 2000) This quote from Clarke (2000) sets the tone with regard to the perception society has towards technology. Technology is not a single immutable; definitions of the term are broad, abstract and subject to the perceptions of individuals (Ellul, 1962; Heidegger, 1979; Mitcham and Mackey, 1983; Stiegler, 1998; Pitt, 2000; Kaplan, 2009). An over-generalisation of the term 'technology' has led to a latent bias in judgment and decision-making. Academics (Greenwald, McGee, and Schwartz, 1998; Clark, Robert and Hampton, 2016) argue that prolonged exposure to significant technological advancement, coupled with the pervasiveness of technology on our societal existence (Bresnahan and Trajtenberg, 1995) has led to a non-conscious association between technology and success (Greenwald, McGee, and Schwartz, 1998). Consequently, conditioned by the proliferation of technology and the implicit association between technology and success; technology has, for some, become a diagnostic signal for predicting success (Sol, 1996). This has been given the term 'technology optimism; it is this phenomena which forms the motivation for this study. When observed in a practical project management setting, how prevalent is technology optimism in Research and Development (R&D) projects? Are the origins internally or externally driven? Furthermore, what impact does technology optimism have on R&D projects? A qualitative study will be undertaken on a judgement sample of Project Managers currently operating in R&D projects at BAE Systems; thematic analysis will be utilised to explore connections and themes present, with the aim of answering such questions.

Author Balint Brunner, Bournemouth University

Title An analysis of the use of a brand figurehead within Jimmy's Iced Coffee's relational strategies and its impact on customer engagement

Abstract This research will explore the concepts of brand personification and shared values as antecedents of customer engagement, in the context of chilled beverage brand Jimmy's Iced Coffee's (JIC) marketing strategies. The organisation has adopted a human-like brand persona to build authenticity with customers and has relied on storytelling to successfully position its founder as an intrinsic part of brand identity. With the help studies by Vivek et al. and Hollebeek, the research will present an adapted conceptual framework, which argues that the use of a brand figurehead like JIC's founder Jim Cregan attains a high degree of engagement. The impact of shared values between the brand and the customer, as well as the customer's interaction with the organisation through two-way communication, will also be explored. The constructs of trust, word of mouth and brand community involvement will be presented as potential outcomes of customer

engagement. Using evidence from customer-brand interaction via social media, an analysis of the Jimmy's Iced Coffee brand will also be conducted in relation to its use of a non-fictional brand figurehead and its impact on the firm's engagement with customers. Based on findings and current organisational challenges, the author will recommend that JIC further distinguish the figurehead from product-centric social media content to ensure coherence and authenticity. The author will propose the creation of branded social media accounts dedicated to the figurehead as a way to drive higher levels of customer engagement.

Author Ciara Buckley, University of Warwick

Title How does debt aversion in the context of higher education vary across ethnicities, and why does a disparity exist?

Abstract Given that university fees have risen so much over the last two decades, the debate around the costs and benefits of higher education is increasingly relevant. Literature around this topic predominantly investigates debt attitudes, particularly among prospective undergraduate students who are deciding whether or not to continue their education after school. It finds that those from lower social classes have strong debt aversion which negatively affects their participation in higher education. Researchers consistently find similarly strong debt aversion among those from black and minority ethnic groups, but there is much less analysis into the reasons why this is. Varying degrees of debt aversion across groups has led some to argue that the existing loan system may indirectly discriminate against minority ethnic students. Therefore, by finding out to what extent they are put off university by debt, and why this is, it will be possible to provide some policy recommendations to ensure that access to higher education is fair. In order to conduct my analysis, I use the Longitudinal Study of Young People in England, which follows the lives of around 16,000 people born in England in 1989-1990. The responses I use are from a 2008 survey where the subjects are 18 years old. In order to calculate a measure of debt aversion, I use factor analysis to determine how to group responses to a number of questions about debt. The effect of ethnicity on the resultant debt aversion measure is then calculated using an OLS regression.

Author Tambinh Bui, Utrecht University

Title Real-world effectiveness of palbociclib versus clinical trial results in patients with advanced/metastatic breast cancer that progressed on previous endocrine therapy

Abstract **Objective** To assess the real-world effectiveness and tolerability of palbociclib combined with endocrine therapy for the treatment of HR-positive, HER2-negative, advanced/metastatic breast cancer that progressed on previous endocrine therapy, and to compare these results with the outcomes of the PALOMA-3 clinical trial. **Methods** This study was a retrospective observational cohort study including all patients who started with palbociclib in the St. Antonius Hospital between September 1 2016 and April 1 2018 for the treatment of HR-positive, HER2-negative advanced/metastatic breast cancer that progressed on previous endocrine therapy. Individual patient data were

collected from electronic medical records. Primary study outcomes were median progression-free survival (mPFS) and the number of permanent treatment discontinuations before disease progression due to adverse events (AEs). Secondary outcomes were the frequency of all (serious) AEs, and the frequency of and reasons for dose modifications. Results A total of 46 patients were studied with a median follow-up of 13.0 months. Overall, the mPFS in clinical practice was 10.0 months (95%CI 4.9-15.1), compared to 9.5 months in PALOMA-3 (95%CI 9.2-11.0). Two patients discontinued treatment because of AEs. Neutropenia was the most frequent grade 3-4 AE, but with no febrile neutropenia events. Regarding dose modifications, more cycle delays, less dose reductions and less dose interruptions occurred in clinical practice compared to PALOMA-3 (59 vs. 36%, 22 vs. 34%, and 9 vs. 54%, respectively). Conclusion Despite the differences in dose modifications, the effectiveness and tolerability of palbociclib in real-world clinical practice corresponded well with the results obtained in the PALOMA-3 clinical trial.

Author Chloe Burnham, University of South Wales

Title Image and identity: looking at four key questions informed by the National Portrait Gallery

Abstract Though modern day technology, and the news, we are spoon fed information about parts of the world that without access to the internet we would not know about. However, we are given very little space to form our own opinions. It is almost like a hypodermic needle of pre-meditated information moulded by others. Being able to show OUR own identity, in the arts (film, art, photography, dance, drama), is a way of showing others how we want to be seen. We are able to let the viewer form their own opinions on the matter, which might not only inform us, but could also be the topics we choose as our muse. Four questions will be explored in the presentation to enable an exploration of the complexity of identity.

Author Abigail Byford, University of Leeds

Title The Potential Translation of LINC01116, NEAT1 and DLGAP1-AS1 Long Noncoding RNAs in the SH- SY5Y Cell Line

Abstract Long noncoding RNAs (lncRNAs) are noncoding transcripts over 200 nucleotides in length, which have been reported to play roles in various biological processes. Many lncRNAs are polyadenylated, possess 5' caps and are transcribed. However, lncRNAs are relatively low in abundance in comparison to mRNAs and are thought to lack significant open reading frames (ORFs). The aim of this research was to investigate the potential translation of lncRNAs – LINC01116, NEAT1 and DLGAP1-AS1 and determine whether they are associated with ribosomal complexes in the human SH-SY5Y neuroblastoma cell line. In addition, whether this association changes upon neuronal differentiation with retinoic acid was also assessed. Furthermore, the relative abundance of each lncRNA in the cytoplasm and nucleus was determined. Control and retinoic acid treated SH-SY5Y cells were initially fractionated on a sucrose gradient and RNA was extracted. RT-

qPCR experiments demonstrated an association of all three lncRNAs with polysomes. Upon retinoic acid treatment, a shift in the percentage of the total NEAT1 lncRNA quantity was observed, in favour of polysomes. Using bioinformatic approaches, 15, 367 and 29 potential ORFs were detected in LINC01116, NEAT1 and DLGAP1-AS1 transcripts, respectively. Collectively, the association of these lncRNAs with multiple ribosomes and the identification of potential ORFs suggest that these lncRNAs are translated. Cellular fractionations of SH-SY5Y cells, RNA extraction and further RT-qPCR experiments demonstrated that LINC01116 and DLGAP1-AS1 primarily localise to the cytoplasm and NEAT1 to the nucleus. Our data therefore suggest that these lncRNAs are likely translated and are associated with different cellular compartments.

Author Ryan Carroll, Queen Mary, University of London

Title Establishment of genome-edited stem cell models for severe obesity

Abstract Background Prader-Willi Syndrome (PWS) is a neurodevelopmental disorder occurring due to loss of paternally expressed transcripts from Chromosome 15q11-q13, including a family of small nucleolar RNA, SNORD116. SNORD116 is known to be important in PWS pathogenesis, however its function is not fully understood. SNORD116 deletion has been shown to affect neuronal differentiation, proliferation and survival. Our aim was to assess how SNORD116 is involved in these processes. Methods Wild-type SH-SY5Y cells (WT) were modified using CRISPR, to create a line with heterozygotic SNORD116 deletion (A16). WT and A16 were differentiated using retinoic acid treatment. Nucleoli and Cajal body analysis and stress response gene expression were measured using immunohistochemistry and PCR, respectively. Results PCR analysis revealed A16 cells expressed higher levels of p16 and p53 in untreated (p16; A16=1.67788, WT=1; p53; A16=2.31094, WT=1) (NB all results shown indicate the fold change when compared to untreated WT cells) and treated cells (p16; WT=1.49683, A16=5.41083; p53; WT=27.2985, A16=58.9067). Immunohistochemistry showed A16 cells had fewer and smaller Cajal bodies and nucleoli per nuclei (average number and area of Cajal bodies, WT=100.0 & 21.51 vs. A16 = 35.32 & 12.33; average number and area of nucleoli, WT=83.59 & 113.89, A16=57.42 & 66.99, respectively). Discussion and Conclusion p16 and p53 are tumour suppressor genes involved in cell cycle control whilst Cajal bodies and nucleoli aid in maintaining normal neuronal function. Our results indicate the increase in p16 and p53 is due to a stress response in A16 cells, leading to lower survival rates.

Author Nicole Cashman, University Centre Reaseheath.

Title The effect of livestock and wildlife grazing on lowland heathlands flora.

Abstract Grazing is one of the most commonly employed methods by which to manage heathland habitats. It is also considered the most cost effective means of preventing succession while maintaining a heterogeneous habitat structure. Livestock are the commonly used due to their grazing habits, whereas wildlife species are considered a nuisance due to their grazing habits. However, studies have suggested both negative and positive implications of grazing on

the plant communities. Therefore the effects of livestock and wildlife grazing on lowland heathlands flora were studied to investigate which grazing type is more beneficial for the floral communities. The study took place at two locations; Tidenham Chase and Crabtree Hill. The study hypothesises that wildlife grazing will enhance flora communities within lowland heathlands. Belt transects were used as the sampling method with a random starting point for each study site. The DAFOR (Dominant, Abundant, Frequent, Occasional and Rare) sampling method was also used to estimating the abundance, cover, percentage, and height of vegetation recorded in each quadrat (measured out at 10 meters apart). Analysis is currently being completed on this data. The results of this study will be important in increasing knowledge of grazing types and their impact on the environment. Furthermore comparisons of grazing types may help improve current management of heathlands and aid in development of future conservation actions.

Author George Caton-Coult, Bournemouth University

Title By order of the music supervisor: The TV soundtrack and its relation to antihero engagement in *Peaky Blinders*

Abstract Antiheroes are characters that exhibit antisocial behaviour and frequently transgress moral standards. However, audiences still manage to like and root for these fictional individuals. Traditional theories of character and narrative engagement assert that a spectator's emotional responses to narratives arise from their moral evaluation of characters. The increasing trend of antiheroes in contemporary television has compelled researchers to revise these traditional theories to explain the antihero engagement phenomenon. Vaage (2016) argues that we rely on moral intuitions and emotions rather than deliberate, rational moral responses when we engage with fiction. Furthermore, our moral intuitions and emotions can be manipulated through narrative strategies, meaning that antihero characters are not always held under the same moral scrutiny as moral trespassers in real life may be. Although there are already examples of how our moral intuitions can be manipulated narratively, there has not been an investigation into the potential role that music may play in the antihero engagement phenomenon. Music has been consistently recognised for its storytelling capabilities in film and television, as well as its powerful influence over human emotion. I argue that the soundtrack of the BBC antihero series *Peaky Blinders* acts as a narrative agent and is part of a wider assemblage of narrative strategies that influence the spectator's moral emotions and intuitions. Through a synthesis of antihero engagement literature, musical narratology, and neuroscientific evidence, I show how it may be possible for soundtrack to influence spectator engagement with antihero character Thomas Shelby in two separate episodes of *Peaky Blinders*.

Author Armaan Chadha, University of Warwick

Title World Exposition, What makes a World Exposition successful?

Abstract A vast array of countries have completed and are planning world expositions, selected by the Bureau International des Expositions (BIE), with Italy, Milan (2015) being the most recent and the UAE, Dubai (2020) upcoming. What

was surprising is when we read into the data, Western nations such as Italy, Germany, Hanover (2000) and Spain, Seville (1992) all slumped into a recession in the following year of their expo's. Comparatively, with Eastern nations such as Japan, Osaka (1992) and China, Shanghai (2010), both economies clearly went into a boom and benefited from high levels of increased economic growth of 4.7% and 9.5% of GDP respectively after the event. Some of the many factors which may have played a significant role include; the economic climate during the period prior to the exposition, the debt to GDP ratio considering the ability of the country to build infrastructure and importantly the level of foreign direct investment. The further research I plan to carry out would allow the Bureau of International des Expositions to possibly be able to critically evaluate results and findings based on this research. This would allow one to judge whether a country and city are truly fit for a World Expo and what may need to be analysed when considering whether to choose a nation or city. This analysis can be extended into data for the Olympics and World Cup for a broader perspective, comparing such events but also whether this correlation follows for other such events. Presentation will be as a poster.

Author Ramyank Chaganty, University of Warwick

Title What is the economic impact of the Rio Olympics on Brazil

Abstract Background: The 2016 Olympic Games was a major international sporting event with athletes around the world amalgamating to one spot- Rio de Janeiro, Brazil. Aim: The goal of this project was to evaluate the impact of the Rio Olympics on the Brazilian economy. The results of the research can be implemented by event promoters and policy-makers in order to ensure a positive short/long-term gain to the economy. Methods: Secondary research included newspapers and online articles that was critically looked over for the most reliable information. Primary research involved interviewing two recent visitors to Rio. Results: The total cost of the Olympics was near \$12 billion with an expected revenue of \$9 billion. \$7.1 billion was spent on infrastructure and the lack of re-utilisation of these venues post-Olympics, highlights a negative economic impact. The Olympics was estimated to have created 1.79 million permanent and temporary jobs, most probably aiding the faltering economy with a positive multiplier effect. Regarding, tourism, there was an estimated \$1.7 billion spent by visitors helping local economies. Discussion: In the short term, the Rio Olympics had a positive impact on Brazil, however long-term, this positive impact will deteriorate and possibly lead to a negative impact. The implication of this result to the world is that Brazil may not fully recover from a recession because of the Olympics and contribute as much internationally.

Author Mahashweta Chakravorti, King's College London

Title Streetwalking: The Colonial Flaneuse in Modernist London

Abstract In my dissertation, I want to analyse the idea of the flaneuse and the significance of streetwalking in the works of Jean Rhys and Una Marson women from British colonies who lived in London during the early twentieth century. By streetwalking, these women posed a challenge to the existence of

the flaneur – traditionally, a European man involved in the arts, walking the city alone. The flaneur claimed the city as his canvas, both as a space for physical movement and artistic freedom. But flanerier was not considered a respectable pastime even for European women. By streetwalking in London, Rhys and Marson made themselves visible, laying claim to both an activity and a viewpoint usually denied to women. Streetwalking made the female observers of the city become the observed female bodies in the city. From a postcolonial perspective, streetwalking also became an assertion of national and, in the case of Marson, racial identity in the seat of British Imperial power. Because the streets of London were normally inaccessible to people under colonial rule, streetwalking allowed Rhys and Marson to negotiate the boundaries between the colonized and the colonizer's space in their writings. The politics of space was also complicated by questions of temporality. As women, Rhys and Marson would have had restricted access to the city at night and I am interested to see how this may have influenced their writings.

Author Ka Yan Chan, University of Houston
Title The Tree of Life: An application of narrative therapy in social work group work for Chinese women with mental illness

Abstract What makes us survive and even thrive after traumatic life events? Many Chinese women experienced traumatic experiences survived but are continuously living under the shadow of traumas and suffering from mental disorders. Their dominant life storylines taint with much negativity. Stigmatisation toward mental illness has negative impacts on the recovery and undermines the lives of Chinese women with mental illness. The Chinese culture emphasises the virtues of tolerance and harmony, submissiveness of female, which further oppressed and hinder them from recognising their own value and strengths and accessing to hope and thus impede their recovery. A six-session group of narrative therapy with the tree of life and art elements has been conducted in an integrated community centre for mental wellness to examine the effectiveness of such interventions on facilitating the recovery of Chinese women with mental illness. Engaging in the process of making the tree of life, group members are assisted in telling alternative stories about their lives. The tree of life is also used as a document to capture their unique stories with strengths, resources, and new possibilities. The results are very encouraging, and group members turn to a new page in life. This group enlightens the recovery of people with mental illness and clinical practice in mental health settings.

Author Sahil Chandra, Queen Mary University of London
Title The Role of Tissue Biomechanics in Keloid Scar Formation

Abstract Background: Keloid scars extend beyond the original wound site. The mechanisms that trigger their formation are currently unknown. They are 20 times stiffer than normal skin and commonly form in areas that are under high tension. Tissue biomechanics may affect keloid scar formation. This project aimed to model and compare the effect of increased substrate stiffness on keloid and normal skin fibroblasts. Methods: Fibroblasts from 2 normal and 2 keloid primary cell lines were cultured on polyacrylamide hydrogels,

mimicking normal and stiff skin. The cell-derived matrices (CDMs) produced by the fibroblasts were analysed for differences in their fibronectin and collagen fibres, using confocal microscopy. Furthermore, normal and keloid cell focal adhesions (FAs) were analysed to assess average size and number per cell, using confocal microscopy. Finally, the levels of Type I collagen and fibronectin produced by normal and keloid cell CDMs were compared through western blotting. Results: In response to increased substrate stiffness, a significant reduction in fibronectin fibre thickness and spacing was seen in all cell lines. Collagen fibres could not be analysed. Keloid fibres were significantly thicker and less spaced out than normal fibres. FAs increased in size and number at higher substrate stiffness, with keloid cells being more responsive than normal cells ($p < 0.0001$). Type I collagen and fibronectin levels increased with substrate stiffness. Conclusion: Fibroblasts can respond to increases in substrate stiffness and preliminary results suggest a difference in response between keloid and normal cells. Therefore, skin stiffness may contribute to keloid scar pathophysiology and treatment.

Author Mauricio Chase, Staffordshire University

Title The development and evaluation of fingermarks from frequently handled components of firearms.

Abstract During the period 2013-2017, the Royal Barbados Police Force (RBPF) observed a 43.4% increase in the number of firearm related offences and no identifiable fingermarks were ever recovered from seized firearms. This research aimed to identify the most likely firearm component(s) for fingermark recovery, and the success rate of fingermark identification. To replicate natural firearm handling, 15 firearm-trained police officers handled assembled firearms and disassembled them into their component parts. Latent fingermarks were developed using cyanoacrylate fuming, lifted and classified by component location. Subsequently, recovered fingermarks were photographed, lifted and uploaded to the Automated Fingermark Identification System (AFIS) for comparison to known reference fingermarks. Fingermarks were primarily developed on smooth metal surfaces. Further research is required into the development of fingermarks from polymer surfaces and the identifiability of fingermarks using AFIS. However, based on observations, it is expected that a one-way analysis of variance (ANOVA) statistical test would demonstrate; 1) a significant difference in the number of fingermarks observed on the frame and cylinder components versus any other components and 2) a significant difference in the number of fingermarks observed on the revolvers versus the pistols. Thus, these results could be used to evidence the need for police officers to avoid coming into contact with the frame and cylinder firearm components, to increase the potential for recovering identifiable fingermarks.

Author Anqi Chen, London School of Economics

Title Beyond Ethnic Enclave: Social Integration of Chinese Immigrants in Paris 'Little Asia'

Abstract This paper studies the integration of Chinese immigrants in 'Triangle de Choisy' neighbourhood in the 13th arrondissement of Paris, which is known

as the an exotic hub of Chinese and Indo-Chinese restaurants, markets and cultural associations. Based on Serge Paugam's model of social integration, we found that while Chinese residents in the neighbourhood generally manifest a preference to gather with their own self-identified ethnic group for daily activities, they are not necessarily isolated from the information and resource flows in the wider society. Local level intra-ethnic integration constitutes an intital source of accommodation in a foreign country, as well as the basis of appreciation of the environment and integration to the border society. Our findings are based on participant observation and semi-structured interviews conducted in a local culture association. This paper shows that dense connection within ethnic group allows the formation of compensated integration, as friends and schoolmates can provide resources and intimate support, substituting that of remote family members; public institutions and members of the wider community may also gain access by knowing a member of the network. Nevertheless, collective reluctance to political engagement and internal marginalisation deters further integration. This is a group paper written by Anqi Chen, Yongxin Lu, Chihang Li and Lou Ansaldi, under the supervision of Dr.Tommaso Vitale in Sciences po, Paris.

Author Kirsty Chevannes, Staffordshire University

Title Comparing the accuracy of metric and non-metric anthropology methods to a novel digital non-contact scanning method to estimate ancestry of skeletal remains.

Abstract Ancestry estimation is an evaluation of the ancestral background of an individual. The method has been deemed as a subjective method as it does not account for the variation within the human population, but it is still utilised by forensic anthropologists, thus leaving the method under scrutiny, establishing it as an unscientific evaluation. Variation within ancestral traits has been identified and a framework for analysing the characteristics where a statistical framework is required. Additionally, the use of morphoscopic traits is considered a relatively subjective method when estimating ancestry. Craniometrics uses landmarks on the skull to identify and estimate the ancestry of human remains. The two sets of data from the morphoscopic and craniometrics are identified using industry standards to establish and estimate ancestry. The accuracy of the digital methods and that of the standard methods are being analysed. Following this, the comparison of the digital representation methods using ancestral traits and landmarks will be compared to the metric measures from the cloud data points collected, using the non-contact scanner (Faro-Arm and Geomagic software). Digital methods identified aim to aid forensic investigations where removal of human remains from locations or due to religious, cultural beliefs it may not be possible. Therefore, establishing an accurate method where remains can be analysed in situ would be a beneficial advancement by putting a digital accuracy to the measurements and reducing the subjective nature of the method. The inclusion of an inter-observer study is to re-evaluate the error rates and the accuracy of both methods.

Author Princess Ezinne Chika-Okafor, The University of Warwick

Title The impact of migration on the rural-to-urban area: a case study in China

Abstract This paper studies the effects of internal migration in China and how it increases income inequality, especially in rural areas. The abolition of the hukou system in China has fuelled the growth in migration in China as the movement of people is no longer restricted. This has especially promoted the rural to urban migration. The paper examines the influence of rural to urban migration and its impact on the distribution of income in the rural areas. The paper looks at counterfactual scenarios in different households and their relationship with income distribution and the migration from urban to rural areas. It is discovered that rural residents would have earned more have they opted not to move to the urban areas and stayed in their local areas to promote the local economy. Also, the money remitted back home by the urban migrant are less than what they could have earned in their local areas. Economically, the increase in the migration could be the result of the forces of supply and demand as people seek better opportunity and the individual incentive to earn more. Another explanation is supported by regulation due to the government abolition of the hukou system so as provide cheap labour to the urban industries as demand for China's export increases. Furthermore, this migration is dictated by economic forces, as there is less land for farming in the rural areas and fewer industries in the rural areas resulting in a decrease in job opportunities.

Author Dee Chng, University of Warwick

Title Tourism (and sustainable development) in the Anthropocene: a critical examination using South East Asia (S.E.A) case studies.

Abstract In 2017, international tourism grew at a rate of 7% to the highest it has been in seven years, a significant proportion of which took place in South East Asia, the region experiencing a continuing increase in tourist receipts. While this can be a positive force for development - tourism being one of the main sources of foreign exchange for countries in the region, there has been increasing evidence of the negative environmental and social impact of tourism on a destination country. Recent analysis reveals that the tourism industry is more carbon intensive than previously regarded, accounting for 8% of global GHG. This results in the future of tourism in S.E.A to be highly uncertain as governments continue to wrestle between conservationist or expansionist policy. By exploring the dynamics between tourism and destination, this paper develops a more holistic and nuanced perspective on the potential of tourism in South East Asia, in contrast to the overly negative position taken by most scholars. This exploration will be done so using secondary research and interviews, in which real world complexities will be supplemented with theories such as Ooi's concept of tourism as a change-process and Michel Foucault's notion of heterotopias. Tourism is also examined through the three pillar of sustainable development. When properly understood and well managed, tourism can be a key driver for many of the Sustainable Development goals and can be used strategically as a process to foster change and build strong national and cultural identities.

Author Timothy Shun Man Chu, Newcastle University

Title A Sustainable Model for Undergraduate Surgical Education: The Peer-assisted Surgical Skills for Students Course

Abstract The Royal College of Surgeons (RCSEng) and General Medical Council (GMC) have specified a set of surgery-specific outcomes for medical graduates. However, research has suggested that medical schools in the UK often provide minimal training in surgical and procedural skills. The objective of the research, then, was to evaluate how a Surgical Skills for Students (SSS) course could improve the knowledge, competency and confidence of medical students in surgical skills. A SSS course comprising of two workshops led by junior doctors and senior medical students was conducted. Three surgical Skills (suturing, knot tying, laparoscopy) and other procedural skills were covered. Questionnaires were sent to record pre-course and post-course knowledge and confidence scores. A five-point Likert scale was used to capture additional feedback. Overall, the research found that 23 students attended the course. Only 26.8% of participants reported they had formal teaching within the curriculum on the three surgical skills on average. Significant improvement in the mean self-reported confidence scores in suturing (+3.5, $p < 0.001$), knot tying (+4.7, $p < 0.001$), and laparoscopy (+4.3, $p < 0.001$) were recorded. All participants reported an improved knowledge in suturing and laparoscopy, while all but one participants reported an improved knowledge in knot tying. In conclusion, undergraduate curricula do not provide sufficient surgical training. Peer-assisted courses are sustainable and effective in enhancing knowledge, confidence and interests in surgical skills amongst medical students. We aim to introduce a model where previous SSS attendants could participate in teaching the next cohorts, to enhance continuity and better equip students with the essential skills as defined by the RCSEng and GMC.

Author Matyas Cimbulka, Solent University

Title Extending short range wireless communication coverage using AdHoc configuration – A chat Application deployment

Abstract Short range wireless communication technology such as Bluetooth, Wi-Fi and Infra-red amongst others has become a very popular medium of communication particularly, in a defined sphere where external network (internet) communication is unbecoming. However, constraints such as limited connectivity range hinders the prominence of employed devices that are based on these technologies protocol. This project applies a device on device communication that embraces a mesh network topology as a technique for extending communication range between/among network nodes. An iterative - Document Analysis of Stakeholder Development (i-DASD) methodology is utilised to analyse literature, systems and stakeholders of the potential systems. Rapid Application Development (RAD) Method is adopted in the development phase of i-DASD, thereby, enabling the development process of the chat application to be effortless and robust. The developed and deployed chat application emulates AdHoc network protocol with the intention of extending network communication range of the involved nodes. A deployment of chat application is simply to emulate and evaluate the prospect of this technique as one of possible exploitations. Other applications include data collection via sensors, device communications in home automation, devices

connectivity in smart campus and smart city among others. To measure effectiveness, associated parameters such as speed, reliability, scalability, resource utilisation and security are to be analysed using standard evaluating techniques. Beneficial features including seamless adaptability, expandability and multiple route availability distinctively prove the technique to be a suitable for an efficient wireless communication, thereby providing alternatives of medium range wireless communication through a multifaceted peered node connections.

Author James Clemoes, University of Leeds

Title Future landscapes of west Wales

Abstract This project designed a survey prompting residents of west Wales to explain their preferences for the future of the local landscape. Significant potential for landscape change exists locally due to uncertainties surrounding the future economic viability of its main land use, sheep farming, and because conservation groups are interested in initiating changes to local ecosystems inspired by 'rewilding', an approach emphasising the creation of wild spaces featuring minimum human interference. These are contentious issues, since 'rewilders' see sheep farming as causing local environmental degradation, yet it is widely seen as integral to local culture as well as providing a livelihood for farmers, who see 'rewilding' as a direct threat to their existence. The survey captured a detailed map of respondents' subjective positions regarding different aspects of the landscape. Visual Q-Methodology techniques were used, asking respondents to arrange on a grid 38 photographs representing significant existing or possible landscape features according to how positively or negatively they felt about them being present locally, followed by requesting comments about their decisions. The resulting data sets were sorted using factor analysis and interpreted using the comments, out of which were formed groups with particular shared priorities and points of disagreement with others. Three archetypal positions formed distinct groups: desiring preservation of traditional farming and opposing 'rewilding', prioritising conservation and 'rewilding', and being positive about animals in general. This information will be useful for organisations in west Wales to understand how landscape-related decisions are likely to be received by different elements of the local population.

Author Thomas Clough, Blackpool and the Fylde College (Lancaster University)

Title Early stage microbial biofilm formation and biodegradation rates of monolayer graphene polyethylene terephthalate and polyethylene terephthalate composite films in the marine environment

Abstract The advent of the graphene era promises numerous, remarkable applications from improved biosensors and electronics to anti-fouling paint and enhanced packaging materials, often as synthetic polymer composites. However, we are currently in a global plastic pollution crisis due to our historic dependence on synthetic polymers and lack of environmental foresight in their usage. This investigation focusses on the potential environmental fate, biofilm formation and degradation rate of monolayer graphene polyethylene terephthalate within the marine environment via comparative analysis with polyethylene

terephthalate. Previous graphene and graphene oxide environmental impact and risk assessments have thus far failed to address the influences of graphene being inadvertently introduced to the marine environment as marine debris. Quantitative analysis of monolayer graphene polyethylene terephthalate and polyethylene terephthalate films was performed on weight, density, buoyancy, hydrophobicity, biofilm coverage and culturable colony forming unit parameters over a 5-week submersion period at Fleetwood Dock, England and statistically manipulated to determine a daily rate of change value for early-stage degradation and biofilm colonisation. Opportunistic heterotrophic bacteria were found to colonise monolayer graphene polyethylene terephthalate films at a significantly lesser rate than on polyethylene terephthalate films, potentially alluding to antibacterial resistive qualities in graphene polymer composites. However, monolayer graphene polyethylene terephthalate films degraded significantly more rapidly than polyethylene terephthalate films, especially in terms of buoyant integrity, which could represent future challenges in debris interception, accelerated sedimentation, bioaccumulation and biomagnification.

Author Rory Clover, University Centre Reaseheath
Title Comparing different measures of success of wolf (*Canis lupus*) reintroduction in the US and Europe (A meta-critical analysis)

Abstract This research project investigates re-introduction project of the wolf both in the US and Europe and seeks to find any common trends that link to the success of such projects such as economic pressures and social attitudes towards carnivores. This research is essential to ensure the success of future re-introduction projects. Not just for the wolf but for carnivores in general. Through the research of my literature review I have found that that is a disconnect between the conservation and behaviour communities as well as between the conservation and re-introduction communities. This literature review found that for re-introduction projects to truly succeed they must be broken down into a species-by-species system but potentially utilise a general framework mapping social, ecological, behavioural and economic factors to succeed. The purpose of this scientific article is to determine if such a model could be created and successfully implemented by studying current re-introduction data and population statistics as well as the history of current projects. Reintroduction figures will be gathered from various wolf re-introduction projects based in both the US and in Europe to ascertain how successful the projects have been in terms of restoring a stable wolf population from a local area. Communication with the projects staff will also allow me to understand their individual processes and whether they used a common model or created their own. Following on from this the data gathered shall be collated and analysed to ascertain any commonalities that may have occurred to create a universal model.

Author Mark-Joel Clovis, University of Warwick
Title Textural analysis of early features of ischaemic strokes on the initial non-contrast CT head using TexRad™

Abstract Patients presenting to hospital with symptoms of stroke are routinely investigated using a head computed tomography (CT) scan, which is relatively insensitive to ischaemic changes. Herein, a novel technique looking at the texture of ischaemic vs non-ischaemic regions is proposed to aid in the diagnosis of ischaemic strokes. The initial and follow up non-enhanced CT heads of 39 patients diagnosed with an ischaemic stroke from an accident and emergency department were evaluated. TexRad was used to analyse the texture of the ischaemic and corresponding non-ischaemic regions then a data mining tool, Weka, was used to recognize patterns in the data, then to classify new data. Additionally, the number of initial CT head radiology reports describing an area of ischaemia was noted. Use of the filtration-histogram method of textural analysis on 796 regions of interest resulted in the generation of 33,432 data points of information. The J48 decision tree and ZeroR algorithms were used to generate an optimum and a baseline classification. Data from the spatial scale factor 3, revealed that it is possible to identify correctly an area of infarct with an accuracy of 60.2% ($p=0.017$) vs 38.4% accuracy of visual inspection by radiologists. These results suggest that it is possible to use known regions of infarction, to identify and predict from the initial CT imaging with image analysis classifiers the area of potential future infarction. The TexRad™ software has been demonstrated to identify the potential infarction with greater accuracy than a reporting radiologist.

Author Georgia Coles, University of South Wales

Title Rape myths and how these effect police investigations of rape and the decision making of the jury when deciding whether to convict in rape trials

Abstract I would like to present a topic which highlights current issues involving the treatment of rape and sexual assault victims by the law, justice system and by the general public. A topic area that covers this is rape myths and how these effect both police investigations of rape and the decision making of the jury when deciding whether to convict in rape trials. I will do this by discussing the ways in which cases of rape are dealt with from the first instance all the way to trial and how issues surrounding victim blaming and the stereotypes and judgements attached to rape victims are carried through the whole process. I would also consider why the criminal justice system fails these victims due to the myths surrounding rape and how rape is seen within the public eye why this causes conviction rate for rape to be so low within England and Wales compared to other European countries, and even countries globally. I will also discuss the ways in which professionals within the legal profession, in particular the judiciary, and also politicians, comment on rape and the ways in which this affects the public's attitude towards rape both in and out of court. I believe this topic is of interest as there is a current feminist mini-revolution where more people, not just women are looking at the rights of women, and the rights of sexual assault victims. The topic has recently attracted a lot widespread media attention, due to high profile cases such as those concerning Harvey Weinstein. As well as this there has been a current increase of victims talking about their experiences and speaking out about what they have endured and overcome which has also caused these issues to be brought into the public eye, and I believe the more people talk about it, the more likely change will be made.

Author Lucy Colley, Staffordshire University

Title Which method most accurately detects and measures gunshot residue spread for the estimation of firing distance at close range?

Abstract Firearm-related crimes can result in fatality and the reported number of offences involving firearms has increased in recent years. Determining the firing distance through gunshot residue detection and analysis can provide important information for forensic firearm examiners when interpreting casework. This research aimed to evaluate the use of two non-destructive methods (alternate light sources and macro x-ray fluorescence) to estimate the firing distance. A 12-gauge shotgun was fired at a clothing, skin and tissue model comprised of 100% cotton, 1mm thick cow hide and 10% gelatin (stored at 4°C) at 12 distances between -1cm and 2m. Each test firing was repeated five times using a fresh model. A Foster & Freeman Video Spectral Comparator 4Plus and ImageJ were used to measure the distribution and density of the gunshot residue on both clothing and skin simulants. A series of unknown, blind samples created at the Netherlands Forensic Institute were subsequently analysed to evaluate the accuracy of firing distance determination for each method. This presentation outlines the results of the research and discusses the appropriateness of each approach for use in casework.

Author William Collier, University of South Wales

Title "Illegitimate and failed"? A rethink on Self-Defence' (working title)

Abstract Under no circumstances, may a British Citizen own any product with the purpose or intention of wounding another in the name of their own personal protection, with a strict prohibition on items such as Pepper Spray, Stun Guns and Batons that throughout Europe and the USA are commonplace. As Punch (2011:63), in an evaluation of the paradigms in British Firearms Policing shows, this is part of a deep seated ideological principal in the UK, that the use of force against another person must always be both 'minimal' and 'proportionate', who under a legal judgemental lens can declare they have acted with restraint and legal justification in that they could not turn and run from danger, therefore justifying such restrictions on these items in British Law. Yet one must ask that while this approach is certainly proportionate, is it practical to say that a member of the public does not need additional options when encountering the ever-increasing dangers of violent crime and weapons possession in the UK, or that the legal standard of 'reasonable force' justifies the criminalisation of these self-defence products? While such ideas are hardly tested, it is appropriate to argue that a library and online based literature analysis may shed some light on this area, and particularly if it has become an 'illegitimate' and 'flawed/failed' circumstance. This is indeed the objective of the work, and will challenge the effectiveness of current legislation and social attitudes in England and Wales with hopes for better circumstances in the future.

Author Jade Constantinou, Queen Mary University of London

Title Imaging and Creating Colour-Magnitude Plots of Open and Globular Clusters to Determine Age and Distance

Abstract The purpose of this project involves the gathering of data using Queen Mary University's observatory in order to determine characteristics such as the age and the distance of particular open and globular clusters. Queen Mary University's telescope and CCD camera is used to collect data on these star clusters so that colour-magnitude plots, such as V vs B-V plots can be created. This is accomplished by using imaging techniques through UBVR filters and differential photometry. Scientific images are created after taking multiple frames in certain conditions and differential photometry can be applied on the images after the noise and pixel sensitivity is corrected. The scientific images are produced through images that are taken using exposures through different bandwidth filters. Photometry is used on the calibrated images formed from each filter and the magnitude of individual stars in the frames can be determined with respect to a star whose magnitude is already known. The colour magnitude plots that are created can be likened to HR diagrams that show different stellar populations. 'Isochrones' are fitted to each plot that is made from the data collected for the open and globular clusters and their respective ages can be determined. The star cluster data and plots are used to search for periodic variable stars known as RR Lyrae type stars, which will be used as 'standard candles'. For globular and open clusters, the distances that are derived from the isochrone's fit is compared to the distances determined from these 'standard candle' RR Lyrae stars.

Author Joseph Cooper, University of Chester

Title Influence of artificial nest box variables and thermal experience on barn owl (*Tyto alba*) chick survivorship

Abstract Barn owl (*Tyto alba*) populations have declined in the United Kingdom by 70% over the past 50 years. In an effort to counter this decline, the British Trust for Ornithology launched the Barn Owl Monitoring Programme in the year 2000, which involved the placement of artificial nest boxes to bolster numbers and monitor populations. The internal microclimates experienced within artificial nest boxes are an important factor in determining nest box success and have been previously linked with design materials and box placement. Therefore, the purpose of this study is to investigate how ambient temperatures within artificial nest boxes may impact upon brood success in barn owls. Six empty barn owl boxes with three different roof materials were placed in-situ and exposed to the same environmental conditions for the duration of the barn owl nesting period from May to October. Each of the boxes contained a data logger to record hourly internal temperatures, three of which were orientated facing north and the others facing south. In addition, data provided by the Broxton Barn Owl Group outlining variables including design, orientation, height, placement, breeding success and occupation rates of 450 nest boxes was used to identify any relationships between the number of chicks and artificial nest box variables. Finally, the results from the field test and the population data was analysed together to reveal any relationships between internal temperature changes caused by nest box variables and what the impacts are on brood success with a view to better inform conservation management strategies.

Author Ben Cooper , University of Strathclyde

Title Drink, Death and Driving: Do BAC Reductions in Scotland make roads safer?

Abstract This study exploits a natural experiment in Scotland where the legal blood alcohol content (BAC) limit was reduced from 0.8mg to 0.5mg per 100ml of blood while staying constant in all other parts of the UK. Using a difference-in-difference design, we find that this change in the BAC level had no impact on either traffic accidents or fatalities. This suggests that while there may be good reasons to reduce the BAC level in the UK, it should not be expected to include a reduction in traffic accidents or fatalities.

Author Charlotte Copp, The Open University

Title The effects of the convexity bias illusion on deliberate and quick action responses towards targets at different depths.

Abstract Can illusions trick quick actions? Goodale and Milner (2014) suggest not; arguing dissociated vision streams exist in the brain. Dorsal for quick action, utilising environmental stimuli and ventral for deliberate action, using past experience and expectation to understand what we see. However, Kopiske et al (2016) found illusions can affect grasping, suggesting vision streams are not dissociated. Contradictorily, Kroliczak et al (2006) found when participants flicked (quick action) and pointed (deliberate) towards targets within a concave face-mask, appearing illusionary convex in half the trials (using de-focusing lenses), that perceiving illusions produced inaccurate pointing (outside mask) but accurate flicking (within); supporting dissociated streams. Targets, however, were positioned not at deepest depth and research suggests target objects without background references produce weaker visual depth images in the brain (Sousa et al, 2010). Subsequently, knowledge along the ventral (faces normally convex) could supplement weaker dorsal information and guide quick action. The current research explores this notion using an illusion paradigm. Seventeen participants' pointing and flicking movements towards targets positioned within a concave car mould at absolute and 2cm nearer depths were measured, viewed convex (de-focussing lenses) in half the trials (illusion). The research found illusions affected flicking and pointing responses; falling short of veridical target positions. Viewing no illusion produced significantly smaller errors. Absolute targets produced greater errors than nearer and flicking targets nearer made smaller errors than pointing. This implies the brains vision streams interact; information along the ventral can fill the dorsal facilitating quick action, particularly when environmental representations are weaker.

Author Megan Copsey-Blake, University of Reading

Title An Evaluation of the MiniPolice project in Reading schools

Abstract Improving police-youth relations is important as research suggests it will increase public engagement, and improve young people's perceptions, trusts and aspirations in the police. The MiniPolice project provides primary schoolchildren (aged 9-11) with an opportunity to experience positive, non-conflict interactions with police officers within their local community, with the aim of developing a stronger sense of civic responsibility and a greater understanding of police work. Our research involved an evaluation of this initiative, focusing on three cohorts of MiniPolice students (n=60) in two primary schools in Reading. More specifically, we conducted focus groups with MiniPolice students (n=22) and non-MiniPolice students (n=10), qualitative interviews with School Points of Contact (SPOC) (n=20), parents (n=8), and police officers working on the project (n=2). We collected survey data from MiniPolice students (n=61), which found MiniPolice students command a richer disposition around citizenship and trust in the police. While aspirations to work in the police remain modest, students' participation in the MiniPolice project have undoubtedly developed their personal acumen, community identity, civic responsibility and citizenship. We found MiniPolice parents agreed that regular communications with and exposures to the police have improved their views and they consider police officers more approachable. The initiative also promotes family conversation, disseminating positive messages about citizenship at home; schoolteachers (including SPOCs) and police officers involved consider the project a success. Our evaluation offers some insights into the opportunities and challenges that could be considered going forward, especially in the expansion of the project across Thames Valley Police (TVP) regions.

Author Owen Coughlan, Newcastle University

Title Moroccan Miners and Strikes in the Nord-Pas-de-Calais Mining Region: A Story of Integration into the French Mining Community?

Abstract This paper investigates the position of Moroccan migrant miners in the Nord-Pas-de-Calais from 1963 to the closure of the mines in 1990, posing the question of the extent of their integration into the mining community through the analysis of participation in and perceptions of strikes. The socioeconomic understanding of historical integration processes is highly pertinent today to combat largely cultural perceptions of immigration, as was observed in the Windrush scandal, where socioeconomic historical perspectives contributed to a more generous public understanding of the issue. While extensive social studies of the region's miners exist, historians have accorded Moroccan migrant labourers far less attention than the longer-established Polish community of the same region. This paper is the first to focus on the link between strike action, consciousness and integration. To do this, we investigate the socioeconomic conditions of arrival and resultant social and labour relations to distinguish the peculiar position of Moroccans in the area, against the context of de-industrialising economic policy. Evidence collected from media reports and Mine Board archives about strikes in 1980 and 1987 demonstrate that these Moroccans, although participating in typically French working class action, were not readily accepted by French workers. Despite this, the Moroccans developed a level of class-consciousness, and did

perceive their action to represent a workers strike. The immigrant strike/workers strike debates opens up to an understanding of the loss of integrating mechanisms and social tensions surrounding integration in de-industrialised societies, and by extension, of current 'post-industrial' societies.

Author Rebecca Craig, University of Strathclyde

Title Viewing the Cryptonephridial System, the Odiferous Gland and the Tracheal System in vivo in the Red Flour Beetle (*Tribolium castaneum*) using the Mesolens.

Abstract The introduction of the Mesolens has allowed a novel approach to imaging biological samples. A larger than normal volume of capture allows whole specimens to be imaged opposed to regions of interest, this has allowed study of the anatomy of smaller whole specimen such as *Drosophila* and Mice embryos. *Tribolium* was chosen as a specimen of interest due to their poorly understood anatomy and their coarse, dark cuticle which previously made them difficult to view without dissection, we have managed to image to an anatomical and cellular level providing a basic structure in future genetic studies for comparison to the "normal" making abnormalities more identifiable.

Author Cristian Crepaldi, Bournemouth University

Title Development of location-based Android app for non-linear augmented sound experience

Abstract Music listening experience more commonly has become background noise and passive listening over the last decade. Free and instant access to music had the consequence to damage the uniqueness of owning a record. Locative audio technology could create new possibilities of interaction and make the listener more engaged compared to the standard music medium. For this reason, research will be conducted into AR (Augmented Reality) location-based technology used as a mixing tool for music production. A prototype of an Android app will be developed to test user interaction. The software Unity will be used to create the application, the GPS coordinates of the phone will be used to locate the movements of the listener and allow the interaction with the sound portfolio. Project outcome will be an Android application containing a portfolio of four electronic music compositions mapped in the location of Talbot Campus, Bournemouth University. A series of tests between music students and the general public will be held to gather data over the listening experience. Results will be analysed to understand if the final product succeeded to build a co-creative and exciting musical experience for the listener.

Author Zen Creasey, University of South Wales

Title The role of uniform in policing

Abstract The topic that I would like to present is the role of uniform in policing; it will be a study of the influence that dress and clothing has on the respect and authority of police officers, and what messages the uniform sends about the

roles of the police within society. My dissertation will analyse historical and contemporary police uniforms in order to recognise the changing role of policing from a protective civil service to a more militaristic, authoritarian role within society. I will also present a study of women's police uniforms and how they have historically conveyed the different or lesser roles and responsibilities held by female officers as opposed to their male counterparts. Primarily, the focus of my dissertation will be British policing, however I will also seek to draw parallels with police roles and dress in other countries, such as the United States, and how they differ from roles and dress in the UK. We recognise a police officer by the wearing of their uniforms, the design of this uniform therefore has profound impact on our society. And as the uniform identifies the police officer, the police officer becomes police through the wearing of the uniform, enabling and legitimising a position of power but also potentially vulnerability. This study spans many disciplines - criminal justice, history of policing, gender studies, fashion. Focusing clothing and dress, which is an often overlooked but vital aspect of how people behave and are perceived, this study will draw on personal interviews with current and retired police officers, and object based research within museum archives. I will consider issues such as professional identity, authority, power, and militaristic influences through the lens of uniform and dress. This will provide a fresh insight into the study of policing and criminal justice.

Author Madeleine Cromack, Newcastle University

Title Brief Lives: Changes in Infant Burial Practices from the Late Roman to the Early Medieval period in Yorkshire and the East Midlands.

Abstract Infant burials are notoriously underrepresented both in the archaeological record and within the pages of academic literature. Historically, little attention has been paid to this most personal of tragedies, which sadly would have been a present and familiar reality of life. Studies surrounding how infant burial practices changed from late Roman Britain into the early medieval period are generally lacking, especially in the often-neglected north. Indeed, a great deal of information regarding the subject remains unpublished. Through the reinterpretation and analysis of excavated infant burials from Yorkshire and the East Midlands dating c.250-700 AD, this research challenges some of the accepted views surrounding infant death and mourning in the past. This exploration of changes and continuity in infant burial seeks to garner new insights into the way the death of an infant was perceived, while addressing questions of social attitudes towards children. This research weighs into debates surrounding the prevalence of infanticide in Roman Britain and the nature and extent of the historically attested Anglo-Saxon migrations into post-Roman Yorkshire and the East Midlands. Throwing light onto these longstanding disputes, this study aims to show what the physical evidence of infant burial can reveal about concepts of life, death, motherhood, and childhood in the turbulent and changing times following the fall of the Roman empire. Coming from a unique perspective, an attempt is made to give a voice to those traditionally pushed to the margins of society by both contemporary writers and more recent academic thought.

Author Nellie Dalpadoruge Fernando, University of Plymouth

Title Adherence, survival and transmission of antibiotic resistant *E. coli* to surgical gowns and common hospital surfaces.

Abstract *E. coli* is a main cause of Urinary Tract Infections (UTIs). As UTIs consist of 40% of nosocomial infections globally, it is imperative that the adherence and transmission of *E. coli* is researched. In particular, understanding how these microorganisms adhere to fomites is important in order to develop methods to decrease the prevalence of nosocomial infections, as mortality rates associated with UTIs were 25%. A Microbial Adhesion to Hydrocarbon (MATH) test was conducted to determine the hydrophobicity (adherence ability) of one antibiotic sensitive strain (*E. coli* ATCC 25922) and three antibiotic resistant strains: A265 *E. coli* blaNDM-1, B221 *E. coli* ESBL and T145 *E. coli* MCR-1. A plate transfer test was conducted to determine the ability of bacteria to transfer between fomites using the methodology outlined in Joshi et al. (2012) for 2x2cm surgical gowns and 2cm diameter stainless steel discs. From this study, it was determined that all *E. coli* strains had different surface properties as they had different percentage hydrophobicities. Despite being the least hydrophobic, a large number of *E. coli* ATCC 25922 cells remained on the gown, suggesting the surface of the gown is not as hydrophobic as assumed. The antibiotic resistant strains had more hydrophobic properties, implying they are more virulent as they are easily able to adhere to hydrophobic surfaces. Hardly any transfer of *E. coli* was observed in stainless steel, as up to 100% of cells remained on its surface, highlighting an emerging problem in hospitals.

Author Christopher Dann, The London School of Economics and Political Science

Title The Best Seat in the House - An Economic Theory of Senate Seat Selection

Abstract The research seeks to answer the fundamental question: 'do politicians who sit next to each other converge ideologically over time?' Focusing on the US Senate, where Senators are given the freedom to choose their neighbours subject to few constraints, we analyse the question with a focus on spatial autocorrelation – do the left-right ideological values of Senators' neighbours correlate closely with their own values. Our paper has both a descriptive and causal element. Firstly, we use Poole and Rosenthal's (1984) NOMINATE scores to measure Senators' ideology for all post-1945 Congressional sessions, and build various spatial weights matrices using contiguity methods and Euclidean distance to outline the nature of spillover/neighbourhood effects. We then use a variogram method to determine the optimal spatial weights matrix. Secondly, as our dataset is pooled cross-sectional, we use Dubé and Legros' (2015) spatio-temporal weights matrix to also account for the temporal dimension of the data. Using the aforementioned techniques, we find that Senators sit next to their 'ideological allies', but this only applies to economic issues and not social issues. Secondly, to causally assess the fundamental question, we use Senator's deaths as a quasi-natural experiment, and focus on whether the new incumbent is subject to neighbourhood effects upon their arrival into the Senate. Empirically, we assess this using a basic difference-in-differences approach, where we treat a Senator's death as the exogenous 'treatment'. Overall, the paper seeks to build upon Patterson's (1972) understudied 'legislative ecology' –

understanding how legislative institutions and norms affect policy outcomes "in-house".

Author Edita Danielyan, Earlham College

Title The Reluctant British: Why do the British Not Recognise the Armenian Genocide?

Abstract Through the analysis of witness accounts, parliamentary debates, legal documents as well as video and audio evidence, this study examines the UK Government's refusal to recognise the Armenian Genocide (1915). By analysing the denial, the research illustrates systematic patterns ingrained in British politics, specifically in the UK's relationship with Turkey and its colonial past. From 1914 till the 1920s the Young Turks killed 1.5 million Armenians in the Ottoman Empire. Twenty-nine countries recognise the massacre as genocide. However, Britain claims that genocide is not the appropriate word to describe the 1915 mass killings of Armenians, and it will only label it as such if International tribunals do so. This paper argues that the UK non-recognition stance is not motivated by the government's 'trust' in international organisations. The position is mostly political expressed in UK's strategic partnership with Turkey to maintain influence in the Middle East and the fear to engage in national self-criticism because of UK's own colonial past that is full of, as historian Dirk Moses coined it, "genocidal moments." The study demonstrates the need for further legal research on the International Criminal Court and how individual states use it as a 'scapegoat' to alleviate their responsibility to prevent and punish perpetrators of horrific crimes such as the Armenian Genocide.

Author Ieuan Davies, University of Warwick

Title Does The Omega Course Change Perceptions and Behaviour to Support Community Action Towards Better Dying?

Abstract Background: Death has special personal and societal significance. The Omega Course (OC) provides public health education to the local population about death and dying; aspiring to practical outcomes with positive implications for end of life planning and future care choices. Aim: To assess if OC changed participant's attitudes to dying and if this led to practical action. Method Anonymous questionnaires were sent to 62 participants (22-94 yrs). Thematic analysis and inferential statistics were used. Results: 24 replies (38.7%) scored change across four areas: barriers to discussion, ease discussing death, fears about death and levels of preparedness. All significantly improved: Paired sample T-test ($P < 0.05$). Respondents cited

common fears: regrets, suffering, powerlessness, and over-treatment: "The determination of the medical profession to keep me alive at all costs is not attractive". The training empowered participants; feeling "more aware of what I can do to influence the process", translating into aspirations, but less reliably actioned change, "I haven't made any changes at this moment in time but understand it will be important to put some things in place". Some had conceptual difficulty due to their stage in life, "I'm still unlikely to make a will any time soon. I have nothing of value!". Others highlighted areas not covered, such as spiritual aspects. Conclusion: OC changed participant's attitude towards death, promoting autonomy and encouraging planning. The effect on lives and care outcomes remains to be seen and is the crucial link, yet to be evidenced between community public health education and health benefit.

Author Caitlin Davies, Nottingham Trent University

Title Adverse childhood experiences, resilience, and wellbeing in undergraduate students.

Abstract HEFCE (2015) reports that mental health provision demand is increasing. Nottingham Trent University in the 17/18 academic year saw an 11% increase in students seeking wellbeing support. There has also been links found between financial difficulties and levels of anxiety/depression (Andrews & Wilding, 2004), adverse childhood experiences and worsened mental health (Karatekin, 2017) & perceived social support and subjective wellbeing (Brannan et al, 2013). The current study looks at student wellbeing through risk factors (childhood socio-economic status, adverse childhood experiences and current financial status) and protective factors (social support, resilience, life purpose and university belonging). The main aims of the study were to investigate the presence of risk factors in participants and their relationship to the protective factors, the relationship between risk and protective factors with wellbeing variables (anxiety, depression and stress) and individual differences in students' experiences. The study employed a longitudinal design, with an online questionnaire being administered to first, second and third year students (currently enrolled at NTU) at three time points throughout the academic year. University support, parent support and friend support were examined as parallel mediators between student's adverse childhood experiences and current experiences of depression. Findings indicated a significant indirect effect via both university support (95% CI [.003, .157]) and family support (95% CI [.090, .560]). These findings suggest that students with adverse childhood experiences are less likely to seek out and/or feel they have support from the university and their family, which consequently increases their likelihood of experiencing depression symptomology.

Author Jasmine Davies, University of South Wales

Title Microhabitat use by the invasive Oriental house rat (*Rattus tanezumi*) and Asian musk Shrew (*Suncus murinus*) on Malapascua and Carnaza island, Philippines

Abstract The first approach at investigating the small mammal populations of Malapascua and Carnaza islands, Cebu, using a capture-mark-recapture methodology. This project is for my third year dissertation. With such a large human population, I always thought that there is little left to discover in the world, however, this is absolutely not the case! There is much more exploring to do in our world, new things to both discover and understand. Here, recorded for the first time, I investigate the small mammal populations of two islands, Malapascua and Carnaza, off the coast of Cebu, Philippines. Only few studies concerning small mammal populations on small islands exist; I hereby attempt to compare two seemingly close but different islands in terms of urbanisation and microhabitat. I will attempt to draw ecological conclusions of how urbanisation affects small mammal communities, and how we can aid in conservation of small islands suffering from increased urbanisation and tourism.

Author Jamie Day, Blackpool and the Fylde College

Title Curbing repetitive behaviours in gaming

Abstract The intention of this study is to investigate potential prevention of recursive behaviours in video gaming using a mobile application. The current state of research in this area is limited, therefore this study intends to add to the body of knowledge already available. The application created restricts playing time and encourages a user to complete another activity. The activities the user will be encouraged to do are, physical activities such as walking, running and housework/chores. Once the user completes this activity this will unlock more playing time. This application was created specifically for a smart plug, which linked to the gaming platform, meaning it turned off when the user ran out of time. The results of the study will be collected through use of the product, and completion of questionnaires and semi-structured interviews with the users, both before and after the study that will allow the research to track their progress with the application and potentially identify if the device has had an impact. Additionally, this method will allow for a blend of both qualitative and quantitative results. This study will hope to curb repetitive behaviours in gaming and find that the application does in fact help manage behaviours and enhance the user's wellbeing. Additionally, the results from this study could be potentially put to use in a further study which could identify wellbeing improvements through a customisable version of the activities presented to the users.

Author Laura Deacon, Queen Mary University of London

Title Assessment of coastal defences with beach profiles around Happisburgh, Norfolk.

Abstract Happisburgh, a seaside Norfolk village, is the subject of much dispute over its need for coastal defences due to its vulnerability to coastal erosion. Since the 1950s, Happisburgh's residents have lobbied to the government for better protection, rather than gradually retreat - the government's Shoreline Management Plan. Happisburgh is home to 1400 people as well as tourist accommodation, listed buildings and an archaic lighthouse. Every year 1-2 metres of cliff falls into the sea due to vulnerable sandy-silty cliffs and

frequent storm surges. This investigation seeks to explore how effective well-built defences can be for this village by measuring the sediment budget of the beach behind a variety of defences. Four sections of the beach were chosen and range from well defended to not defended at all. Elevations at these locations were taken along multiple transects with a differential GPS and the results were made into 3D surfaces on ArcGIS. Results were compared with LiDAR data from four previous years by visualising the gain and loss of sediment. The 3D models show that sediment was mostly successfully retained behind good defences. On the poorly defended sections, the beach is flatter, but slopes show evidence of previous defences that have retained the sediment. The results could be useful for the residents of Happisburgh to present to authorities to prove how successful defences can be. The authorities could build further defences along the whole beach and invest in better defences. Finally, the people of Happisburgh will know which defences are most useful.

Author Ahmed Deiri, Queen Mary University Of London

Title Growing Soft Robots: Design and Control

Abstract In my project, I investigated the development of a new type of soft robot that grows to achieve motion rather than the conventional methods of rotation/sliding. This mechanism is being developed as a result of safety concerns due to robot-human interaction, as well as providing methods of navigating sensitive or harsh environments. The project will incorporate a growth aspect where the robot is able to grow translationally using the eversion method. The robot is also able to control its stiffness/applied force through variations in internal pressures and length, while utilising material properties to control direction of movement perpendicular to growth. This robotic system can be used in a variety of applications ranging from actuators in collaborative robotics, search and rescue operations, and medicine where they are able to move without friction, adapting to the environment around them which previous robotic designs are incapable of achieving. The areas researched were biological growth-based systems found in worms and plants, as well as pre-existing mechanisms for growth-based robots. The pre-existing development in eversion-based robots that allows for control uses a thin plastic material with micro-architectures to achieve directional control, while this system will be working with fabrics to create the structure and a mechanism to control the stretchiness of the fabric shell. This allows us to exert much larger forces than would be possible with a thin film of plastic developed previously and allows for integration of sensing mechanisms that could be weaved into the textile.

Author Wenxiyuan Deng, City University of Hong Kong

Title Orthographic Effects on L2 phonology for advanced Chinese learners of English

Abstract The present study investigated whether orthographic forms influence Chinese advanced learners of English in their pronunciation of familiar English words. Previous studies demonstrate that orthographic information can affect the pronunciation of not only novel words, but also familiar words in advanced

second language (L2) learners. Previous studies found that native users of transparent orthographies might depend more on orthography when learning other languages than those whose native languages are less orthographically transparent. Since Chinese has an opaque orthographic system, it is hypothesized that Chinese experienced learners should be less affected by orthography. Twenty university students from mainland China and Hong Kong, speaking English as their L2, participated in a homophonic recognition task. Participants were presented with 21 homophonic pairs and 21 matched non-homophonic pairs and were asked if the word pair has the same pronunciation. The word pairs were tri-categorized based on where differences occur in the spellings of: (1) vowels; (2) consonants; or (3) vowels and consonants. Participants' English vocabulary knowledge was tested using LexTALE, an un-speeded lexical decision task. The results revealed that Chinese participants were affected by orthographic forms greatly despite that Chinese is orthographically opaque. Although they performed well in identifying non-homophonic pairs, they performed poorly in identifying homophonic pairs regardless of different spellings in vowels, consonants, or both. Participants with a greater vocabulary knowledge performed better, suggesting their lower susceptibility for orthographic influence. The results suggested that orthography greatly influenced L2 phonology even for people whose native languages were less orthographically transparent.

Author	Katie Dennis, Bournemouth University
Title	The development of UK vegan-related advertising: A thematic analysis of millennials perceptions of vegan related print advertising over the past 5 years
Abstract	<p>The concept of veganism has evolved significantly within the past five years. Brands are turning to advertising to appeal to, what once a niche market, now a mass audience. Consumers perception regarding the movement has also developed and it seems an increasing number are becoming more receptive to vegan related advertising. This is a topic of interest as I have recently adopted a vegan lifestyle and personally noticed a variety of perceptions towards the movement. I want to harness this curiosity and explore how advertising effects Millennials and the techniques brands use to appeal to their audience. Although there is, still a variety of perceptions towards veganism this paper will explore whether UK vegan-related print advertising is effective. Through thematic analysis, I will explore how vegan-related print advertising has changed over the course of five years. This will also give me the opportunity to compare and contrast the effectiveness of themes used and how Millennials perceive each technique. Using thematic analysis, I will conduct in-depth interviews with a sample of Millennials, using strategic sampling with half of those who identify as vegans and the other half of those who identify as meat eaters. I will delve into their perceptions of veganism without visual aid and then I will use two advertisements per year across the past five years and understand their perception on each, identifying themes used and how effective these themes are.</p>

Author William Denny, Imperial College London

Title Mapping the future of drones: What would mass transportation of goods using aerial vehicles look like?

Abstract This study will investigate an application of aerial vehicles namely the delivery of goods and the problems and potential solutions within this developing industry. The problems focused on within this study include the logistics of drone transportation and how to ensure a connected system remains safe. Furthermore, the research will present a possible solution to self-piloted vehicles that would be a stopgap whilst technology improves. **Research design and method** I have approached this study by using university journals, including Drone: An Open Access Journal and the International Journal of Transportation Science and Technology to analyse current research being conducted into connected drone travel and how safety can be maintained. Moreover, my research uses mathematical graph theory to model and propose various solutions to minimising distance travelled whilst maintaining safety. Whilst an aerial network may mirror a road network with high-speed motorways and low speed local roads, the ability to travel in three dimensions may lead to slightly different solutions. Furthermore, using fixed routes may also ease the transition to self-piloted drones as this would reduce the complexity of the system. **Findings of Research and Implications** This study will allow us to estimate if aerial vehicles will be used as a solution to delivery and what this would potentially look like. This is a highly anticipated growing sector and research is currently being conducted by many companies including Amazon and Airbus.

Author Akash Dharni, Matthew Pallett and Thomas Reynolds, University of Leeds

Title The effect of different half pin and olive wire constructs on mechanical performance and associated fracture site motion, in clinically relevant Ilizarov frames

Abstract **Background:** Ilizarov frames can utilise fine wires or half pins to establish an environment of absolute stability across an unstable fracture site in the lower limb bones, mainly the tibia. Half pins have been hypothesised to induce cantilever bending which may create adverse micromotion at the fracture site which reduces recovery time. However, the use of wires is related to increased patient discomfort due to the varying anatomical structures, vessels and nerves, in the wire corridors in the posterior region of the lower limb. **Aims:** This study aims to audit frames in situ and explore the impact of mixed half pin and wire constructs on inter-fragmentary motion in two planes, axial compression and antero-posterior bending. **Methods:** Frames were constructed following the analysis of data collected from a novel audit of frames in vivo. Clinically relevant crossing wire angles and half pin angles were induced to mirror inter-fragmentary motion in clinically relevant frame constructs. Constructs were tested in a mechanical engineering laboratory in axial compression and AP bending. **Results:** the addition of half pins reduced inter-fragmentary shear and compression in axial loading, compared to all wire constructs, but was seen to increase or decrease shear, in AP bending, depending on location and plane.

Author Kathryn Dickins, Keele University

Title The Ethics of Discussing Eating Disorders in Narrative Literature

Abstract As eating disorders have become more prevalent in society it is natural that their prevalence in literature would also increase, but to what effect? This paper examines the portrayal of eating disorders in narrative literature, and considers whether these portrayals may be construed as informative or instructive: further glamorising and fetishising these illnesses or providing useful and valid insights into what is often a poorly understood topic. This study uses the Beat Media Guidelines for Reporting Eating Disorders (2018) to establish criteria against which a range of texts from the last decade has been examined. Certain features, considered to be dangerous by Beat, have been identified and quantified within each of the texts, and their effect on both the narrative, in a literary sense, but also on a potential reader, in a human one, have been considered. These data have been used alongside critical analysis of the texts to determine a judgement on each one as responsible or not. The findings from this sample of texts have allowed conclusion that it is possible to write narrative eating disorder literature responsibly, and to begin identifying specific ways by which it can be achieved.

Author Kathryn Dickins, Keele University

Title Transuranium Elements: Past, Present, Future?

Abstract Transuranium elements rarely make headlines. Decades on from the Manhattan project and the opening of the world's first nuclear reactor, what else has research into transuranic elements contributed to both the world and to science as a whole? From Glenn Seaborg to the relatively recently discovered Nihonium, Moscovium, Tennessine and Oganesson, and the work that is being done to progress further up the shores of the island of stability; this literature review will examine the advancements that have been made in the field of nuclear chemistry leading us up to the present day and consider the future of this fascinating field. At a time where funding is increasingly hard fought, what are the benefits of investing in this frontier field? Is it simply just an ego-trip for the academics involved or is there tangible application for their work? This study aims to demonstrate the purpose of work surrounding the transuranic elements, from their academic application and what we can learn from continuing to push atomic numbers ever higher, to the practical uses of transuranic elements such as their use in smoke detectors, and their chemical applications. This paper will pay specific attention to recent literature to show the integral role that transuranic elements play not just within science, but in our lives.

Author Emily Dingley, University of Leeds

Title The benefits of a community dance programme to the physical and psychological well-being of socioeconomically disadvantaged older adults

Abstract Physical inactivity and sedentary behaviour are a common problem in community dwelling older adults (aged 55+ and living independently) and subsequently impact physical and psychological health and well-being. The Dance On Programme is a multidisciplinary team project (One Dance UK,

Yorkshire Dance and University of Leeds) that seeks to engage inactive socio-economically disadvantaged older adults in weekly dance sessions (2 sessions per week for 90mins) across 3 different areas of Yorkshire (Leeds Bradford and Doncaster). The research will involve collecting and analysing data at the start of the dance intervention and then follow ups at, 3 months, 6 months and 12 months to track the physical and psychological benefits of dance participation. We would expect to see benefits in physical well-being by improvements in physical activity levels (measured using accelerometers and short active lives questionnaire), balance and mobility (measured by timed up and go and falls efficacy scale). We would also expect to see improvements in psychological well-being by seeing improvements in cognitive function (measured by trial making task), social isolation/ loneliness (measured by Duke social support index), and quality of life (measured by EQ-5D-3L). The Dance On Programme also aims to be rolled out nationally and potentially internationally by providing training and evidence of how to implement a dance programme in the community and how to track the benefits.

Author Scott Dixon, Newcastle University

Title Serial Block-face Scanning Electron Microscopy Reveals Novel Information on Inhibition and Modulation of a Locust Collision Detector Neuron

Abstract The Lobula Giant Movement Detector neurons (LGMD 1 and 2) are a pair of looming object detectors in the locust, assisting the locust in avoiding conspecifics and predatory birds during flight. Due to their ethological significance, the excitatory input onto these neurons, along with the inhibitory regulation of the LGMD1, have been extensively studied. However, relatively little was known about such regulation at the LGMD2. My research therefore involved creating a 3D reconstruction of inhibitory circuits around the LGMD2 neuron. Using transmission electron microscopy, the presence of inhibitory GABAergic cells, with darker cytoplasm and irregularly-shaped vesicles, was confirmed around the LGMD2. I then used serial block-face scanning electron microscopy, along with various image analysis packages, to reconstruct the circuitry of these cells. It was revealed that inhibition is delivered to the LGMD2 in two forms. One route involved two neighbouring GABAergic cells making paired synapses onto afferents of the LGMD2, the cells which excite it. These afferents were also occasionally seen to synapse back onto the inhibitory cells, implying a feedback mechanism. The other pathway involved GABAergic neurons synapsing directly onto the LGMD2, in a paired synapse with a neighbouring afferent. I then proposed mechanisms by which these inhibitory networks could explain some of the LGMD2's unique response characteristics, which had been previously described in earlier studies. The work on the LGMDs is being applied to robotics, in the hope of designing more effective and cost-efficient collision-detection systems for driverless technology. I am continuing this work in my MRes course.

Author Ján Dixon, Newcastle University

Title Assessment and Early Management of Pain in Hip Fractures: The Impact of Paracetamol

Abstract Introduction: As the number of patients sustaining hip fractures increases, interventions aimed at improving patient comfort and reducing complications become increasingly important. Frailty, cognitive impairment, and difficulty assessing pain control characterize this population. To inform future care, a review of pain assessment and the use of preoperative Intravenous Paracetamol (IVP) is presented. Paracetamol is often considered in the context of the WHO pain ladder as a first step in analgesia. We aim to highlight the potential for increased consideration of paracetamol as a perioperative analgesic. Materials and Methods: Systematic review of preoperative IVP administration in patients presenting with a hip fracture. Results: Intravenous paracetamol is effective in the early management of pain control in the hip fracture population. We identify a considerable decrease (up to 70%) in use of breakthrough pain medications, compared with other analgesic modalities, including oral paracetamol. Additionally, IVP reduces the incidence of opioid-induced complications, reduces length of stay, and lowers mean pain scores. Another significant finding of this study is the poor administration of all analgesics to patients with hip fracture with up to 72% receiving no prehospital analgesia. Discussion: The potential benefits of IVP as routine in the early management of hip fracture-related pain are clear. Studies of direct comparison between analgesia regimes to inform optimum bundles of analgesic care are sparse. This study highlights the need for properly constructed pathway-driven comparator studies of contemporary analgesia regimes, with IVP as a central feature to optimize pain control and minimize analgesia-related morbidity in this vulnerable population.

Author Ellie Dobner, Bournemouth University

Title An Investigation into Why BuzzFeed's Tasty videos are so popular. The study of viral videos popularity with young people.

Abstract The research intends to outline the elements that make up a viral video. Looking into the key characteristics of online video to define elements that contribute to its success, the research looks into: video style, duration and colour. The research will follow these factors as they construct visual elements of an online video to which will determine the success and outcome of its popularity. To critically assess this, the research studies BuzzFeed's Tasty videos style, duration and colour in comparison to BBC GoodFood videos to identify what factors make the Tasty videos go viral with millennials. To investigate this, a questionnaire of 50 participants was carried out to determine the age range of the participants. Then a focus group was conducted with five participants with the selected age range of 18-24; a group small enough for all opinions to be heard, but discussion and debate still to occur. The focus group was shown BuzzFeed Tasty videos and BBC GoodFood videos on the same topic and collect qualitative data on which videos they prefer and why. The results from the study concluded that the shorter and more direct a video was, the more the audience engaged with the

content. Also, the focus group reacted positively to the BuzzFeed Tasty aesthetics as they were simple and pleasing. Finally, the study concluded that colours are enhancing to a video as long as they are relevant, therefore, some videos lost their affect as some colour indicators did not make sense to be in shot.

Author Thomas Doherty, University of Leicester

Title To design an implementation of a predictive control for a twin rotor system

Abstract Unmanned aerial vehicles (UAV) have many practical applications in this generation. They have the ability to perform tasks that are too dangerous or physically not possible for humans, thus its uses relate to a range of industries. Such as assisting the public sector when natural disasters occur. Although the majority are designed and fly like a small aircraft, newer technologies are increasingly turning to the concept of adaptable UAVs, capable of rotary propulsion, take-off and landing like a helicopter. Hence the need for advanced flight control systems to obtain the most efficient performance, my project aim was to research and design such a controller. A Model Predictive Controller (MPC) uses closed loop control to best correct the deviation between the predicted and actual behaviour of a system. Achieving this allows for operating conditions to be safe, productive and stable. Throughout my project, I considered the implementation of a Twin Rotor System (TRS) MPC. The TRS system has the features similar to a helicopter and modelling its motion became the fundamental control algorithms required to design the MPC. Using software program ACADO, a script was run to simulate the TRS MPC with its appropriate control parameters. Implementation of a simplified dynamic model was firstly investigated, which proved to have a numerical solution matrix that was ill conditioned, but once a simulated state trajectory produced stable and reliable results, investigation began for the whole system. Due to the cross-coupled nature of the TRS combined with numerical issues, indistinct oscillatory behaviours were present.

Author Eleanor Dooley, University of Leeds

Title Evaluation of A Low Cost Ophthalmoscope (Arclight) For Red Reflex Assessment Amongst Health Care Workers in Malawi

Abstract A new low cost, solar powered ophthalmoscope called the Arclight (AO) has been developed specifically for users in low & middle-income countries (LMICs). There has been no evaluation of the AO in 'red reflex' (RR) assessment. The objectives of this study were to quantitatively and qualitatively compare the AO with the TDO in the assessment of a range of red reflexes (RR) in simulated eyes by Malawian health care workers. Accordingly, 19 optometry students and 17 paediatric doctors were recruited from Kamuzu Central Hospital (KCH), Lilongwe, Malawi to examine simulated eyes with RR abnormalities. Participants were randomly selected to start with either the AO or the TDO (Keeler) before 'crossing over' to the other device. Specificity and sensitivity for detection of RR abnormalities and 'ease of use' (EOU) scores were recorded followed by participant interviews. Overall,

there was no difference in sensitivity and specificity for detection of normal and abnormal ocular red reflexes between the two devices (AO - 85.4% & 77.8%, TDO - 83.3% & 86.1%). Both paediatric doctors and optometry students preferred the AO and felt the appearance of the device was likely to be of benefit in the examination of young children. In conclusion, the research found the Arclight is an effective alternative to traditional devices in LMIC for assessment of the red reflex with particular advantages in childhood screening.

Author William Douglas, University of South Wales

Title Brexit: risks to policing in Wales

Abstract There are reports that the government has broken its commitment to maintain the real value of police funding (Hales, 2015) although the situation is not as dire as the 20-40% cuts previously planned (Full Fact, 2018). This has forced the UK police to make savings, primarily through payroll (South Wales PCC, 2018). In addition, Brexit will potentially reduce the UK's access to European policing databases (Tran, 2014) and the weakened relationship with Europe may lessen the appeal of police work for potential applicants (Pepper, 2017). Homegrown concerns centre on the predicted rise in unemployment (Crerar, 2018) and associated crime (Andresen, 2015); in addition to a wider concern whereby reduced resources could make the UK a more appealing location for international criminals (The Economist, 2018). A worrying time for Wales and the UK perhaps? This is a live project conducted on behalf of TIAA as part of the 'Professional Practice and Employability' module. TIAA is an internal audit company that services public sector organisations across Wales and Southern England. The topic is 'Brexit: risks facing public sector organisations in Wales' and aims to discover potential and planned strategies to overcome the risks posed. TIAA will create a Client Briefing Note from the report to disseminate to its client base. Data collection consists predominantly of secondary methods including journals and newspapers plus data sets from Office of National Statistics. Robert Hunter, Director of Strategy, Development Bank of Wales and Stuart Davies, Director of Finance at NHS, Wales have also informed the paper.

Author Symon Dowell, Staffordshire University

Title To identify and quantify the cutting agents within different samples of cocaine to see if they come from the same batch to provide a distribution location

Abstract Seized cocaine contains different cutting agents to bulk it up which increases profits whilst making it less pure. Many different cutting agents are used, which are added in different quantities, meaning that seized cocaine from different batches are likely to differ in cutting agents used and their quantities. The aim of the research is to identify and quantify the cutting agents within different samples of cocaine to see if they come from the same batch to provide a distribution location. The identification of the cutting agents within the cocaine samples was done using GC-MS. As a control the seized samples were made by adding the main cutting agents found within literature sources and through analysis of pre-cut seized cocaine. This allowed the expected quantities to be known so comparison could be made between known and

experimental quantities. It is believed that comparison of ratios of cutting agents of different samples split from the same batch would have no significant difference between them meaning they would be from the same batch. The identity and quantity of the cutting agents within different cocaine samples is important to determine matches between seized cocaine from different locations in order to link them together and provide intelligence into the distribution of this illicit substance.

Author Matthew Dray, Bournemouth University

Title Efficient and Scalable Landslide Monitoring via Internet of Things and Data Analytics

Abstract Following a landslide that occurred at Bournemouth's East Cliff site in 2016, the need of local authorities for an efficient landslide monitoring system has become increasingly acute. Despite its small scale in geological terms, the landslide caused significant damage to public infrastructure and has severely limited access to the beach, especially for the disabled and elderly. The incident has so far incurred costs of over a million pounds in damage control and continuous monitoring. Traditional landslide monitoring methods employed by local authorities include on-site surveys with specialised equipment, inspections carried out by specialist contractors every six months and periodic terrestrial laser scanning. These methods have high-inferred costs, are off-line, time consuming and do not easily scale to cover the entire ten-mile long coastline overlooked by cliffs. The presented monitoring system has been created by adhering to functional requirements set out by the Bournemouth Borough Council and constitutes an innovative alternative that is cost-effective, highly scalable and provides high-quality data of unprecedented granularity and timeliness. To the best of our knowledge, it is the first landslide monitoring system to employ IoT LPWAN technologies (SigFox) combined with state-of-the-art Big Data Analytics infrastructure and an intuitive web-based user interface. In this paper, we present our methodological approach in developing and deploying the system (August 2018) and we report on its performance evaluation and lessons learnt after the first six months of its operation. Finally, we discuss future extensions with plans including larger scale deployments across the UK.

Author Helen Drucker, University of Plymouth

Title Does Sensory Processing Sensitivity enhance the psychological benefits of nature? (Poster presentation)

Abstract The importance of nature for health and wellbeing is widely acknowledged. Individuals differ considerably in their sensitivity and responsivity to environmental conditions. The efficacy of exposure to nature may therefore depend on individual differences. Sensory Processing Sensitivity (SPS) is a temperamental trait describing such differences in environmental sensitivity. SPS is a 'for better and for worse' trait; highly susceptible individuals may have an increased risk of developing maladaptive outcomes in response to negative environments, yet they may flourish and perform greater than those without the trait in positive environments perform. Despite growing evidence of an interaction between SPS and environmental factors, no known studies

have investigated SPS and the physical environment. The current study aims to investigate this research gap. Participants with varying degrees of SPS will be exposed to a 360-degree natural or urban virtual environment. Following this, mood will be assessed using the Positive and Negative Affect Schedule. In line with literature, it is expected that nature exposure will increase positive affect (PA) compared to those exposed to the urban condition. It is also expected that nature exposure will increase positive affect more in those with high SPS than those with low SPS. Similarly, it is expected high SPS participants will experience lower levels of PA in the urban condition compared to those with low SPS. The results aim to enhance current understanding of optimal development and flourishing in positive environments. This may be useful in directing nature-based therapeutic interventions to those whom may benefit from them the most.

Author Vaibhav Dubey, University of Warwick

Title Dimensionality Reduction Using Linear and Non-Linear Techniques

Abstract High dimensional data is difficult to visualize and as the dimensionality increases, the data starts behaving in unexpected manner. Dimensionality Reduction is a technique used to summarize a large set of input parameters into a smaller set with little or no redundancy, and analysing the reduced form of the high-dimensional data. Redundancy in data leads to the parameters that can characterize other sets of units not becoming independent from each other. Therefore, the units that can be replaced by others are removed and the data set is made smaller. This paper discusses the existing linear and non-linear techniques in dimensionality reduction, and aims to find the best technique for performing dimensionality reduction. The paper is divided into two parts. The first part discusses a linear method, known as Principal Component Analysis. PCA models have been created in Python to prove how PCA improves the performance and efficiency of Machine Learning algorithms. In certain cases, PCA fails to deliver results which leads to finding better techniques such as Kernel Principal Component Analysis, Multidimensional Scaling and Probabilistic Principal Component Analysis that are more flexible with the data available. Therefore, the second part of the paper chooses one non-linear technique and discusses it in detail. Enhancements are made on the applied models to provide better results with a range of data sets. The paper provides mathematical derivations, Python codes, applications, results and analysis of the results for all the methodologies discussed, thus providing the best technique for dimensionality reduction.

Author Vaibhav Dubey, University of Warwick

Title Evolution of Software Developments and the Need for Agile Methods

Abstract The formulation of agile manifesto in 2001 aimed at bringing the attention of the world towards a new method to design software. Thus, with the evolution in software development, agile methods have established new benchmarks in which software are developed. Agile software development aims at making it possible for the software to respond to changes. Planning is an essential part of a software project; however, it should not hinder the possibility of

responding to change. Agile software development is about focusing more towards individual interaction, increased collaboration, continuous development delivery, sustenance, focus towards technical excellence and the need for working software instead of comprehensive documentations. The following paper explores the different methods that have been adopted in the past for building software such as Waterfall and stresses on the need to move towards agile software development. Furthermore, the ways in which agile methodologies can be implemented in an organisation have also been elucidated.

Author Michelle Duong, University of Warwick

Title Block copolymer lubricant additive design for the dispersion of soot in engine oil.

Abstract Soot dispersion in Topaz engine oil with the addition of a di-block copolymer synthesised via organocatalysed living radial polymerisation, was analysed using dynamic light scattering (DLS) measurements as well as size particle analysis instruments. Alkyl methacrylate monomers were used for the hydrophobic block whilst amine based monomers were used for the anchoring block as this allowed an ionic acid-base interaction between the amine and the carboxylic acid group (when in acidic conditions) located on the surface of the soot particle. Aromatic monomers were added to increase interaction with particle surface whereby addition of Styrene (St) did not produce any polymer aggregates unlike benzyl methacrylate. The greatest dispersion was obtained from poly(butyl methacrylate – copolymer – lauryl methacrylate) – block – poly[2-(dimethylamino)ethyl methacrylate) – copolymer – styrene] as Mastersizer analysis showed higher % volume densities for the smallest size class which was twice the volume density of the FLOWSOLVE standard from CRODA. Block copolymers formed from copolymer segments enabled specific modification of the polymer additive and soot particles were dispersed with little polymer aggregate remaining despite <99% conversion. Mastersizer particle analysis also showed dispersion was achieved even with short anchoring blocks however hydrophobic blocks required high conversion to achieve smaller particles.

Author Michelle Dyonisius, London School of Economics

Title The Inglorious Offenders: A postcolonial feminist analysis of war/combat to understand sexual violence in conflict

Abstract The appeal of understanding sexual violence in conflict as a weapon of war is evident from its popularisation. This paper, however, emphasises the limitation of this framework in its perpetuation of gendered and colonial knowledge through problematising the conception of war and combat. This is not to negate the strategic aspect of sexual violence in conflict completely but to find a more holistic and nuanced understanding of the matter. To begin with, this paper shows how framing sexual violence in conflict as a weapon of war reproduces the hetero-sexist and essentialised understanding of women's reproductive function to the nation, whose attack legitimises war that institutionally reproduces hegemonic masculinity of soldiers in combat.

Alternatively, this paper rejects the duality of 'war' and 'peace' by adopting a revised framework of 'battle' and 'repression' based on postcolonial thought. Such approach avoids the theoretical slippage in positioning sexual violence solely in the public sphere without acknowledging the continuing violence within greater oppressive gendered relations regardless the extent of conflict to conventionally qualify as 'war'. Thus, the securitisation of sexual violence in conflict would not homogenise all experiences. Moreover, this allows to break the racialised bias in emphasising sexual violence committed by non-Western states while overlooking that of the West. Therefore, sexual violence in conflict would not be overlooked regardless of its nature, context, and perpetrators. This paper would draw from cases of sexual violence committed by Japan during World War II and the US during its occupation of Japan.

Author Jade Easter, Blackpool and Fylde

Title Conflicting Priorities and Team Performance: A Vicious Circle?

Abstract The effective performance of a project team can greatly influence the expected outcomes of a project (Pinto et al, 1993). Due to an increase in nationwide projects, where team members work in different locations, there is an increase in decentralised project teams. The researcher has experienced this phenomenon where the dispersed nature of team members can lead to a contradictory understanding of project priorities across the team. These conflicting priorities can be detrimental to the project performance, if not managed appropriately (Yu-Chih Liu et al, 2011). It is recognised that poor team performance can cause a breakdown in communication, which can lead to a greater conflict in priorities. To avoid what could potentially be a vicious circle, it is essential for the project manager to ensure that the team are working towards the same priorities to keep conflict to a minimum. There is limited academic literature that directly discusses the impact of conflicting priorities on team performance and the influence team performance can have on their priorities within the project. Via action research and through interviews with qualified project management professionals, thematic analysis will be undertaken on the resulting qualitative data. Through examining and comparing the patterns and themes that emerge the aim is to greater understand potential links between conflicting priorities within the team and team performance. A greater understanding of this phenomena may aid better team management, improving project team performance and hence the successful implementation of future projects.

Author Jessica Edge, University of Leeds

Title Prostaglandins elicit different intracellular calcium signalling responses in endometrial epithelial cells and umbilical vein endothelial cells in vitro: potential implications for implantation and menstruation in humans.

Abstract In humans, hormonally regulated changes to different cells in the uterine endometrium establish uterine receptivity (UR) to implantation. If implantation doesn't occur, the endometrium is shed allowing a new menstrual cycle to begin. Two of the group of lipid molecules known as prostaglandins (PGs),

play a major role in this. Prostaglandin E2 (PGE2) derived from the embryo modifies gene expression in the endometrium to establish UR, while Prostaglandin F2 alpha (PGF2α) is involved in menstruation in the non-pregnant state. This project tested the hypothesis that these PGs elicit different intracellular calcium signalling cascades, in cell-specific and stage of the menstrual cycle-specific manners. To test this, human umbilical vein endothelial cells (HUVECs) and Ishikawa cell line (endometrial epithelium) were cultured to 70% confluence in vitro. PGE2 and PGF2α were added in a dose dependent manner (n=3) for 1 hour, along with ATP or thrombin (activators of calcium signalling). Calcium response was measured by Flex station. Paired t test for HUVECs shows, when activated by thrombin, PGE2 significantly reduces calcium signalling with a p value of 0.02, whilst PGF2α does not. Activation using ATP was shown to have no effect with either PG in both cell types. Thrombin activation led to PGE2 enhanced and PGF2α inhibition of calcium signalling in Ishikawa. Future work will identify if these PG effects occur in endometrial endothelial cells and characterise how PGs alter mRNA expression in intracellular signalling cascades involved in eliciting this response. These data could have implications for enhancing UR or identifying targets to regulate menstruation.

Author Ash Edwards, Queen Mary University of London
Title 'Becoming Itself Through Disappearance': Commodification in the Histories of Performance Art

Abstract In the existing histories of performance art, the forms 'anti-materialist' and 'anti-object' tendencies are posed as one of its most radical potentialities; performance art, it is said, resists (or at least, at one time, resisted) the commodity form. This desire and ability to remain 'un-commodified' is often seen as separating performance from arts material forms, specifically painting and sculpture, those forms that are sometimes regarded as being mere pawns in the art market. Nevertheless, although the move to 'immateriality' might constitute an ontological break with past/historical practices, it does not necessarily signal an economic shift. Arguments around the 'commodification' of the arts have mostly been made in the absence of any economic analysis. Even within the theories of Western Marxism – the school responsible for many of the most extensive considerations of arts relationship to capitalism – only a generic theory of commodification has been provided. This paper seeks to redress the omissions that have distorted art histories understanding of the commodity and performance arts relationship to it. Approaching the work of Peggy Phelan and her essay exploring *The House with the Ocean View* (2002) by Marina Abramović, I attend to one example of how this distortion takes place; in Phelan's instance, this stems from their decision to focus on the 'content' of Abramović's work, rather than its 'social form'.

Author Olivia Edwards, University of South Wales
Title Seeking new treatments for Parkinson's Disease: the consequences of cannabinoid administration on the behaviour and locomotion of planarian flatworms

Abstract Current statistics confirm that 1 in every 37 people are diagnosed with Parkinson's disease, which is often underdiagnosed in older patients, due to the similarity of symptoms linked to ageing. With incidence expected to rise with an ageing population, the identification of possible new treatments is vital. It is important to study the effects of alternative therapies for Parkinson's disease, as the current available treatments can improve symptoms, however have no effect on the neurodegeneration of the dopaminergic neurons within the substantia nigra pars compacta of the brain. In addition, current therapies include levodopa to replace the depleting dopamine levels, can exhibit negative side effects including psychosis, nausea and severe facial tremors, therefore, worsening the patient's quality of life. The topic of interest involves the investigation of the consequences of cannabinoid administration on the behaviour and locomotion of planarian flatworms. Parkinson's disease will be induced in the flatworms in response to long term exposure to methamphetamines. Behaviour analysis, brain size analysis and fluorescent immunohistochemistry of the central nervous system will allow assessment on whether cannabinoids protect the dopaminergic neurons from methamphetamine induced neurodegeneration, or on the other hand, display detrimental effects on the brain over time. The results will then aid in the conclusion whether cannabinoids can be used as a therapeutic treatment for Parkinson's disease to possibly alleviate the bradykinesia and dystonia of patients.

Author Shannon Edwards, University Centre Reaseheath

Title Industry professional's perceptions of Veterinary Physiotherapy, when considering the impact of factors upon the horse returning to full work post kissing spines surgery

Abstract The incidence of overriding dorsal spinous process (kissing spines), is increasingly recognised within the equine industry. However, there is little evidence to predict the post-operative outcome. Post-operative success rates depend on the severity of the condition and surgical route (Fiske-Jackson, 2018). Evidence is lacking into post-operative care therefore this study has been conducted to investigate the efficacy of veterinary physiotherapy along with rehabilitation by reviewing the opinions of industry professionals. A retrospective online survey including short-answered and closed questions was created. This was distributed via social media and via email to The Association of Chartered Physiotherapists and Veterinary surgeries. A requirement to participate included previous experience with overriding dorsal spinous process, therefore, two survey sections were created with multiple choice and Likert scale questions. The survey obtained views from 20 veterinarians and 59 veterinary physiotherapists, considering the use of veterinary physiotherapy; veterinary intervention; the effectivity of current practices pre and post-operatively; and to determine if age; breed or discipline have an adverse effect post-operatively. Research evidence is limited into factors associated with kissing spines, even more so into the post-operative stages or the effectiveness of veterinary physiotherapy, this could therefore be due to lack of referral or due to the lack of standardised rehabilitation programs. The opinions differed greatly on the effectiveness of each practice and the use of such practices and techniques post operatively. This could be due to the orthopaedic practices which vets undertake (Jacklin, 2014).

Thank you to Reaseheath, Vickie Barker and Laura Lawley for their continuous support.

Author Egor Egorov, The University of Manchester

Title Revisiting the Concept of Drug Pump Chemoresistance to Target High Grade Serous Ovarian Carcinoma

Abstract High-grade serous ovarian carcinoma or HGSOC is the most common type of epithelial ovarian cancers, with prevalence up to 70%. Patients with such condition generally have high mortality rates and low rates of survival, as this particular type of cancer is prone to relapse. First line of treatment of HGSOC includes such chemotherapeutic agents as taxol and cisplatin, to which ovarian cancer patients later develop resistance. Moreover, a distinctive correlation between overexpression of a well-known drug-efflux pump - ABCB1 and chemoresistance in various cancer model cell lines was found. Additionally, Patch et al (2015) have carried out a whole genome characterization of chemo resistant ovarian cancer patients, and identified that there was a promoter fusion, as well as overexpression of ABCB1. However, it remains unclear if ABCB1 overexpression is the direct cause of chemoresistance to therapy with chemotherapeutic agents in ovarian cancer patients. Therefore, with the help of model cell lines, our laboratory aims to assess if ABCB1 is overexpressed in real time patients, by thorough analysis of a living biobank of ovarian cancer cells, derived from the patient biopsies. Additionally, we aim to apply various combinations of ABCB1 inhibitors to see if we can resensitize resistant patients' HGSOC models to chemotherapy.

Author Lobna El-Hawary and Maram Abbas, American University In Cairo

Title Integrating AI in the banking field

Abstract Under the objective of bank automation, we are proposing the use of bots in usual services like phone customer service and appointment booking. Through the integration of AI, the bot is assigned realistic human mannerisms that make a bot-customer interaction comparable and even better than an employee-customer interaction. The bot will be a better service giver due to its lack of human limitations such as non-24/7 working hours for a single employee, human weaknesses (no room for human unprofessionalism), and fool-proof instantly accessible pool of data. The objective of having such bots is to increase customer service efficiency through making them perform easy services that are very repetitive and considered to have a specific routine in accomplishing them. The customer will not even recognize talking to a bot and will have a smooth conversation. The bot should feel human-like and will not show any inhuman signals, way of speech or signs of repetitive answers. The bot will not perform any service relating to legal documents.

Author Georgia Ellis, University of Leeds

Title "You play really well for a refugee woman"

Abstract This research will explore the utility of grassroots football for the integration of female refugees and asylum seekers to contribute to the gap in the literature regarding women on this topic. Indeed, there is a considerable gender-blind spot in current literature which given the evident rise in female football, especially grassroots football and specific projects for female migrants, must be addressed. It will focus in particular on the case study of Leeds in Yorkshire by interviewing two categories of individuals; those working within refugee organisations and those involved in local women's football teams and/or inclusive local football projects. There are three main themes that I will aim to explore through these interviews; the levels of participation in grassroots football among refugee and asylum-seeking women in Leeds and subsequently any barriers that they think exist; ways in which this activity could be made more accessible and finally I would like participants to reflect on broader challenges surrounding integration in Leeds and the wider UK. I expect that issues of faith and culture, child-care, perceptions of the body and lack of knowledge may arise from these that will lead to further discussion about how such barriers could be overcome. It also could be found that football is not the most appropriate activity in Leeds for this group, in which case, it would be crucial to explore if there is a similar alternative for women that has the unifying effect that football does for men.

Author Natalie Ellis, Newcastle College University Centre

Title Is the system failing children with mental health? A Frontline perspective

Abstract The aim of the research is to explore how front line care workers view the help and support available to children, with mental health is effective and whether the system is failing children. Mental health provision historically has been seen as inadequate (Michalska, 2017). A questionnaire will be distributed to twenty participants from a range of professionals working directly with children and inter agency collaboration in order to gain a better understanding of how mental health is detected and managed from a professional view point. The findings will be presented in qualitative and quantitative data format looking to identify a common theme throughout the research process. This study will add to existing research, indicating there is insufficient sustenance from the government for children with mental health. Research has revealed that the five-year forward plan was created with the understanding that most mental health conditions develop before the age of fourteen (Education Journal, 2017). There will be an investigation conducted to demonstrate that easier access to effective help and support for children with mental health will ameliorate the possibility of recovery (CQC, 2015).

Author Mariam El-Ziady and Menna Dessokey, The American University in Cairo

Title The Pioneering Task Help App in Egypt

Abstract Our proposed project is an application for broadcasting tasks requested to be finished by other users in Egypt in exchange for an agreed upon wage. The application is to be called Takhlees, meaning, "finishing" in Arabic. The application will be made available on Android and iOS devices with free download from their respective digital distribution platforms Google Play and App Store. Takhlees requires internet connection for the paying user, called

“task owner”, to upload his/her task and must wait for the assigned Takhlees moderator to approve of the task’s legality and appropriateness in order to successfully post the task. The users who are willing to do the task, called “task doers”, receive available task within their task specialty, e.g. painting, plumbing, tutoring, driving, etc. to facilitate the “task matching” process. Both user groups, the “task owners” and the “task doers”, have to register with their national identification information (full name, age, and ID number), passport document scan, curriculum vitae or occupation history if curriculum vitae does not apply, and task-dedicated hours during the week. For security purposes, all users must be checked for criminal history using the criminal database licensed from the Egyptian Government in order for the user profile to be finalized in the signup process. Both “task owners” and “task doers” are rated according to their proficiency and politeness with the highest rated “task doers” being short-listed for VIP “task owners”, i.e. task owners who post large-scale and thus very costly tasks.

Author Sofia Esteban Serna, University College London

Title Genetic Diagnosis of Heterogeneous Conditions Applying Targeted Gene Capture and Next-generation Sequencing

Abstract The genetic heterogeneity of certain conditions poses a medical challenge as different types of the same disease often display varying severity, prognosis, treatment and inheritance. Differential diagnosis methods have traditionally been used to elucidate the form of these diseases. However, the efficiency of said differential procedures is limited at diagnosing rare or de novo variants. We aimed (1) to overcome the diagnostic limitations of differential procedures and (2) to detect the genetic and protein sequence variants present on each patient to enable precision medicine. Applying selective genomic enrichment in combination with next-generation sequencing (NGS), we performed a targeted gene capture of the genomic regions accounting for different subtypes of heterogeneous diseases (clinical exome). We present a novel diagnosis methodology that was validated by successfully diagnosing 29 patients with diverse types of cardiopathy, Charcot-Marie-Tooth (CMT) disease and Maturity Onset Diabetes of the Young (MODY). The developed procedure allowed the detection of exonic and intronic variants in heterozygous, homozygous or hemizygous forms, and provided a tool for the identification of 17 new disease-causing mutations which had not previously been described as pathogenic.

Author Katie Evers, Staffordshire University

Title Textile damage from acid attacks to aid in the reconstruction of events

Abstract Acid attacks are becoming more prevalent in the UK with an average of 2 acid attacks occurring every day last year. Currently there is limited use of chemical textile damage analysis on victims and suspect’s garments to gain intelligence about the incident. Greater knowledge of the expected chemical damage may help provide investigators information about the container type used and help reconstruct events. Building upon past Staffordshire University’s work in chemical exposure to textiles, this research is investigating the effect that individuals, container type and distance have on

textile damage in acid attacks. Glycerine that has been thickened to have the same viscosity as 4 chosen commonly used chemicals and dyed using food colouring will be used to recreate an acid attack upon a clothed mannequin. These simulated attacks will be videoed to understand the liquid dynamics when expelled from different distances, by different participants (with varied heights and hand dominance) and different container types. The garments of both the 'victim' and 'suspect' will be examined for any distinctive patterns that may correlate with particular variables. This paper will report on the results of this study, outlining the method development process and discuss conclusions regarding the effect that these variables have on subsequent chemical patterns through a poster presentation. This study will aid investigators in gaining initial information about the scene that could help link individuals to the crime e.g. what container may have been used, how far away they may have been and the height/hand dominance of the suspect.

Author Paul Ezra, University of Nottingham

Title Energy Extraction from Lorentz - Violating Black Holes

Abstract While Einstein's theory of General Relativity is consistent with all current observations, attempts to unify General Relativity with quantum mechanics have led to a plethora of proposals for a theory of gravity beyond Einstein. Several of these theories break Lorentz invariance – the speed of light is not a universal constant. In such theories there exist black holes with not just one event horizon but several nested horizons. The new horizon structure has been suggested to allow unlimited 'perpetuum mobile' energy extraction from the black hole, as seen by far-away observers. This would imply a disconcerting violation of the second law of thermodynamics. In this contribution we show that such second law violations cannot occur in any Lorentz non-invariant theory in which gravity is still attractive, under technical conditions that include spherical symmetry, but allow matter around the black hole to have limited angular momentum, generalising a result found in [Benkel et al, Phys. Rev. D98 (2018) 024034] for matter without angular momentum. The analysis is based on conservation laws of relativistic particle mechanics and is fully analytical. The results contribute to the evidence that theories of Lorentz non-invariant gravity are viable candidates in the quest to unify gravity with quantum mechanics. The research outcomes would be best delivered by an oral presentation.

Author Jonathan Faraoni, Bournemouth University

Title Innovative use of IoT data as a means of artistic expression

Abstract Authors: In this paper we investigate the innovative use of IoT data as a means of artistic expression. In particular, we report on the design and development of an IoT testbed consisting of several state-of-the-art sensor motes organised in a distributed peer-to-peer ad-hoc network. The motes continuously monitor ambient environmental conditions, such as temperature, luminance and relative air humidity, and forward their sensory readings to a back-end via multi-hop propagation. The collected data are then curated and mined in order to elicit attributes that are mapped to melodies and notes. This enables their use in music composition allowing the creation of immersive

experiences in smart spaces. We present in detail not only the architecture of the IoT network but also our methodological approach for eliciting musical elements from IoT data. The impact of our work lies is dual. On one hand, we demonstrate innovative use-cases of IoT data that help popularise future and emerging technological paradigms with ordinary people thus promoting their adoption. On the other hand, we provide the artistic community with a new means of artistic creation that entangles the cyber and the physical spaces.

Author Isabelle Farrow, University of Leeds

Title Diffusion-weighted imaging (DWI) as an early response marker in patients treated for primary breast cancer using neoadjuvant chemotherapy

Abstract MRI is used to monitor breast cancer response to neoadjuvant chemotherapy (NACT). Early response markers allow treatment to be changed during the course of therapy to minimise the negative impacts of ineffective drugs. Our aim was to investigate whether the use of diffusion-weighted imaging (DWI) MRI can predict the pathological outcome of patients after one cycle. The gold standard is dynamic-contrast enhanced (DCE) MRI that looks at volume and other parameters. DWI improves the specificity of DCE MRI and is a non-invasive method. This was a prospective, observational cohort study in 26 patients with invasive carcinoma of the breast. The patients were imaged before and after the first cycle of NACT. DWI produces values for apparent diffusion coefficient (ADC). The mean ADC and volume were measured at each time point. Each pathology specimen was allocated a residual cancer burden (RCB) index and classified as a pathological complete responder (pCR) or incomplete responder (pIR). The results found that mean ADC increased significantly after one cycle. Between the tumour groups of pCR and pIR, there was no significant difference in percentage ADC increase ($t=1.08$, $p=0.2923$). In addition, RCB index showed no correlation to percentage ADC increase ($r=-0.2007$, $p=0.3256$). A secondary finding was that significantly different volume changes occurred between pCR and pIR ($z=-2.701$, $p=0.0069$). In conclusion, ADC change can be seen after one cycle but could not be used to predict pathological response. There was a non-significant trend that larger ADC increases resulted in lower RCB index (better pathological response).

Author Lauren Ferguson, Solent University

Title Experiences of higher education and life satisfaction from dyslexic students; a mixed methods exploration

Abstract Statistics by Office for Students (2018) identify fewer numbers of disabled undergraduates achieving first and second-class degrees (77%) than non-disabled students (80%). Disabled students are also much less likely to have positive experiences in higher education; expressed as difficulties with emotional adjustments, social isolation, poor emotional support and lower levels of self-esteem (Hall, Spruill & Webster, 2002), which increases their risk of depressive symptoms, personal dysfunction, and results in fewer positive experiences with peers and schools (Kim, Chung, Amtmann, Salem, Park & Askew, 2014). Therefore, this research aims to investigate the experiences of dyslexic students in higher education to inform possible

solutions for these urgent issues. This research will use a quantitative questionnaire (an amended version of Huebner's Student's Life Satisfaction Students Scale (1991)), to assess possible differences in ratings of life satisfaction between 20 dyslexic and 20 non-dyslexic students, hypothesising that non-dyslexic students will show higher satisfaction. Secondly, qualitative semi-structured interviews will be conducted on a few dyslexic students to gain a rich understanding of their individual experiences in higher education using Interpretive Phenomenological Analysis, in order to explore the ways in which dyslexic students do or do not feel supported to perform to the academic standards of their peers. The implications of this research are; 1. Informing universities of other types of support they could provide, 2. Educate them on alternative ways of advertising their support, and most importantly 3. Emphasise the necessity of these services as more disabled undergraduates are entering into higher education.

Author	Georgina Fielding, Blackpool and the Fylde College
Title	The Determinants of Soft Skills in Project Managers: An Examination of Self-Reflection.
Abstract	The importance of soft skills for a project manager has been well recognised within project management literature over the last thirty years (see for example Kerzner, 1987; Cheng et al., 2005; Ramazani and Jergeas, 2015). When discussing how to improve the education of soft skills, many authors agree on the use of practical methods, where the individuals will practise using soft skills and use the experience to develop their ability (see Pant and Baroudi, 2008; Stoyan, 2008; Cicmil and Gaggiotti, 2018). However, Boud et al., (1985) argues that experience alone is not the key to learning. Individuals must use self-reflection be able to understand the situations they experience in order to make meaning of it, and use the interpretation of its meaning to guide future decision making and actions (Mezirow, 1990). Yet, despite an obvious focus upon using experience to develop soft skills, there has been little consideration of how the use of self-reflection may impact how effectively individuals learn from experience and hence the development of the soft skills needed. This exploratory study will utilise quantitative methods on a sample of project managers from a major aerospace organisation to assess whether self-reflection is a significant determinant of soft skill ability in project managers. The outcome from the quantitative methods will be used to inform a second stage of research which will likely be qualitative interviews, thematically analysed to greater understand the self-reflection relationship and determine the implications for project management soft skills training.

Author	James Finlayson, University of Portsmouth
Title	An investigation into how gyms use portrayal of body image on social media to attract males aged 18-21
Abstract	The research will investigate and identify whether University of Portsmouth students and non-University of Portsmouth males aged 18-21 feel pressured into having an "idealised body image" which leads onto exploring the role that social media may play in this. The research will also investigate whether gyms are specifically targeting the 18-21 male population through social media

channels in Portsmouth and if so why this is the case. The views will be gathered through the form of structured questionnaires on Gyms including Personal trainers and gym employees, students aged 18-21 studying at the University of Portsmouth and non-university of Portsmouth students aged 18-21. The current literature demonstrates the need to conduct more research on an international level. So therefore, by selecting participants from the Portsmouth area will create new UK findings. With major advances in technology and with social media becoming more prominent amongst younger generations it's important to identify how gyms are using online and offline advertising to influence body images that impact on young males 18-21. From results I am anticipating that the majority of students and non-students will feel that social media has a part to play in body imagery promotion leading to body dissatisfaction. Regarding the views from the gyms, I believe that results will state that they focus advertising on all individuals rather than just the selected 18-21 year olds. Looking to the future it is likely that gyms will be using imagery that is more positive e.g. transformation pictures, where they show before and after personal achievements from clients.

Author Ben Fisher, University of Exeter

Title Developing Methods for The Identification of Allosteric Regulation in E. coli

Abstract Enzymes are a class of proteins with a catalytic function, essential to metabolic cellular pathways; facilitating: reproduction, growth, environmental responses and energy conversion. Cells rely on the ability to regulate metabolic reactions in order to control their concentration of energy molecules. Allosteric control is one mechanism of regulation, here small molecule compounds bind away from the usual active site, which alters the affinity of the enzyme for its substrate, thus affecting metabolic activity. Small molecule regulators have been previously used in drug development and to reduce input energy in biofuel production. Less than 5% of the protein population of E. coli have a known allosteric effector; we propose that by utilising technology we can screen enzymes for allosteric effectors on a large scale and therefore detect new effector compounds. Glucose-6-phosphate dehydrogenase (G6PDH) was selected as the experimental enzyme for the screen and then isolated from E. coli. G6PDH was combined with 83 different compounds and the products of the subsequent reaction were analysed to look for effects in the level of enzyme activity. We find that our screen proves effective against positive and negative controls, thus has potential to be used in protein identification. Further investigation showed that one compound was not an allosteric effector, despite earlier publication as such. Incidentally, we show that some classes of compounds have profound regulatory effects on G6PDH via other, non-allosteric, mechanisms. These finding have wider implications, particularly in bioengineering where regulatory compounds could be used to increase rates of reaction, increasing product yield.

Author Georgia Fletcher, University of York

Title Human Genome Editing: Where do we draw the line?

Abstract The current stigma around genome editing appears to stem from a negative media bias, whereby continuous exposure to publications that focus solely on the risks has resulted in an apprehensive and fearful society. Efforts to develop an accurate tool that allows precise targeted changes to the human genome as a method to cure disease has long been sought after. CRISPR-associated protein-9 nuclease (Cas9), a viral defence mechanism found in *Streptococcus pyogenes*, holds potential as a tool for genome editing, although ethical concerns addressing the potential risk of “designer babies” has generated considerable dispute. My research project will focus on the public’s perception of CRISPR- Cas9 targeted gene editing and will assess ‘where we draw the line with regards to genome editing techniques’. This would involve establishing a suffer scale, which would account for factors such as life expectancy, dependency on others, inheritability etc. These features will all be given in arbitrary units that will then be added up for each phenotypic trait or disease. In cases where the value surpasses a threshold, then administering gene editing in that case would be considered appropriate. A questionnaire would be used as a method to gain insight into the public’s perception. When establishing a suffer scale, scientific journals will be used as a source of factual information on specific diseases and traits.

Author Irene Focarile, Solent University

Title Aerodynamic Investigation of Sailing Yachts

Abstract Sustainability and environmental impact are contemporary concerns for the marine industry. Consequently, many ideas for sailing cargo vessels have been developed and some are scheduled to be built as early as next year. These craft need to assess two major components as any other sailing boat. These are the sailing performance and the stability, both resulting from the lift and drag of the sails. Greater stability represents an increase in safety, while better performance leads to an improved efficiency, allowing less fuel consumption. As a result, operating costs and pollution can be reduced. To evaluate these two issues, the proposed designs rely on existing rules, some of which are obsolete or do not match the scope of these vessels. In those terms, validation tests are fundamental in order to determine the limits of the rules and assumptions. To highlight the trade-offs between stability and performance a 78ft fast cruiser sailing yacht will be designed and tested with different rig and keel configurations in a computer program, in order to predict its stability and performance. The outputs of the software will be validated with theoretical or practical research, to make an appraisal of the limitations of existing methods of performance prediction. The research particularly focuses on upwind sailing, which is the most critical in terms of stability even if no criterion has been developed yet. Therefore, this project intends to provide new insights into sustainable sailing and a new academic benchmark.

Author Chun Him Fok, The City University of Hong Kong

Title Application of Strengths Perspective to Increase the Happiness Level of Chinese Older Adults in Social Work Practice

Abstract Is there an equal sign between “old age” and “useless”? Of course not. Yet Chinese older adults tend to label themselves as “useless” and “worthless”.

Research studies repeatedly revealed that depressive disorder in Chinese elderly population in Hong Kong had been much higher than in other age groups and the older adults' subjective sense of uselessness and powerlessness is highly correlated to depression. Moreover, the Confucianism value's emphasis on "self-reflection" (自省) has further restrained Chinese older persons from recognising their strengths and achievements. The strengths based practice has been found effective in enhancing the mental wellness of service users in mental health setting in Hong Kong whereas such practice remains innovative in the elderly setting. Thus, a six-session group as informed by strengths perspective with the use of art elements has been conducted in a district elderly community centre to test the effectiveness of such interventions on increasing the happiness level of Chinese older adults. The focus of each group session is to enhance participants' confidence, sense of achievement and to facilitate their discovery and development of their own strengths and resources. The results are very positive and can shed light on social work practice in elderly service.

Author	Richard Ford, University of Warwick
Title	Can computed tomographic urography replace KUB ultrasound and KUB radiograph in the investigation of unexplained haematuria?
Abstract	<p>Introduction: A thorough diagnostic work-up is required to investigate the causes of haematuria that includes urological malignancy and urinary stones. Cystoscopy is regarded as gold standard in imaging the lower urinary tract. Computed tomographic imaging is superior for evaluation of the upper urinary tract. The drawbacks of CT include radiation exposure and increased cost. For patients regarded as high risk for developing urological malignancy, the benefits of CT imaging could out-weight the drawbacks. Objectives: To assess the value of USS and KUB vs CTU/CT-KUB and to see if the former two tests can be disregarded in the management pathway of certain patient groups presenting with unexplained haematuria. Methods: This study involved the data collection and analysis of 987 patients presenting with haematuria to a haematuria clinic between January 2017 and January 2018. Results: The study population was 987. 57.8% of patients presented with visible haematuria. There were 103 (10.4%) patients diagnosed with urological cancer. Advanced age (>70 and visible haematuria) were definitive risk factors for urological cancer. CT imaging detected 100% of upper urinary tract malignancies, compared to a 50% detection rate for USS. 90.3% of patients with urological cancer received CT imaging; however, 58.3% and 45.6% of the same population received USS and KUBR respectively, in addition to cystoscopy. Conclusion: CT imaging has proven itself first choice when investigating high-risk patients with visible haematuria. This study has demonstrated the possibility of disregarding USS and KUBR for CT imaging for patients at higher risk of urological malignancy.</p>

Author	José Pedro Fortuna Meireles de Pinho, University of South Wales
Title	The clown's red nose: a multidisciplinary approach to achieving comedy in performance

Abstract The topic I will present at BCUR will be about the significations of the red nose in contemporary clowning practice. This presentation aims to deepen the audience's knowledge about the clown's popular apparatus: the Red Nose. By establishing examples of new contemporary clown practices, the red nose will trigger the discussion of how it reinvents not only the performative act, but also the perception of ourselves as human beings. The goal is to show through the research of a number of clown practitioners, performances, events and data, the impact of this 'small mask', not only on clowning practice, but also on modern society where the red nose has connotations that go beyond the mere performative act. Contemporary society has tended to trivialize the red nose into a compelling object - as soon as someone puts one on, why do we change the perception of that individual? As part of the presentation, the speaker plays with the audience by showing small bits of clown performance with a red nose. Thus, the audience will have a crucial role in this presentation, since their judgment of what they see is important to strengthen what is being explored. Therefore, from the very beginning of the presentation, the public's presence is crucial, becoming active participants in the work.

Author Rachel Fox, Nottingham Trent University

Title Belonging

Abstract The research aimed to add to discussions regarding factors that may shape students' perceptions of belonging in HE institutions. The collaborative project brought staff and students together from different disciplines to gain insights into the extent to which students at an HE institution in the Midlands experience a sense of belonging. Data was generated anonymously over a three-week period using talking walls positioned in four locations across two campuses. Using paper cards, students were invited to share their perceptions of belonging by posting them on the walls or into privacy boxes. Initial findings show a clear correlation between positive staff/academic influence and belonging. Our evaluation of the data also shows some students use coping mechanisms to manage the discomfort of not feeling they belong even to the extent of trying to mask who they really are with different personas. Similarly, some respondents see belonging as a fluid state that is dependent on the situation and/or company they are in. Our study suggests that understanding common motifs around belonging is important for HE students to continue to develop both academically and personally. Being able to look at situations through different lenses creates possibility and may create a greater sense of community. Findings from this study will allow for more exploration into what it means to belong at the institute this study was situated in and inform institutional initiatives aimed at supporting individuals from diverse student groups develop a sense of belonging that is right for them.

Author Mitchell Foyle-York, University of Exeter

Title Orthodox Icons: Transcendence and Being

Abstract This study seeks to demonstrate that the aesthetic experience of Orthodox icons is one of Sacred and Divine nature. Arguing that the aesthetic

experience is a transcendental, and thus according to Kant establishes a priori knowledge, the main purpose of this study is to demonstrate how Orthodox icons bridge the gap between human experience and the Divine, since revelation and experience of God is mainly a priori in nature. Furthermore, this study attempts to demonstrate the kind of experience these icons are supposed to have on people by expanding upon what traits, emotions and spiritual experiences these icons encompass (or their “being”). I do this by making three key points: 1) Icons are representatives of what God has called people to be, not what people are/were – they work as Divine ideals. 2) Subjects of Eastern Orthodox icons are self-identifying beings to which we have a personal relationship. 3) The icons are receptive to the pilgrim’s human condition; they are guides for prayer, reflection and faith etc. These traits present the icons as Divine; they become more than pictures, they are a personal and transcendent experience of the Divine, through which we come to form an a priori knowledge of God. In a world where there is tension between Orthodox and Protestant traditions on this subject, I believe this study will help to settle claims that iconography is idolatrous, and demonstrate that engagement with Orthodox icons is instead a powerful transcendent by which we can know and experience God.

Author Sofia Frangiamore, University of Exeter

Title Moving on after cancer treatment: A focus on physical and psychosocial wellbeing

Abstract As many as two-thirds of childhood survivors of cancer experience relapse or late adverse effects of treatment. These can range from organ system damage and secondary malignancies to psychological distress and disruption of social or educational development. This study aimed to identify areas for improving communication and information provision of the end of treatment pathway for children with cancer. Recommendations for care by the Children’s Cancer and Leukaemia Group were used as a standard. Methods: An electronic questionnaire was distributed to parents of all paediatric patients that had completed cancer treatment between January 2016 and January 2018 in our Paediatric Oncology unit. 13 patients met this criterion. Results Nine parents responded. All had been well informed about the need for re-immunisation and only one had not been made aware of follow-up care plans. Five parents felt informed about relapse and maintaining a healthy lifestyle, and the continued role of their key worker received four positive responses. One third of parents were aware of psychological support services. Conclusion: In light of these results, the end of treatment summary was modified to include a more detailed follow-up surveillance plan with specific signs of relapse, information regarding long-term effects of treatment and advice regarding healthy lifestyle. An electronic copy is now sent to parents to improve accessibility. A drop-in visit by our liaison psychologist is offered at the end of treatment. Enhancing information provision in this way is hoped to improve support for patients as they reach the end of treatment.

Author Paul Fricker, Royal Holloway, University of London

Title America, the GWoT and Somalia: A justifiable intervention?

Abstract My presentation will discuss the Global War on Terror (GWoT), which was initiated following the September 11th attacks on America. George Bush declared a 'War on Terror' and began a campaign to direct military campaigns towards Al-Qaeda and other terrorist factions within Somalia. Somalia suffered significant political turmoil throughout the 1990's and onwards after the removal of the Siad Barre regime. The conflicts between Somalia, Ethiopia and Kenya allowed for the radical Islamist group Al-Shabaab to align with Al-Qaeda, worsening the conflict. The conflict in Somalia has become extremely complicated because of the diverse range of sparring factions and countries involved. The state of affairs in Somalia impedes the government, preventing it from appeasing the terrorist and radical factions. America intervened to support the Somali government and to quash the rebellion in the south. However, America quickly became unpopular and failed to implement any significant progress towards peace. America continues to launch attacks on Somalia, furthering hostilities towards the United States. A variety of resources will be utilised throughout my investigation, including US State Department archives, 9/11 Commission reports and documents from international organisations including the United Nations. Secondary resources written by scholars including Christian Webersik, Mohamed Ingiriis and Debora Malito will be utilised to form a cohesive argument. My presentation will discuss the motivations for intervention and will also discuss whether the intervention has been successful and what failures have been experienced. The final section will discuss what efforts are being made currently to establish a peace settlement.

Author Constance Frohly, University of Warwick

Title Evaluating the impact of reducing labour supply on environmental preservation and income inequality in developed countries

Abstract My research focuses on work-time degrowth in developed countries i.e. reducing labour hours per person to reduce our ecological footprint. More specifically, I try to analyse whether income inequality will increase or decrease as a consequence. Exponential growth since the Industrial Revolution has increasingly important unsustainable costs for our environment and our society which is why Daly coined 'uneconomic growth' when the costs of growth exceed the benefits (1991). The Club of Rome warned in 1972 that growth needs to be limited. Daly (2007) proposes degrowth as an alternative: to decrease the size of the economy such that the biosphere can sustain our needs for natural resources. Van den Bergh (2011) finds five different interpretations of degrowth including GDP, consumption and work-time degrowth. I will focus on the latter because it is easily measurable and makes a significant difference to preserve the environment. Increasing income inequality might cause a decrease in the poorer part of the population's disposable income which is not sustainable, therefore income inequality is one of the main challenges to the degrowth movement. Building on Piketty's research (2013) and Jackson and Victor's model of inequalities under GDP degrowth (2016), I will analyze how individuals' disposable income will change in case of work-time degrowth through a theoretical economic analysis rather than empirical research because of lack of data. I

would like to do a poster presentation at the BCUR and I intend to both write an academic article and create a podcast to raise awareness on degrowth.

Author Rebecca Fulton, University of Portsmouth

Title Evaluating future lava flow hazard assessment by testing the strength of basalts from Mount Etna.

Abstract Although volcanoes have been studied for hundreds of years, there are still aspects of their activity and processes that are unknown. Volcanic eruptions have the capacity to cause tens of thousands of deaths. Even though lava flows only cause deaths in rare cases, they are still the main effusive product of eruptions and will destroy anything in their path. This project aims to test the strength of lava flow cores parallel, perpendicular and diagonal to the direction of flow and to determine which of these principle directions is weakest. This area of study has been previously carried out for lava flow levees but never for the cores of lava flows. During the summer of 2018, I spent two months in Sicily collecting samples from Etna's historic lava flows. It is anticipated that the project will have similar results to the studies carried out into the strength of the lava flow levees. This being that the basalt will be strongest parallel and weakest diagonal to the direction of flow. When testing the rock samples, it was clear to see there was variation in the results. Reasons for these variations will become clear after full analysis of the data. After analysing the results, we hope to see how the strength of the basalt in the three principle directions will impact the direction of the lava flow path. This will then enable the evaluation of the software that is used to predict the paths of future lava flows.

Author Alice Gains, University of Lincoln

Title Student representations of older adults: Evidence for positive attitudes in an ageing population

Abstract Longevity is a global feature of 21st century living. Consequently, ageism is becoming an international concern. Previous work in this area relied on questionnaires/interviews that are limited by the social desirability bias and has shown very mixed findings in terms of college-aged students' attitudes to the elderly. To overcome this, 334 students aged 18-26 years were asked to draw one of two conditions; an old person or a grandparent. The features were later coded for the presence of predominantly positive or negative signifies/representations. Chi-square analysis revealed drawings were significantly more positive when drawing a grandparent, compared to those who drew an old person. Also, females drew positive representations significantly more than males. These findings suggest when there is a relationship with the person being represented, young adults are significantly likely to present them in a positive light. Strengths and limitations of this methodological approach are discussed. Application of the findings could be used to build inter-generational relationships within their communities, whether be through established initiatives or unique community days. These results could explain the predominantly female health and social care workforce in the UK. Building relationships and seeing the person behind their

physical appearance will shorten the apparent 'social age gap' between generations and begin the process of normalising ageing. Research will be presented via a poster. *This is a joint project with Jacqueline Jones, 16597348@students.lincoln.ac.uk)

Author Dorina Gal and Rachel Woolerton, University of South Wales

Title Voting behaviour and the effect of the media

Abstract Voting is important and those that do vote determine the conditions of society for everyone. However, politics can be difficult to understand, especially for the lay-person. The public may believe they are well informed, but many only see what is produced in the media and make decisions without fact-checking media claims. There are many techniques used to win votes, such as circumstances, events, wording, tone, phrases and body language that can reinforce or manipulate beliefs. We question if the public really is well informed. The *priming effect* is the key concept that is under investigation exploring the impact of social media on the outcome of elections. The findings of the study also shed light on why and how people's decision making can be manipulated.

Author Abhaya Ganashree, University of Leeds

Title Carers' rights in the realm of anti-discrimination law

Abstract Article 14 of the European Convention on Human Rights specifies certain characteristics that should enjoy protection against discrimination. Although disability is recognised as being one such characteristic, carer's of such disabled-persons are not similarly protected. Cases that have come before the European Court of Human Rights have clearly shown that at times, carers face discrimination for their association to persons with disabilities. Although this form of discrimination has been protected against in some areas such as employment and reasonable accommodations, carer's are still largely left to fend for themselves. The ECHR case law seems to indicate that being a carer is thought of as a role these individuals choose to take up, even though filial relationships even today expect these persons to take up these roles. This article seeks to analyse the Court's reasoning following the seminal case of *Coleman v Attridge Law*. In doing so, it will consider scholarly opinion and suggest reforms that can be made to develop the law in this area. While doing so, I will balance this against the disabled-persons right to be cared for. The article will conclude that legislation should follow any progress made in this area, mirroring the progress made under racial discrimination laws.

Author Franciszek Gandecki, University of Exeter

Title Investigating mindfulness as an optimiser of mentally tough outcomes in athletic endurance performance

Abstract Mindfulness can be described as non-judgemental and intentional awareness of present moment experiences, and has been related to benefits in athletic performance, due to (among other effects) its desirable effects on attention

and associated increases in acceptance of unpleasant experiences. Endurance sports require participants to sustain prolonged periods of high-intensity physical and mental efforts. The most successful individuals are typically the ones capable of pushing themselves the closest to their physical and mental limits. In other words, those who are most able to mentally push through the temporary exhaustion, or those who are most mentally tough, are the ones who tend to reach the highest levels of performance. This project investigates the link between mindfulness, attentional focus, mental toughness and endurance performance in a student sample of endurance-based athletes. Participants will perform three 10-mile cycling time-trial tests, and will receive a short mindfulness and attentional focus intervention. The project will investigate whether a short intervention can affect the direction of attentional focus and mindfulness experienced during a high-intensity cycling exercise. It will then enquire into whether the intervention can effectively enhance mental toughness experienced during the trial and whether it can influence the actual performance (cycling time-trial).

Author Zainab Ganiyu-Dada, Queen Mary University of London

Title The effect of temperature on clinical outcomes in patients at the Royal London Hospital NHS Trust following traumatic brain injury

Abstract This project aimed to explore the link between patient temperature on ICU and its effects on mortality and morbidity in traumatic brain injury. Methods A retrospective review of patient notes was conducted at the ICU of the Royal London Hospital. The national database for intensive care admissions was scrutinised in order to identify patients suitable for inclusion over a 6-month period. Results A total of 45 patients were identified. Length of ICU stay varied from 17 hours to 28 days. Patients were assessed for the duration of their ICU admission regardless of its length. As expected the majority of patients (78.6%) developed a raised temperature i.e. $>38^{\circ}\text{C}$ during their time on the ICU. In general, non-survivors ($n=13$) had a lower admission temperature than survivors ($n=29$) although there was significant overlap between the two groups. This difference was not considered statistically significant ($p = 0.06$). This study found no difference in temperature between the patients with poor vs good outcomes ($p = 0.86$). Despite the lack of evidence supporting the idea that a raised temperature in TBI is harmful most ICUs actively work toward maintaining patient's temperature at normothermic levels. This observational study did not find any correlation between duration of fever and the presence of a raised ICP nor did it find a correlation between the presence of a fever and poor neurological outcome. Further work is required to answer these questions with more robust data analysis of a larger population over a greater period of time

Author Jin Gao, University of Warwick

Title A Study on Mechanisms for Fair and Truthful Scheduling

Abstract We consider allocation of a set of jobs to a number of machines of different speeds, where each machine is represented by a self-interested agent with the disutility of the machine workload, who has the private information of the

machine speed. A fair mechanism solicits machine speeds from the agents and schedules the jobs fairly (in terms of machine completion time) based on the reported speeds. A mechanism is truthful if any agent achieves his maximum utility (or minimum disutility) by declaring the true speed of his machine, regardless what speeds are declared for their machines. This project is concerned with study and development of efficiently computable truthful and fair mechanisms. It is based on a fast monotone 3-approximation algorithm for scheduling related machines, we first proved the relations between the monotonicity of LPT algorithm and its machine speeds, then give a possible implement of the fast monotone 3-approximation algorithm.

Author Bogomil Georgiev, University of Leeds

Title Magmatic timescales in volcanoes from the Southern volcanic zone Chile

Abstract My research project is studying the magma source and its movement towards the surface in three volcanoes in Chile: Osorno, Calbuco and La Viguería. These volcanoes are part of the Southern Volcanic Zone that is located over a subduction zone where the Nazca plate is subducting underneath the South America. This process creates dehydration melting in the mantle. The southern volcanic zone is affected by a 1000 kilometres long fault known as "Liquiñe-Ofqui Fault Zone". It has been hypothesised that this fault has a large influence on the speed magma ascent, particularly in the small eruptive centres like La Viguería, since it creates an easier path for the magma to go through. Furthermore, it is believed that some of the neighbouring volcanoes have the same magma source. It is important to know the composition of the original magma in order to model the magma ascent. The purpose of this research project is to reconstruct the initial conditions in the mantle by using trace rare earth elements concentration and the isotope ratios of Strontium, Neodymium and Lead. Rare earth elements are particularly useful for reconstructing degree of partial melting and fractional crystallisation. The Sr, Nd and Pb isotope ratios can be used to estimate the amount of magma mixing with subducting ocean sediments and crustal material. The findings of the study will be used in the modelling the magmatic time scales of these volcanoes that will improve our understanding of these volcanic processes and help make better predictions for future eruptions.

Author Frieda Gerhardt, Bournemouth University

Title Thought on Screen: The highly sensitive me.

Abstract In my research theories of haptic film and phenomenology (see Barker, J.M., 2009, Marks, L.U., 1999) are also put into practice by creating a short documentary which tries to let the audience relate to the life-experience of a person with sensory processing sensitivity (SPS). SPS describes an innate trait that is defined by the extent to which individuals are more receptive to and process more deeply a variety of stimuli of everyday life. This includes physical, social and emotional stimuli as well as sensitivity to and awareness of scents, noises and lights that go unnoticed by others. Phenomenology is used here to describe the way in which audiences perceive film as if they themselves were inside the world of the film. Thus it lends itself perfectly to exploring the trait of SPS in this particular way. It suggests viewers will be

able to immerse themselves in this documentary, completely absorbing what I am presenting them as if it was their own life experience. To achieve this practically, the film will make use of creative light effects, camera techniques, and footage manipulation to create a subjective but factually informed visual representation of (the factual background of) SPS. By using arts-based-research and visualising SPS in an artistic medium I essentially hope to raise awareness of this trait by making it more accessible and comprehensible through my first-person account of the experience of someone with SPS.

Author Aisha Ghani and Kadjane Nithianandasivam, University of Leeds

Title Identifying new potential brain tumour drugs through computational analysis and literature mining.

Abstract Glioblastoma Multiforme (GBM) is the most common primary malignant brain tumour, with a median survival of 15-18 months with maximal treatment. Little progress has been made to alter this prognosis significantly over the past few decades. Thus, there is an urgent need to identify novel therapeutics to improve the outcomes for GBM patients. A small compound (KHS101) has been shown to specifically perturb GBM tumour cell metabolism. However, as with any new pro-drug, progression onto clinical trials is hampered by the significant financial and developmental burden. Therefore, we aimed to utilise a publicly available database, The Connectivity Map (CMap): L1000 Platform combined with literature mining to identify potential compounds with a similar gene expression profile linked to their mechanism of action to that of KHS101, that could then be repositioned for the treatment of GBM. The gene expression signatures of KHS101 were uploaded into CMap: L1000 to find similar effects in the embryonic kidney cell line, HA1E. The top twenty results closely resembling the gene expression signatures of KHS101 were selected, and through literature mining it was found that the majority of compounds had already been linked to GBM. This was promising as it showed the reliability of using computational analysis to accelerate progress in finding novel GBM treatments. Of the twenty compounds, five have shown similar characteristics to KHS101 and could therefore be investigated further in patient-derived GBM cell lines and glioma stem cells (GSCs).

Author Connor Gilkes-Imeson, Newcastle

Title Drug sensitivity of a spontaneously immortalised human ovarian cancer cell line

Abstract Cell lines derived from tumours are commonly used as models to study disease and improve cancer treatments. A novel cell line (NUCOLL43) derived from a patient with ovarian clear cell carcinoma (O-CCC) immortalised at the Northern Institute for Cancer Research (NICR). NUCOLL43 had the same markers and genetic changes as the tumour from which it was derived. The aim of the project was to characterise the drug sensitivity of this cell line. To do so, assays were used to test the sensitivity of NUCOLL43 to common chemotherapy and radiotherapy; then whether this sensitivity could be increased with the addition of novel drugs. O-CCC are commonly resistant to standard chemotherapy (as is NUCOLL43) and therefore there is a great need of new treatment options. NUCOLL43 cells

weren't sensitive to some anticancer drugs, but were with others; this includes a novel drug (NVP-BEZ235) which inhibits a pathway promoting cell multiplication. It was shown that NUCOLL43 is extremely sensitive to NVP-BEZ235 and therefore this suggests that genetically similar tumours may respond well to this type of treatment in the future. All data produced from NUCOLL43 has been pooled such that it is fully characterised and is now available for use by the scientific community. NUCOLL43 will be a useful model for the advancements towards new treatment options for O-CCC. This project has aided in the availability of a novel, ovarian cancer cell line, stored in the ximbio biobank and led toward a publication by Franklin M et al in the journal Cancer Medicine.

Author Holly Girven, University of Warwick

Title In long term clinical trials involving children, should consent have to be actively reassessed as they grow older?

Abstract There are numerous clinical trials involving children, some that can go on for extended periods of time. Being involved in a clinical trial can carry some risks and so it is of importance that those involved fully consent. However, there is an issue regarding those children involved consent being part of these trials, especially when they grow older as medical teams may not reassess their understanding and their willingness to continue to participate. This paper examines the issues surrounding consent in long term clinical trials, with a focus on paediatric patients, to test whether the law satisfactorily protects the needs of the child as they mature or whether additional protections, such as active reassessment of consent, should be put in place. Drawing upon research into current legal and medical practice guidelines, academic literature and case law, as well as relevant statistics, this paper will examine the current regulatory framework and comparative areas of law in order to support a consideration of possible reforms and how these can best be achieved.

Author Alexander Gleed, University of Surrey

Title Computer modelling of nerve-tool interactions during total hip replacement surgery

Abstract A surgeon performing a hip replacement procedure will access the joint by making a surgical cut using a blade or scalpel. Tools known as retractors are then inserted into the cut and are used to move the soft tissue out of the way. Within the tissue sit nerves and blood vessels. These experience pressure when they are moved and stretched within the bulk of the tissue. Rarely, the nerves surrounding the hip can be severely damaged from the surgery and this can result in paralysis and pain within the leg. Recent studies have shown that the placement of retractors is likely to be the primary cause of serious nerve damage after hip replacement surgery. This project is using computer simulation techniques, in particular the finite element method, to create an anatomically accurate model of the human hip and simulate how tools are used to retract tissue. The most common retractor type, the Hohmann retractor, has been chosen for this purpose. This presentation will outline the main findings of the project, in particular, the outcomes of the computer

simulations with respect to different retractor positioning and usage. The project will potentially help surgeons and clinicians quantify the amount of damage to nerves around the human hip in relation to tool positioning and usage. It will also aid the validation of future surgical tools, as the computer model provides a platform in which designs can be tested. Overall, the research would contribute to ensuring better clinical outcomes after hip replacement surgery.

Author Olivia Godber, Queen Mary University of London

Title The Civilising Mission in Political Thought

Abstract Current definitions and explanations of the 'civilising mission' are insufficient. They discuss only imperial politics and British expansion, following the narrative of the 'white man's burden'. This research would like to contend that while the 'civilising mission' did involve European imperialism and Western superiority, an integral part of the mission was also self-reflective. In other words, the West endeavoured to civilise itself, as can be interpreted in the discourses of thinkers such as Comte, Saint-Simon, and Mazzini. This work aims to trace how current understandings of a Western 'civilising mission' - as related to imperialism - changed and how Western narratives regarding this 'self-civilising mission' developed also. In doing so, this work challenges the scholarship of historians, such as Jennifer Pitts, whom assert that the nineteenth century heralded a 'liberal turn to empire' (supposedly evinced by thinkers such as James and J.S. Mill). This research wishes to challenge the extent to which scholars such as Pitts' portrayal of Smith, Burke, Bentham and Condorcet as 'liberal' thinkers is accurate, and examine whether this is reflective of wider Enlightenment thought. This work proposes that Pitts' assertion regarding a 'sea change' from liberal, anti-imperial discourse to an 'imperial turn' in the 1830s is not reflective of wider political thought. It hopes, additionally, to explore the impact such changes had on the reality of politics in colonised territories, particularly in relation to India and the Caribbean, aiming to present colonies as active agents rather than passive recipients of Western 'civilisation'.

Author Alessia Goglio, University of Sussex

Title Cognitive, motivational, and social-contextual factors in kindness: a mixed-methods investigation

Abstract Kindness is a pro-social behaviour that increases the life satisfactions and well-being of both the performer and the receiver, as well as improving friendships and relationships. Nonetheless, the key elements that promote or inhibit the performance of kind acts are still not clear. The Theory of Planned Behaviour model (Ajzen, 1991) was used to investigate attitudes, perceived norms and perceived behavioural control as the key predicting factors of intentions to perform kind acts. Additionally, the role of other possible facilitating and hindering variables was explored in a qualitative analysis of focus group transcripts, focusing on kind acts in the context of university life. A questionnaire was administered to 246 participants from 30 different countries, and two semi-structured focus group interviews were conducted at the University of Sussex. They revealed that the Theory of Planned Behaviour

model is effective in predicting intentions to perform everyday kind acts, and that the key predictors could be assessed using a short and easy questionnaire and engaging focus group discussions. Additionally, it was found that the factors that both facilitate and hinder the performance of kind acts in the context of university life revolve especially around social connections, as well as organizational practices that influence social norms and how easy it is to be kind. This research will be presented in the format of an academic poster.

Author Jorsan Goldspink, Blackpool and the Fylde College

Title UX vs UCD

Abstract A plethora of design methodologies are available to modern web and interface developers, most notably: User-Experience Design (UX), User-Centred Design (UCD) and Usability/Heuristic Focused design. Each of these methodologies has strengths and weaknesses. UX is seen as time consuming while usability may not be, but could be viewed as outdated. The research gathered will aim to arbitrate between the three design methodologies to discover which creates the most effective and efficient designs for both designers to creating interfaces and the users utilising interfaces. The study will also aim to determine the areas in which each methodology succeeds and fails throughout the design process. Identifying the most effective and efficient design methodology could assist interface designers in the future by providing them with a standard from which to begin the design of any future interface. The study expects to find that users will favour a website created using user-experience techniques. However, the design process for this website is predicted to take the longest amount of time. A website created using user-centred design techniques such as personas, scenarios and use-cases, should be similarly favourable with users however this website could take longer, but would ultimately be more cost-effective to design and build. Another website built for the study will utilise solely usability-based design with the aid of a heuristic set such as Nielsen (1995), Tognazzini (2014) or Schneiderman (2016), is expected to be highly usable however may miss key features present in modern design that add to the enjoyability of an interface.

Author Hetasha Gopalani, University of Leeds

Title To what extent can the reimplementation of agroforestry can contribute to future demands of the UK?

Abstract Agroforestry is an ancient land use that combines crops (silvo-arable) and livestock (silvo-pastoral) with. This improves biodiversity and soil quality which can positively affect the storage of CO₂ and other compounds in terrestrial land (fossil, soil), water and air. Agroforestry may also potentially improve sustainability through the changes of the carbon, nitrogen, phosphorus and water cycles. Two decades post industrialisation, land use for agriculture has decreased. One of the aims for the UK is to modify land use to meet demands of the higher future population and adjust to climate change by gradually developing woodland areas, however, agroforestry sites are lacking. At present, arable and horticultural are the most common agriculture types alongside livestock and dairy farming. The aim of this research is to find out

the extent of the environmental benefits of reimplementing agroforestry and how it will affect other aspects such as food production and economy to contribute to fulfilling specific Sustainable Development Goals (SDGs) at UK level. Carbon, nitrogen, and phosphorus in soils of woodlands and arable lands of the UK will be compared to ocean acidity and air composition data from pre-industrial periods (before 1960s) This comparison to assess data from agroforestry sites in the UK to see will confirm if it would help to contribute to the environmental and social SDGs of the UK by comparing it against social statistics such as anthropogenic emissions, food production, and economic impacts on various stakeholders.

Author Oliver Govier, Lancaster University

Title Burnout and Performance: An exploratory study across three industries

Abstract A metaphor can summarise and simplify a difficult concept. Burnout can be described as the smothering of fire; gradually the flame becomes embers as it experiences insufficient resources following exposure to prolonged stress. The Burnout and performance relationship is a topic frequently studied over the past half-decade, particularly in the 'helping professions' such as social care, however with mixed results. Some find positive relationships whilst other authors find negative relationships. Others identify differences in the relationships for the three core elements of Burnout; emotional Exhaustion, depersonalisation and reduced personal accomplishment. Whilst there is limited Project Management specific literature, with most relating to the Construction industry, the variety of results across varying job roles poses the question, is Project Management performance uniquely impacted by the presence of burnout, and is there an element of burnout that is particularly impactful? Similarly, does the industry impact the relationship? This exploratory investigation will seek to ascertain initial findings against these research questions as a basis for further study. The research will use a mixed methods approach, comprising of semi-structured interviews and questionnaires. Triangulation of data will be utilised to improve validity of the findings. Samples from three organisations' Project Management populations will be targeted, specifically within Aerospace, IT, and Construction. In order to mitigate the bias of subjective measurement, negative affectivity will also be measured to determine any correlation with the answers provided.

Author Ellie Graham, Solent University

Title The thematic analysis of interview data: an approach implemented to examine public perceptions of parental mental health

Abstract The "biggest unaddressed challenge of our age" (Lancet,2012). Overall, 20-30% of women will suffer from a mental health problem at some point during their pregnancy and first postnatal year; In relation to this 75% of health professionals in a regional study stated that they had looked after at least one women whom they believed to be suffering from a perinatal mental illness (Watson et al, 1984; Borthwick et al., 2004). Moreover, despite frequent contact with health care professionals during and after the pregnancy, the vast majority do not seek help for symptoms (Kingston et al., 2013; Bennett & Brown, 1989; Harvard Medical Health Letter, 2002). Previous literature on

public awareness is sparse, however the main outcome is that participants had significantly more knowledge of postnatal than prenatal mental health and that the main predictor of knowledge was knowing someone who had experienced perinatal mental illness (Kingston et al., 2013). Therefore, a study examining varying aspects of this issue, such as general knowledge, treatments available and how to identify symptoms is paramount. As this study aims to address numerous dimensions of the topic of parental mental health, it was deemed appropriate that a broad research question would be required. Consequently, it was also decided that a thematic analysis was befitting to the research question, "What are the public perceptions of parental mental health?" Overall, the results from the current study will identify weak areas of knowledge and provide a suggestion for how to improve health promotion of this issue.

Author	Esme Grange & Lisa Mercer, University of Leeds
Title	Can sixth form pupils effectively deliver oral health education to Key Stage 2 pupils to change oral health behaviour, skill and knowledge?
Abstract	<p>AIM: To improve oral health(OH) knowledge and reach to Key Stage-2(KS2) children in areas of high social deprivation with significant dental inequalities</p> <p>OBJECTIVE: [1]To train sixth formers as OH educators to co-deliver an OH programme alongside dental undergraduates. [2]To evaluate the efficacy of OH assembly and OH programme(intervention) versus the OH assembly (control). METHOD: Recruitment/consent: two primary schools were enrolled providing access to four KS2 classes (children aged 7-8-years-old). Parental consent was gained for child participation. Baseline: assessment included plaque score, brushing score (quantified by using a 5-criteria proforma), knowledge quiz, and brushing and diet diaries. Allocation: in each school, one class was randomly allocated as the control(OH-Assembly) and the other as intervention(OH-Programme) delivered as an additional workshop, reinforcing key OH messages through interactive toothbrushing demonstrations; OH-related worksheets; healthy diet education and roleplay. Follow-up: indices were recorded by calibrated dental student. Data recorded was compared to assess 3 outcome measures: change in 1)OH knowledge, 2)toothbrushing skill and 3)OH Behaviour. RESULTS: Indices were statistically analyzed using Wilcoxon sign-rank test. Results showed a significant improvement in toothbrushing skill, knowledge quiz scores and plaque scores for both control and intervention but no significant difference between groups. Return rates of diet and brushing diaries were low. All participants reported enjoyment throughout and high levels of engagement were demonstrated. CONCLUSION: Co-delivered OH education was effective in improving OH knowledge, brushing skills, OH behaviour and reach to vulnerable communities. More research is required to ascertain whether the OH programme would improve long-term OH knowledge/behaviour/skill.</p>

Author	Jessica Gray, Blackpool & The Fylde College
Title	Exploring the nutritional matrix of children and young people with Autistic Spectrum Disorder (ASD).

Abstract This paper looks at the nutritional needs of children with ASD, how they differ from those who are born without a disability and what recommendations could be made to improve their overall health. The prevalence of ASD has increased from 1 in 69 in 2016 to 1 in 59 in 2018. No single cause of autism has been established, although there are a few hypothesis including genetics and environmental factors. There is growing evidence that nutritional therapy could help some symptoms of ASD in children. Many have disrupted digestion, suggesting that restoring gut balance is a key focus for nutritional therapy. Reviewing multiple literature, highlights that there are differences in levels of vitamin D (Guo et al 2018), Omega 3 (Bell et al (2000), Iron and calcium deficiencies (Graf-Myles et al., 2013., Bilgiç et al., 2010) in children with ASD. Therefore, suggesting that nutritional awareness and supplement understanding is needed for those who are able to influence a child or young person's diet. Research also shows how increasing intake and/or supplementing some of these vitamins/minerals can alter behaviours of those on the autism spectrum.

Author Carl Green, Blackpool & the Fylde College

Title The Impact of Mobile Learning on Academic Performance: A Student Perspective

Abstract Mobile technology is a field of research that has seen rapid growth within the past decade, with mobile devices being used with an increasing volume within academic environments (Pimmer, Mateescu and Grohbiel, 2016). Research performed throughout the past decade, such as Ligi and Raja (2015), Pimmer, Mateescu and Grohbiel (2016) and Laurillard (2007) have provided the conclusion that mobile learning can be advantageous in an academic environment, however, a higher application of mobile technologies in academic institutions must be conducted, in order to ascertain a more definitive conclusion. The study undertaken will involve the development of an academic application that allows the student access to a ubiquitous learning environment and view academic resources delivered during the semester, using a mobile device. A mixed method approach, using both quantitative and qualitative data through surveys and questionnaires, will be used to ascertain for what purposes students use mobile devices and to find whether students believe that the availability of academic resources in a ubiquitous environment, would aid the learning experience. The findings obtained during the study hope to show that students believe mobile learning in a ubiquitous environment can positively impact their personal learning experience. However, students may identify the use of a mobile device to perform alternate actions can undermine the effectiveness of the application. The future of mobile learning appears bright, however, this implementation of mobile technologies in academia will allow researchers the ability to more effectively decipher whether mobile learning can affect the learning experience of the student.

Author Gareth Griffiths , Staffordshire University

Title 'A Validation study of the Accuracy and Reproducibility of 'Area of Origin' with Bloodstain Pattern Analysis, on different wallpaper types, using Faro Zone 3D'.

Abstract Within a Crime Scene Blood Pattern Analysis (BPA), can determine the potential sequence of events and the position of the individual, at the time of impact. Standard technique for the capture is manual stringing by using the scientific Balthazard formula to calculate the angle of impact, when the strings intersect the point of origin (PO) can be determined. Virtual stringing on software's can determine the PO such as 'SCENE', however a new software called Faro Zone 3D (FZ3D), has been released. The Faro Focus S350 scanner collects millions of data points to produce a three-dimensional point cloud (3D Model). Thus, validation study looked at the effect on the point of origin when analysing projected bloodstains on different types of wallpapers, with the guidance of the new Semi-Automatic detection tool for BPA within FZ3D. The wallpapers selected for testing were Washable, Printed, Vinyl, Woodchip, Anaglypta, Foil and the plain wall as the control, for each wallpaper type 6 impacts were projected. Documentation methods were the Faro Focus 3D laser scanner and a Canon PowerShot S100 digital camera, to capture different areas of the impact stains, these were then aligned with the point cloud within Faro Zone 3D. Error co-ordinates were collected and analysed using Statistical Package for the Social Sciences (SPSS). All 6 wallpapers tested did not exceed the 30cm tolerance for area of convergence. If blood was deposited on the above wallpapers the Faro Focus S350 and FZ3D would be applicable for the PO interpretation.

Author Federico Guerrero, University of Warwick

Title Technological and Economic Support for Marginalized Palestinians: Toward a Model of Sustainable Community Development

Abstract My research project focuses on the combined role of technological innovation and multi-level governance cooperation in bringing about sustainable change at the community level. Faced with the issue of responding to a pressing policy problem caused by marginalized communities' unsustainable paths of (under)development, this project explores how the impact of community engagement on the sustainability agenda might be encouraged and governed. More specifically, my research focuses on the possible application of Concentrating Solar Power technology (CSP) in community development for vulnerable Palestinians in Area C and Seam Zones, following its successful implementation in Egypt in early 2018. This choice is appropriate for important reasons. First, marginalized Palestinians are both local actors whose claims are confined to the redress of local matters, and actors with a (potential) nationwide horizon (to establish a Palestinian State). This enables me to make sustainability claims which are both issue-dependent and have a wider applicability. Secondly, CSP technology allows to generate electricity and fresh water in a desert region, supporting social and economic growth of the area. Furthermore, this technology may represent the first stage in the development of specialized local industries, thus creating new opportunities for local groups. Lastly, marginalized Palestinian territories are a clear example of how geopolitical tensions may hinder multi-level cooperation and innovation transfer in specific

geographical areas. In this light, I will reflect on a new promising approach to sustainable economic prosperity based on the process of ideas generation, hoping to stimulate future more detailed research in this critical area.

Author Yuxin Guo, Keele University

Title The time-quality conundrum facing students: a technology-based peer-to-peer support approach to student learning and engagement

Abstract Twenty-first century education has changed immensely due to the integration of technology and online resources as a learning strategy, providing students with a boundless amount of information. However, a time-quality conundrum appears, where many students desire high-quality answers at a quick pace because more time is being spent on searching for information than answering their queries. To ascertain how students prefer engaging within an educational context, and to investigate current learning patterns, a literature review looking at students as consumers, student transition to higher education, student engagement online, trust and online services, factors influencing student return rate, flip learning and community learning was developed. Additionally, an action research approach focusing on the opinions of students and a centrally-based learning development team at Keele University was employed. This utilised interviews with representatives from the Keele student learning team; focus groups with students and academics; student questionnaires, and an investigation of current online engagement platforms and their audiences, which provided potential requirements from the perspective of the target audience. Results reinforced that students acknowledged the time-quality conundrum issue and a university endorsed peer-to-peer learning platform which provides relevant answers to their questions in a time-friendly manner would be regarded as highly beneficial. However, instant answers are not considered vital if compromised by high-quality information within a reasonable timeframe, consequently, a mobile-based peer-to-peer learning support platform was developed from this investigation. This action research project along with the literature review and the mobile application 'SwattUp' will be discussed in this poster presentation.

Author Wais Habib, Queen Mary

Title Can morphology of oesophageal tumours be used to predict prognosis in patients with oesophageal cancers?

Abstract Background: Oesophageal carcinoma can present with a variety of endoscopic morphologies. No previous studies have ascertained whether endoscopic tumour morphology impacts survival. This study describes three distinct endoscopic morphologies; ulcerating, exophytic and stenosing, and analyses their impact on survival. Methods: This is a retrospective cohort study of 181 patients who underwent diagnostic endoscopy prior to oesophagectomy at St Thomas' Hospital, London. Univariable and multivariable Cox regression analyses were performed to determine hazard ratios (HR) with 95% confidence interval for overall survival. Results: There were 56 ulcerating, 68 exophytic and 57 stenosing lesions. Median survival was 52.7 months for ulcerating lesions, 46.8 for exophytic and 33.8 for

stenosing lesions ($p=0.01$). When compared to stenosing lesions, exophytic and ulcerating lesions demonstrated a significant survival advantage on univariable analysis (exophytic HR 0.53; 95%CI 0.21-0.95, ulcerating HR 0.37; 95CI 0.19-0.73). Conclusion: This study demonstrates that endoscopic morphology may be an important prognostic factor in oesophageal cancer. Further studies are needed to confirm whether this is an independent prognostic indicator which may help guide neoadjuvant and surgical treatment strategies.

Author Hannah Hall , Newcastle College University Centre

Title An investigation into artists, whether they are more susceptible to mental illness and are drawn to the subject as a form of self-therapy

Abstract Little is documented around the subject of mental illness and its connection to the art community. This study will investigate the link between the creative mind and whether people who go on to study art or indeed become practicing artists. Do so out of a higher susceptibility to mental illness and the draw of a subject which can provide a form of self-therapy. Also looking into art therapy as a whole and how a creative outlet is essential as a recovery mechanism. Proven from already documented works, a creative outlet has shown to be the most widely acceptable way of bringing such topics to the forefront of society. In a society it seems that is still shying away from mental illness. The research undertaken will look at the already documented findings which suggests highly that what is already a suspicion is in actual fact a reality. Whether data collected throughout this study will support and prove what documented research is saying, is to be seen. The art community as a whole provides an exceptional place for a therapeutic discovery within the self. A no holds barred, on outspoken ideas and ways of exploration. This research will come from inside the community, looking out.

Author Rebecca Harker, University of Plymouth

Title The Cultural Afterlives of Victorian Heroines

Abstract This research focuses on a growing neo-Victorian reboot culture, particularly filmic adaptations of classic Victorian novels, usually gothic in genre or sharing in gothic themes. Many Victorian novels are regularly re-adapted, such as the works of Dickens, Arthur Conan Doyle, and classic gothic narratives like *Dracula* (1897). Consequently, these neo-Victorian adaptations are inundated with male-centric narratives. Yet, with such focus on male protagonists, there is a vacuum for peripheral female characters such as Nancy, Irene Adler, and Mina Harker. By presenting these peripheral women in increasingly varied roles through filmic adaptations, significant change is occurring in the way these characters are being critically re-considered in their original novels. Previous studies into cultural afterlives merely note the number of such afterlives that exist and map how these male protagonists', such as Fagin, Sherlock Holmes and *Dracula*, have evolved cinematographically. In response, this research spotlights the previously sidelined women of these narratives, explores how their characters are advanced and empowered through film and goes one step further by arguing how these adaptations influence and challenge critical responses of these female

characters in their textual origins. As a mixed media paper, both primary textual (Oliver Twist, 1837, A Scandal in Bohemia, 1891, Dracula 1897) and secondary cinematographic resources have been extensively researched to identify how these original works are translated into contemporary adaptations through films (Bram Stoker's Dracula, 1992, Oliver! 1968, Sherlock Holmes, 2009) and television programmes (Dracula, 2013-2014, Penny Dreadful, 2014-2016, Oliver Twist, 2005, Elementary 2012-2018, Sherlock 2010-2017).

Author Bradley Harris, The University of Manchester

Title Investigating the role of IGTG1 in the Acquired Resistance of Lung Cancer Cells to the Cytotoxic Effects of IFN- γ

Abstract The major cytokine, IFN- γ , is now understood to yield pleiotropic functions in the targeting of tumour cells within immunogenic tumour microenvironments. Adaptive molecular mechanisms to evade IFN- γ mediated lymphocytic targeting, and promoting pro-tumorigenic IFN- γ function, are therefore likely to facilitate tumour cell survival. To investigate specific mediators of this, host lab analysis of patient RNA-Seq and cell line data has indicated the expression of IFN- γ in melanoma is significantly correlated with a novel target, IGTG1. Preliminary data for this proteins role in melanoma indicates diverse tumorigenic functions. We wanted to investigate the role this protein plays in another immunogenic tumour type, lung cancer. To this end, lung cancer cell lines were treated with increasing doses of IFN- γ and their molecular response was analysed by Western blots and qPCR. Both the phosphorylation of STAT1 and the mRNA expression of IGTG1 significantly increased and in a dose-dependent manner. Additionally, bioinformatic analyses of patient survival data showed that the high expression of an IGTG1 related genetic signature significantly reduced patient survival, in the same study where an IFN- γ signature was unable to stratify patient survival. Together, this evidence indicates an important role for IGTG1 in the survival and progression of lung cancer cells. To further investigate the specific function of this gene, cell line expression of IGTG1 was then manipulated and validated by qPCR and Western blots. The role of IGTG1 in the expression of antigen presentation molecules will then be analysed by flow cytometry and qPCR of transfected lung cancer cell lines.

Author Gabrielle Harrison, University of Warwick

Title Healthcare Professionals' Knowledge, Attitude and Feelings Towards Female Genital Mutilation: A Systematic Review

Abstract Background: The United Nations and Girl Summit have promised to eradicate FGM in a generation. At the forefront of this action are healthcare professionals (HCPs), primely placed to both intervene and educate. In some countries, including the United Kingdom (UK), this has become a legal obligation to act. The researchers undertook a global systematic review of English-language papers investigating HCPs' knowledge, attitude and feelings towards FGM. Method: Systematic review of Web of Science, OVID and Cochrane Library. Results: 23 papers informed the study. Recurrent themes detected include: training; how much and what quality of contact HCPs have had with circumcised women; multiple aspects of knowledge

including the practise itself, different types of FGM, the origins of the practise, complications, what treatment could be offered and the legal process; the ability, knowledge and confidence to act, including the legal duty to report; ability to communicate with patient or parents and what barriers are present; confidence when managing patients who have undergone FGM; difficulties and issues faced when examining women with FGM; the desire for further training and next step processes. Conclusion: Variability in knowledge indicates improved training is required on a global scale. In high-income countries this must be complimented by improving confidence in speaking with patients of a different cultural background. In low-income countries, campaigners must become rapidly aware of the dangers of medicalisation of FGM.

Author Paige Harrison, University of South Wales

Title The geological mapping and 300 million year history of the Inner Hebridean Island, the Isle of Eigg

Abstract This presentation offers an original map of the geology of the Isle as well as providing a geological viewpoint into the origin and evolution of the island. The processes and events that have given the island the striking appearance that is seen today. These range from the 60 million year old volcanic eruptions and lava flows that created the An Sgùrr - a feature that has baffled famous, influential giants of Scottish geology such as Sir Archibald Geikie and E. B. Bailey - to the more recent glaciers that tore through the landscape to form Lochans and striking basalt cliffs that you can hear crumbling on a still day. This small island, although dwarfed by the more well known Isle of Skye and Rùm, is packed with history that is not well known and I am ready to tell all the tales it holds, including scientific discoveries within the coasts of Eigg and the reptile and Plesiosaur remains unearthed within the Jurassic sandstone.

Author Lucille Harvey, Bournemouth University

Title Self compassion: a moderator of the negative effects of stress in mental health workers.

Abstract NHS mental health staff manage complex, emotionally difficult cases in a strained work environment, thus, risk work-related stress, as evidenced by recent staff surveys. High stress can result in anxiety, depression and sleep issues and in turn, this may impact patients and have economic repercussions. Self-compassion, defined as being kind and accepting of oneself, is consistently related to lower stress and higher psychological well-being. Self-compassionate individuals exhibit less anxiety symptoms in response to induced stress. Similarly, self-compassion training prior to inducing sadness curtails subsequent depressive symptoms. Despite apparent stress-related resiliency benefits, there is a paucity of evidence outside laboratory contexts. An online survey was conducted within five mental health trusts with 281 staff (83.6% females, mean age = 39.64 years) using self-compassion, stress, mental well-being, anxiety, depression and sleep scales. Analyses found self-compassion moderated the stress-

depression relationship: high self-compassion corresponds to a weaker relationship. However, no association was found regarding anxiety, mental well-being or sleep quality. These findings support evidence regarding depression resilience. Being self-compassionate may facilitate coping with greater stress before negative consequences. This is of particular importance within a population where stressors are difficult or impossible to eliminate. Much of the working environment is controlled by NHS or governmental policy, and many stressors are associated with mental health work, hence cannot be avoided. Empirical testing of the numerous self-compassion interventions should explore applicability and utility of present findings. Ultimately, self-compassion as a mechanism of resilience is an important finding, aiding prevention of stress outcomes without removing the causes.

Author Timothy Hatchard, University of Warwick

Title Design and Development of Virtual Engineering Lab

Abstract Virtual reality is a way of immersing someone into a computer-generated world with tailored experiences for a given situation. This is achieved using a screen with a set of lenses inside a head mounted display to display a 3D image to the user. One subject area for virtual reality is in training and education, to give people a realistic experience of a complex or dangerous activity before participating. In this project, the effectiveness of using virtual reality in education is tested with a relatively simplistic engineering lab as an example. The engineering lab, pipe flow, was created using the Unity game engine and a free asset called 'Virtual Reality Tool Kit'. This application aims to instruct an engineering student through the lab, while also demonstrating the fundamental concepts involved. The lab was then tested with students from the School of Engineering at the University of Warwick. Before and after using the application, students answered an identical test to measure their learning performance and answered a questionnaire to convey their opinions and emotions towards the technology. The learning performance and opinions were compared with another set of students using a traditional briefing. After analysing the results, it was found that students using the virtual reality learning experience showed a higher improvement in scores in the test, and positive comments were received from those students. This shows virtual reality to be an effective tool in education and training.

Author Melissa Haworth, University of Portsmouth

Title Self-esteem and wellbeing in people with Charcot-Marie Tooth disease

Abstract The aim of this study was to investigate self-esteem and wellbeing within a sample of people with Charcot-Marie Tooth (CMT) disease, with comparisons to population norms. CMT disease is the most common, inherited, neurological condition, affecting the peripheral nerves causing muscle atrophy and fatigue amongst several other problems. 477 individuals with CMT

completed self-report measures in order to assess if there was a relationship between having CMT and their psychological wellbeing and self-esteem. Results indicated that CMT was significantly related to lower self-esteem and wellbeing scores. The presence of fatigue, muscle weakness and muscle cramps were significant predictors of reduced self-esteem and wellbeing. This research begins to construct a model of risk, to ensure psychological support is provided after diagnosis of CMT rather than just treating only somatic problems.

Author Emilie Headington, University of South Wales
Title Fashion and faith
Abstract Fashion and faith, particularly modest dress within religious culture, is a topic of much investigation and debate within academic studies of fashion. While many religions differ on their understanding and visual embodiment of modesty, what they collectively have in common is dressing to express their religious identities and their commitment as followers of their faith. My dissertation looks to investigate and understand how the religious value of modest dress impacts and influences the identities of women within the Church of Jesus Christ of Latter-day Saints (LDS). By examining how clothing choices and visual self-representation are used as tools for communication, I hope to analyse how LDS women use modest dress to communicate, construct and convey their identities as women of faith within their culture. Some of the main topics of discussion within this study will be clothing and the communication of identity, as well as the construction of identity based on social awareness. As modest dress is a practice that relates directly to the physical body, this dissertation will also analyse clothing and the embodiment of gender-roles within the LDS religious society and how this is visually expressed through dress and bodily adornment.

Author Bethany Henderson, Newcastle University
Title Selection of Enrichment Process for Hibiscus sabdariffa L. Anthocyanins for use as Nutraceuticals (In Association with Dr Chiara Povolo, University of Padua, Italy)
Abstract Any chemical species with one or more unpaired electron is known as a free radical. Free radicals in living organisms attack cells, especially the polyunsaturated fatty acids of the cell membrane, causing them to age more quickly. This can lead to the development of cancers and other degenerative health conditions including cardiovascular and neurodegenerative diseases. Anthocyanins are a family of water soluble, polyphenolic compounds which act as free radical scavengers, preventing such damage from occurring. Thus, extraction of anthocyanins from natural sources is of interest to medicinal chemists. Roselle (Hibiscus sabdariffa L.), an herbaceous shrub used in traditional medicines, is reported to have a high concentration of anthocyanins. The aim of this project was to find an effective enrichment process for the extraction of anthocyanins from Roselle to increase the amount of anthocyanins recovered during extraction, with the overall aim to produce an antioxidant rich extract for nutraceutical use. Polyvinylpyrrolidone, commonly used in the wine making industry, was used to absorb the polyphenolic anthocyanins from an aqueous extract of Roselle. Several different solvents were used to determine the most efficient

solvent for the extraction of the anthocyanins from the polyvinylpyrrolidone. Results showed that washing with H₂O prior to elution by 50:50 EtOH:H₂O with 1% acetic acid gave the highest value for total monomeric anthocyanins, but the lowest percentage yield. This purification method showed the most promise. Further research into the stability of the compound is needed to assess if this could be developed into a commercial nutraceutical.

Author Esther Hernandez, University of Leeds

Title Criminal Victims: An Analysis of Sino-Korean Migration, Gender and Human Rights Violations, 1990 until the Present Day

Abstract As early as 1990, North Korea was targeted by an extensive human rights campaign, yet allegations of gender-based violence, some as recent as 2018, remain overlooked in favour of stories about nuclear weapons. This nation fascinated the West, but ordinary civilians were rarely invited to offer their opinion. Indeed, around 200,000 North Koreans are hidden in China, however few have told their story, causing inaccuracies in our conception of this nation. Instead, our impression was constructed around political opinions. This research focuses on women in North Korea and China from 1990 until today and questions why they were at particular risk. It examines gender discrimination in North Korea, trafficking and refugee status in China in order to understand how to prevent further abuses. This research focuses on female experiences to increase their visibility and create a more accurate picture of everyday life in North Korea. The literature review of defector testimony and analysis of quantitative data indicated that sexism and gender-based violence were ingrained in North Korean society. Secondly, Chinese data revealed that legislation, such as condemning trafficked women as 'illegal immigrants' increased risks to refugees, despite their protected status internationally. This indicates that trafficking and gender inequality are significant problems for North Koreans, yet these problems were overshadowed by military concerns, thus normalising abuse against refugees. These findings demonstrate that refugee policy should prioritise vulnerable groups over international interests. This would increase the safety of vulnerable individuals and actually improve the lives of ordinary North Koreans.

Author Martha Hernandez, University of Warwick

Title Should we fear ourselves? A discussion about the future of our species: Will science and technology redeem our specie in the future? Or will science and technology be the source of our collective downfall?

Abstract When looking back into our history, we find that humanity itself is the only constant; at least prior to the third millennium. Through the development and science and technology we have learned how to dominate nature, we have won the survival battles against our old enemies (natural forces, famines and diseases, etc.). Today we want more; today we are aiming to bring the Homo Sapiens to the next level: the Homo Deus through the constant and rapid development of genetics, nanotechnology, biotechnology, information technology and cognitive science. Thus, it is possible that in a not too distant

future the notions and understandings about being human will appear less straightforward and even start to fade away. The purpose of this paper is to critically discuss the senses in which science and technology have made humanity more distinctive as a species and the possible scenarios of our future: will science and technology redeem humanity in the future? Or will they be the source of our collective downfall?

Author Kristine Hernes, London School of Economics and Political Science

Title Happy to be somewhere in the middle? Belonging among second-generation Chinese immigrants in London.

Abstract The paper investigates the link between language and belonging focusing on young second-generation Chinese immigrants in London. This in turn seeks to answer the question whether language usage potentially increases or hinders belonging to the UK. In reference to existing literature, language is perceived as a gateway to acceptance in creating a unified monolithic cultural identity, potentially creating an identity crisis among the second-generation immigrant youth. Methodologically, this paper is based on semi-structured qualitative interviews with six British-Chinese students. By allowing for a snapshot in understanding the experiences of the participants, the hypothesis is that both the preference and frequency of using either Mandarin, Cantonese or English has an impact on shaping one's identity in terms of cultural belonging. The interviews conducted highlighted that language preference is context-dependent as well as that the frequency of speaking Chinese impacted the participants' sense of cultural belonging. (The group, consisting of Christopher Schroeder, Myooran Vasieharan, Zichu Li and Kristine Hernes, would like to present the paper using a poster).

Author Oscar Armando Hidalgo Arevalo, University of Leeds

Title Inverse Problems: Can we approximate an unsolvable equation?

Abstract Frequently, researchers encounter problems in which the cause is unknown. Potentially, the research could not go further or present difficulties unless the cause is found. That is when Inverse Problems can take place. An Inverse Problem is the process of calculating the factors that produce an event or result from a series of observations. The field of Inverse Problems is a relatively new subject in science with just a little over one hundred years of study. However, it has demonstrated to be of great importance due to its wide range of applications in areas of optics, radars, machine learning, etc. Through Inverse Problems, scientists have found answers to questions such as: Can we hear the shape of a drum? The main challenge with these questions is that the equations that answer them cannot be solved directly. For this reason, this research will investigate how to find functions that can approximate the solutions in small intervals. The principal method to do so will be creating a function that consists of the union of pieces of other cubic polynomials. The polynomials, which are easier to handle, will be found through data already gathered in order to obtain a good approximation. In this way, it will be possible to find solutions to some of the inverse Sturm-Liouville problems which are used to determine the properties of a material such as its conductivity and potential.

Author Charlotte Higgs, University of Warwick

Title Witchcraft as a form of violence against women in India and irresolution, on the part of both the International Community and Indian Government, to eradicate this form of female subjugation

Abstract Witchcraft, in the minds of most people has been consigned to history, the prose of Shakespeare and novels of J.K. Rowling. There are however, still regions of the world where there is a pronounced exploitation of primitive beliefs, where the phenomena of witchcraft has very dark and dangerous consequences. India is one such place where there is an increasing communal reliance on occultism practised, predominantly against women, in an atmosphere of patriarchy and self gain. I would like to raise awareness of this intimidating and terrifying form of female subjugation which receives little attention from the international community. The gang rape of a Delhi student in 2012 was highlighted to the world, yet everyday women are hung upside down from trees with fires lit beneath them as trials for the practice of witchcraft. This gross violation of human rights needs to be highlighted and this mechanism for marginalisation and uninhibited violence exposed. I will examine the reasons why superstition appears to be a mitigating factor in the crime to punishment ratio of this misanthropic socio-legal problem. This dissertation will analyse discriminatory local customary law, the complications of legal pluralism and its effect and lack of national legislation which, by default, reinforces a negative culture. This is in direct contrast to the requirements of the Convention on the Elimination of all forms of Discrimination Against Women (CEDAW). This antiquated belief system now needs to be exposed and consigned to the fictional make believe of a bygone era.

Author Jordan Hill, Blackpool & The Fylde College

Title The Practical Application of Virtual Reality in the Training of Emergency Service Personnel

Abstract This research concerns how companies and governments could successfully implement and utilise practical training within virtual reality environments. Training staff through virtual reality is a fairly novel concept and is already being used by some modern businesses; Though very few have attempted virtual reality practical training, the results may show that in some cases a virtual reality headset may prove more cost effective or even more user effective in the training of personnel (which could in turn be utilised for more pertinent means within the emergency services). This study will review the current methodologies behind training and coaching personnel in specific situations and their effectiveness. It will also look into the increased quality of training methods over time and the overall potential impact. Considering the literature and the potential results, this research should show that if virtual reality were to be implemented successfully, it could be done so with sufficient administration and planning. Virtual reality could become a primary

consideration of practical training when it came to most procedures that require physical training as it would cost less to train recruits over time in an environment that requires lots of different features like specialist equipment, a suitable environment, adequate co-ordination, in one that can be simulated. VR Training also reduces risk of injury and means multiple members of staff need not be taken off-site with equipment for a minor demonstration further reducing cost.

Author Jack Hipwood, Warwick

Title The Impact of Adopting NFC Payment Technology on Consumer Spending Behaviour

Abstract The rise of payment technology has transformed the way we pay for goods and services at the point of sale (POS), with many substituting towards contactless payment cards or mobile devices that utilise Near Field Communication (NFC) technology to experience a faster and more convenient transaction. This paper uses panel data from the annual U.S. Survey of Consumer Payments Choice (SCPC) for the years 2015-17 to explore the effect of adopting contactless technology on spending behaviour, focusing on the three most widely used payment instruments: Cash, Debit and Credit Cards. I hypothesise that individuals who adopt NFC are likely to complete more transactions on their payment cards in a given time period than non-adopters, due to a reduced 'pain of paying' (Zellermayer, 1996) associated with an almost instant transaction process. In addition, I hypothesise that the number of payments made in Cash will reduce for contactless adopters due to a substitution effect for low-value purchases. In order to control for unobserved heterogeneity, a Fixed Effects estimation method will be used to measure the impact of adopting this payment technology on consumer spending. The results from this study could have important implications for consumers, who may not be aware of their spending behaviour, as well as merchants, who could make use of additional revenue streams by implementing the required technology at the POS. In addition, a reduction in cash usage resulting from the technology could have important implications for central banks, who usually are a nation's sole issuer of cash.

Author Emily Hird, University of Lincoln

Title Using electroencephalography to investigate steady-state visually-evoked potentials in response to different types of images.

Abstract Certain types of visual stimuli can cause visual discomfort in those viewing them. It is thought that the discomfort is caused by excessive neural responses to the stimuli, due to them not having 'normal' characteristics. Our visual system is optimised to process stimuli with natural characteristics, within the boundaries of what we are exposed to every day. Stimuli that do not have these characteristics cannot be processed efficiently, and so result in excessive neural responses and therefore discomfort. The current study measured steady-state visually-evoked potentials (SSVEPs) along with discomfort ratings, in 20 participants. The stimuli used were a selection of natural, abstract, and computer-generated 'bump' images, with the latter

having previously been shown to be uncomfortable. The preliminary statistical analysis on 11 participants shows a trend towards differences in SSVEP responses between the types of images, with the bump stimuli eliciting the highest response and natural images the lowest. There are significant differences in discomfort ratings for each type of image, with the bump stimuli being rated the most uncomfortable, the natural images the least, and the abstract art in between the two. This suggests that those with the highest discomfort ratings are those that elicit the highest SSVEP responses, and so can be discussed in terms of potential applications to everyday problems, for example migraines, headaches, and eye strain.

Author Isabel Hiskett, University of Warwick

Title The Omega Course - Tackling the Death Taboo

Abstract Background: Taboo shrouds death, inhibiting important conversations about end of life wishes. The Royal College of Physicians report 'Talking about dying' highlights that the taboo, and the fear that accompanies it, extends even to doctors. Public health approaches to end of life care aim to tackle this taboo, enabling communities to support, and care for, each other. This can only be accomplished if people are able and willing to have these important conversations. Doctors find death discussions difficult, can the public be educated to have them? The Omega Course (Ω) aims to empower its participants to discuss death and dying (D+D) using health education and role-play. This study assessed its effectiveness. Methods: An anonymous, mixed methods questionnaire was distributed to 62 Ω participants. The 24 responses (38.7%) were analysed using thematic analysis and inferential statistics. Results: Thematic analysis identified two main barriers to discussing D+D: fear of upsetting others; difficulty broaching the subject. Ω helped to alleviate participants fears "helped me [...] stand alongside friends and relatives going through traumatic times" and improved confidence in initiating discussion "It gave me the words to say to people when I needed to say something". Paired t-tests, performed on before and after scores across three areas: How comfortable participants felt discussing D+D; how often they discussed D+D; how afraid they felt about death, all showed significant improvement ($p < 0.01$). Conclusion: Ω successfully enabled participants to discuss D+D, an important step towards taboo reduction with positive implications for end of life planning.

Author Kathryn Holland, University of Leeds

Title Processing of Celery (*Apium graveolens*) Fibre Waste to Improve its Food Functionality

Abstract Dietary fibre (DF) is a crucial dietary component and yet UK consumption is insufficient. Supplementation of foodstuff with DF is growing traction and there may be an opportunity to incorporate plant fibres from waste into food products. This study aims to improve such properties via a combination of mechanical and enzymatic treatment. An industrial sample of dried micronized celery (*Apium graveolens*) waste was characterised and processed. The sample was characterised for particle size, microstructural (SEM) and physical properties, namely swelling, water and oil holding, and

bulk density. The samples were treated separately by three different treatments (T1, T2 and T3). No significant differences on physical characteristics associated with the different treatments were found. Therefore, SEM microstructural properties were considered to establish the most effective mechanical treatment, and this material was chosen for subsequent biotechnological treatment. The optimum enzymatic conditions were examined. Our initial results revealed a successful synergistic effect of treatments, possibly due to the effect of T3 on the microstructure, thus allowing for the enzyme to have a larger substrate surface area. In conclusion, we have identified a potential treatment to improve the functional properties of celery food waste so that the resulting material may be utilised to supplement a variety of foodstuffs.

Author Cianna Holton, University of Portsmouth

Title The Presentation of the 'Fit' Body: A Visual Analysis of Fitness Influencers on Instagram

Abstract Exercise is universally understood to benefit individuals' health. Within contemporary society an aesthetic body image has come to reflect this. A significant amount of research has been conducted on the effects of media images on individuals. However, most of this research has focused on young women and disregards male experiences. Furthermore, research has predominantly overlooked how media images physically portray body ideals which this research intends to investigate. The fundamental aims of my research are to understand how fitness influencers use their bodies in advertisements on Instagram and whether there are gender differences between the way fitness influencers present their body? Fundamentally, it seeks to unpack the relationship between representations of 'fit' bodies on Instagram with discourses of 'healthiness'. Instagram is an online social media platform and it is argued to have altered individuals' perceptions of the ideal body. This research explores how the 'fit' body is presented on Instagram by fitness influencers using a Foucauldian framework focusing on the 'bio-citizen', body image and gender differences. An inductive approach will be undertaken, using a qualitative method of visual analysis. Purposive and quota sampling will be used to identify the top two female and male fitness influencers on Instagram. A social-semiotic approach will be undertaken using multi-modal and thematic analysis to explore underlying discursive themes. Overall, it will aim to highlight techniques media images use to portray the 'fit' body and emphasise the efforts influencers go to shape and meet a body ideal that is not necessarily achievable.

Author Benjamin Holton, University of Exeter

Title Into This Wild Abyss: The Descent of Christ in Romans 10:7

Abstract In the Apostle Paul's letter to the Romans, Paul's reference to Jesus Christ's descent to the abyss during his death is usually assumed to allude to Christ's descent to the underworld. The vast majority of scholars have accepted this view, despite very few arguing for it in any detail. Yet the Greek term meaning 'abyss' never refers to the underworld elsewhere in the New Testament, and the abyss and underworld were distinct locations with distinct

functions in Jewish thought. This study investigates the concepts of underworld and abyss in biblical and extra-biblical Jewish thought and demonstrates that contrary to the current consensus, there is no justification for arguing that Paul is referring to the underworld in Romans 10:7. Instead, Paul uses 'abyss' in continuity with the rest of the New Testament: to refer to a prison for fallen angels and evil spirits. The study then compares Romans 10:7 with 1 Peter 3:19, in which Christ proclaims to a group of spirits in prison whilst 'in the spirit' himself. These spirits in prison can be identified as fallen angels imprisoned in the abyss. Therefore, Romans 10:7 and 1 Peter 3:19 are references to the same tradition. This suggests that the tradition of Christ's descent to the abyss may be better attested than is commonly believed, and encourages further investigation of the New Testament's presentation of Christ's actions during his death. This, in turn, should impact Christian understanding of the tradition of Christ's 'Harrowing of Hell'.

Author Emma Honess, University of Warwick

Title Does Anti-Müllerian Hormone Ovarian Reserve Testing Predict Recurrent Pregnancy Loss? A Systematic Review

Abstract BACKGROUND: The majority of recurrent pregnancy loss (RPL) is unexplained. Women have a finite number of oocytes available for fertilisation, which declines with age. It has been suggested that with this diminishing ovarian reserve, the quality of remaining oocytes concurrently reduces. This may correlate with increased incidence of chromosomal abnormalities of conception products, and ultimately an increased risk of pregnancy loss. OBJECTIVE: This systemic review aims to determine if there is an association between low ovarian reserves, estimated by serum Anti-Müllerian Hormone (AMH) levels, and the prevalence of recurrent pregnancy loss. METHODS: This review searched 4 major electronic databases: MEDLINE, Embase, Web of Science and Scopus, (from their inception to 28 Oct 2018), for studies on women with a history of RPL and who have recorded tests of ovarian reserve. Two reviewers independently selected studies, assessed bias and extracted data. RESULTS: Results suggest that there are significantly lower AMH levels in older women with unexplained RPL. CONCLUSION: There is potential to use low AMH levels as an indicator for diminished oocyte quality, and thus, a possible risk factor for RPL. With further clarification of this association, healthcare professionals and patients of infertility clinics could use tests of ovarian reserve to direct clinical decisions. For example, by exposing poor oocyte quality, ovarian reserve testing could guide suitability of using oocyte donation in assisted reproductive technologies. Overall, this area of research could maximise successful pregnancy outcomes, in women who have struggled with RPL.

Author Cassie Hopton, University of Bristol

Title Permeation of reactive oxygen species through model cancer and healthy cell membranes: a molecular dynamics study

Abstract Abnormal lymphocytes are implicated in two major children's cancer – lymphoma and lymphoblastic leukaemia. Current therapies for children target rapidly dividing cells which, unlike in adults, occur as a part of the normal

growth process. Consequently, treatment often causes damage to healthy cells and life-long disabilities. A new potential therapy, cold atmospheric plasma (CAP), has shown to selectively destroy cancer cells by reactive oxygen species (ROS) induced apoptosis. However, the basis for selectivity remains unknown. In this study, we use atomistic molecular dynamic simulations to examine, at the molecular level, the hypothesis that compositional differences between cancerous and healthy cell membranes influence CAP selectivity. We will present passive permeation of ROS at varying concentrations through model 'healthy' and 'cancerous' cell membranes which have been developed based upon experimentally observed lipid compositions. Furthermore, we will also analyse variances in permeation between different, newly developed oxygen and hydrogen peroxide models, as well as analyse and compare the permeation of ROS through pure sphingomyelin, cholesterol and a number of phospholipid model membrane systems, with phospholipid systems varying in charge and saturation. Through this, CAP selectivity will be explored by (i) introduction of ROS to model membranes and analysis of permeation and (ii) the evaluation of permeation free energy for ROS at various concentrations. The modelling studies will also be supported by cell toxicity experiments, namely MTT assay. From this, we hope to conclude the suitability of CAP as a potential therapy for selective treatment of lymphoma or lymphoblastic leukemia in children.

Author	Eponine Howarth, London School of Economics
Title	Spitzenkandidat! A Comparative Analysis of the Political Discourse of Martin Schulz in the European Parliament Election in 2014 and the German Bundestagwahl in 2017.
Abstract	In 2014, the European Parliament elections witnessed the informal introduction of 'Spitzenkandidaten', 'lead candidates'. The implementation of Article 17(7) of the Treaty of the European Union, stipulating that leaders in the European Council would have to take the outcome of the European Parliament election 'into account' when selecting the President of the Commission, illustrated the endeavour to confront accusations of a 'democratic deficit'. A series of televised debates also accompanied the inauguration of the Spitzenkandidat, thus attempting to personalise, presidentialise, and bolster the politicisation of the Commission Presidency, as well as to inform disinterested citizens. Martin Schulz was nominated leader for the Party of European Socialists. In 2017, Schulz also held a battle in the national sphere, for the Bundestagwahl, as Spitzenkandidat for the Social Democratic Party. In both instances, Schulz engaged in a parliamentary system that would translate electoral choice into executive leadership, and the Socialist party was the second-largest group, challenging the incumbent conservative party. These two successive political battles provide an unusual quasi experimental setting to assess the validity of hypotheses about institutional innovation, without the possible impact of the personality of candidates. What were the similarities and differences in the political discourse held by Schulz in the European Parliament elections and German Federal elections both in terms of substantive policy focus and leadership style? This piece conducts a quantitative textual analysis (SPSS, Nvivo, Sketchengine) of the political discourse of Schulz in all the televised debates: seven European debates and the 'TV-Duell' debate with Angela Merkel.

Author Eponine Howarth, Holly Harwood, Ludovico Picciotto, Giovanna Gao, Joey Wolfbauer, London School of Economics

Title A Comparative Analysis of the Political Discourse on Nuclear Weapons by Security Council countries and parties of the Prohibition on Nuclear Weapons Treaty

Abstract In 2017, the International Campaign to Abolish Nuclear Weapons (ICAN) was awarded the Nobel Peace Prize, for reshaping international law and disarmament, essentially through the Treaty on the Prohibition of Nuclear Weapons (TPNW). While Beatrice Fihn, Director of ICAN, describes nuclear weapons as ‘weapons of mass destruction’, ‘humankind’s destruction’, and ‘instruments of insanity’ during the Nobel Lecture, the field of International Relations has not entirely aspired towards non-proliferation and the formal forbidding of nuclear weapons by law. Instead, Waltz (1981) famously contended that “the Spread of Nuclear Weapons: More May Better”, insisting on laissez-faire attitudes. As ICAN gains momentum, it remains unclear what political discourses dominate the discussion on nuclear weapons, how precisely these weapons are legitimated by states, and whether possible discourse-policy dissonances exist. What are the similarities and differences in the political discourse held by United Nations Security Council countries and parties of the Prohibition on Nuclear Weapons Treaty? This piece conducts a quantitative text analysis (Nvivo & Sketchengine), supplemented by a qualitative analysis, of the political discourse surrounding nuclear weapons. It analyses the press releases of ten countries: the five Security Council members, all in possession of nuclear weapons (United States, China, Russia, France, United Kingdom), four countries that have signed and ratified the PTNW (Mexico, Thailand, Austria, New Zealand), and South Africa, which has signed the PTNW and holds a unique role in being the only country that has independently developed, then renounced and dismantled its nuclear arsenal.

Author Gareth Howells, Open University

Title ‘A star spangled dragon’: Deconstructing the myth of the McKinley Tariff’s effects on the Welsh tinplate industry.

Abstract In 1890, the US Government, led by Senator William McKinley, passed the Tariff Act - a protectionist policy that increased the import rate on tinplate (among other materials) from 1c/lb to 70% ad valorem - in an effort to incentivise US domestic production. This measure arrived during a time when South Wales led the world in tinplate manufacturing, hosting 90 of the UKs 98 works and shipping over 70% of its product across the Atlantic to satisfy demand in the Gilded Age of American industrialism. This presentation problematises the short-term effects of the Tariff on the South Wales industry between 1880-95, establishing a middle ground between twentieth century assessments that disproportionately blamed the Welsh trade for exacerbating the Tariff’s injurious effects, and more recent Welsh scholarship that is overly-

sympathetic to the industry as a whole. Early criticism of the Welsh industrial character overstates its inflexibility and fails to account for a progressive approach to manufacturing in the 1880s, which allowed works to adapt to the new selling environment. Where business practices were found to be wanting, producers were broadly adhering to pre-existing models of Victorian industrial capitalism. The Tariff was undoubtedly a difficult period for the trade as profit margins diminished, but several opportunities were missed by Welsh producers to emolliate the financial strain brought on by protectionism. This presentation makes use of commercial data and qualitative industry reports to identify trends in tinsplate manufacturing and trading, suggesting an alternative approach to the binary interpretations on offer from earlier historians.

Author QI Hu, Coventry University

Title Engaging customer experience through financial technology applications to build customer trust

Abstract Purpose: The purpose of this study is to explore customer experience with financial technology (Fin-Tech) applications to build customer trust. Moreover, this research will study the moderating role for both China government regulation and financial industry strategy to enhance the relationship between Fin-Tech application and customer trust. Fin-Tech is the latest innovative application in the business industry which started to improve customer purchasing. A case study of Alipay used to implement this theory as one of the main payment platform in China which was launched in 2003. Design/methodology/approach: A conceptual framework was developed from Schmidt's 1999 theoretical literature on customer experience. The Data on this study will target over than 3000 Alipay users. A total of 250 online questionnaires will be targeted to discover how Fin-Tech applications build customer trust through customer experience. The data will be analyses by SPSS, AMOS. Findings: The finding will be clarified the impact of customer experience in using the Fin-Tech applications and how it will outcome to build customer trust. This study will confirm the strong effect of Schmidt's (1999) customer experience five dimensions with Fin-Tech application. Practical implications: The research aims to help financial companies to engage with their customer and increase their revenue by enhancing customer experience to build a trust toward fin-tech. Originality/value: This paper designs a conceptual framework to determine how Fin-Tech applications build customer trust through enhancing the experience. This paper is one of a few studies which focus on the importance of Fin-Tech toward the business environment.

Author Louisa Hunt, University of Sussex

Title Embodying the Embroidered Shirt: Understanding Masculinity through the Multisensory experience of Clothes Making in Renaissance Italy

Abstract This project contributes to research on fashion history and on material culture studies in the Italian Renaissance. The research explores the embroidered linen shirt, an undergarment worn across all social levels, made by female networking groups for the men in their lives. It considers the crucial practical knowledge and sensory experiences of women that informed the making of this everyday item and what this practise would have meant for the male wearer. I focused on this particular garment because there is limited research on fashioning masculinity amongst popular classes in the 16th Century. A central innovation of this research is its methodology. By making and embroidered a shirt myself, I have questioned how the practise of embroidery framed masculinity in public life. I have tested assumptions about Renaissance gender roles in regard to the traditional concept of men belonging to a 'public' realm and women to a 'private' sphere, as the embroidery of the shirt acts as a display of women's work and virtuosity. I have also considered contemporary constructed hierarchies of material culture in regard to gender, with feminine network groups handling less valued fabrics such as linen; this embroidery, however, also frames and conceptualises definitions and new framings of masculinity attached to male profession such as goods sellers, merchants or makers. The practice-led methodologies of this research have highlighted the significance of embodied skill, technique and sensorial memory in the experience of material culture in the Renaissance, highlighting the importance of touch and practice rather than remote viewing of archival and museum objects today. This research engages with the approaches of Paula Hohti's ongoing Refashioning the Renaissance project (2016), which aims to create a new method in Renaissance fashion history through reconstruction challenging dress historians to go beyond dress semiotics and to bring popular dress into material and cultural significance in the Renaissance. As well as secondary literature, this research has drawn on contemporary accounts, pattern book and surviving artefacts at the V&A, Blythe House, the Royal Embroidery School and the Bath Fashion Museum. Recently, I have framed my research in a way that can help us understand our current fast and throw-away fashion industry and culture, looking back at Renaissance techniques of dress making to create more sustainable fashion and clothes-making cultures in the present.

Author Owen Hurcum, Pryfisgol Bangor

Title Nick Griffin, 2007 and BNP Wales

Abstract When Nationalism in Wales is studied it is always focused on the Welsh Nationalists, both the democratic Plaid Cymru brand and the militant Free Wales Army brand are the focus of multiple academic works. British Nationalism in Wales on the other hand remains a markedly understudied topic in academia – despite Wales clearly demonstrating itself as an area where this thinking is popular. Wales had the largest Leave vote of any UK country, it returned 7 UKIP members to its Assembly in 2016 and, (as this paper will focus on) in 2007 Wales came the closest of any UK nation to having a BNP member sitting in its National Parliament. The BNP finished just 2,580 votes shy of electing a member in the North Wales Regional Seat on May 3rd 2007. This paper will look at how Nick Griffin guided his BNP

Wales to a position of almost electability; through hiding his more extreme beliefs behind a veneer of “all things Welsh”, as Conservative politician RT Davies said, whilst also building up community tensions through spreading false information on the 2003 Caia Park riots. It will address how BNP Wales jumped from 0.4% of the National Vote in 2003 to 4.3% and 5th largest Party status in 2007. British Nationalism is not going away in Wales, if anything it is spreading. The BNP’s near miss in 2007 was the start of this and this contemporary history paper will dissect that seminal event for British Nationalism in Wales.

Author Sabrina Iddir, University of Chicago

Title Utilizing a Shared Transcription Factor to Understand Cis-Regulatory Elements Across Tissues in Development

Abstract Regulation of transcription necessarily relies on the interaction of RNA Polymerase II with a variety of transcription factors. Site-specific transcription factors bind distinct non-coding sequences of DNA, known as cis-regulatory elements, in order to control vital developmental processes. Tissue-specific cis-regulatory elements are regulated by the combination of the transcription factor milieu and epigenetic marks present in each tissue. Many of the same transcription factors are expressed across multiple tissues, inviting inquiry on the role of a single transcription factor in each of its specified locations. Here we interrogate the role of the T-box transcription factor, TBX5, in the embryonic heart, lung, and forelimb from mice. Tbx5 is expressed early in the genesis of each of these organs and TBX5 is essential for their development. Utilizing chromatin immunoprecipitation followed by sequencing (ChIP-seq) and assay for transposase-accessible chromatin (ATAC-seq), we assessed TBX5-occupancy in each of these tissues, and compared it with epigenetic marks and chromatin accessibility. We find that despite the common origin of each of these tissues, the lateral plate mesoderm, tissue-specific occupancy largely outweighs shared binding sites for most tissues; however, many pairwise and three-way overlaps do exist. We investigate the principles that make tissue-specific TBX5 binding sites unique, as well as the commonalities which unite the shared sites. Broadly, our findings hold implications for the roles of other indispensable transcription factors and their interactions with cis-regulatory elements across different tissues in gene regulation.

Author Hafsa Javed, University of Leeds

Title Validity and Operator’s Reliability of Three Shear Wave Elastography Systems in a Phantom Study

Abstract Introduction: Ultrasonic elastography can be used to assess mechanical properties of soft tissue and the presence of pathology. Shear wave elastography (SWE) is a quantitative type of this technology. This study aimed to investigate the validity and operator’s reliability of three SWE systems in a phantom study. Methods: Two observers undertook 2080 measurements of a phantom across three SWE systems; the GE LOGIQ E9 (GE-L), SuperSonic Imagine Aixplorer (SSI) and Siemens Acuson S2000 (SA). Inter-observer variation was assessed using box-plots and coefficient of variation (CV). Validity was assessed by calculating mean difference. Agreement was

assessed by plotting mean difference and limits of agreement (LOA). Intraclass correlation coefficients were used to evaluate intra- and inter-observer and inter-system reliability. Result: Elasticity decreased in softer inclusions as diameter increased, but increased for harder inclusions. Great biases between measured and actual elasticities were observed across all systems. Pooled CV of 0.011-0.216 m/s across systems indicated low variability and high reproducibility. The LOAs were wide compared to mean differences: GE-L: 0.509 [95LOA: -2.43, 3.45]; SSI: 0.842 [95%LOA: -2.20, 3.88]; SA: -0.136 [95%LOA: -3.54, 3.26]. Inter-observer reliability was 'almost perfect' for all systems; ICC: 0.975- 0.994; 95%CI [0.916-0.998]. Intra-observer reliability was 'almost perfect' for all inclusions and systems, ICC= 0.861-0.999; 95%CI [0.598-0.999] bar one inclusion for the SA. Inter-system reliability was higher for the experienced observer but varied between systems from 'poor' to 'almost perfect'. Conclusion: Accuracy of SWE readings are influenced by ROI size, inclusion stiffness and system employed; thus, standardisation of technology is required. Operator experience may improve inter-system reliability.

Author Yurong Jiang, University of Warwick

Title Politics as power: a Lukesian framework of depoliticisation

Abstract Recent years have witnessed a 'second wave' literature on depoliticisation, in an attempt to correct certain biases and distortions in the first wave, such as a narrow focus on economic policies and state-centric decision-making process. Matt Flinder and Matt Woods are the leading figures in the second wave, whose three-fold distinction between governmental, public and private depoliticisation captures the dynamics outside the economy and the state. However, this paper has identified an intellectual path-dependency in the second wave literature. The Chinese pension system is used as a case study to demonstrate that Flinder and Woods have conflated the mode of depoliticisation with the arena from which responsibilities are passed, and therefore failed to afford much purchase in the case of pension system in China, where the responsibility of health care for the old was displaced from the government directly to the private sphere, by drawing advocacy from existing moral values. To fully capture these unexplained dynamics, this paper explicitly accords a causal role of culture in which depoliticisation can be engineered. I seek to establish a substitutive Lukesian framework, which serves to be a theoretical canvas on which the contours of an expanded notion of depoliticisation can be mapped out. The mode of depoliticisation is conceptualised as decision-making, agenda-setting and preference-shaping, each of which can occur in the government, public and private sphere. The new framework thus retains the explanatory power of the existing Flinder-Wood-circle while adding complexity to the study of depoliticisation.

Author Courtney Johnson, University of Leeds

Title Are epigenetic therapies a viable option for the treatment of neurodegenerative diseases?

Abstract The use of epigenetic therapies to treat neurodegenerative disease is a rapidly expanding area of research. Histone deacetylase inhibitors (HDACis)

in particular have acquired significant interest. The following review evaluates the hypothesis that HDACis are a promising and viable option for the treatment of neurodegenerative disease. Broad spectrum HDACis have shown to improve phenotype in animal models of Alzheimer's disease, overcoming HDAC overexpression and leading to enhanced memory. However, genetic knockdown of certain individual HDAC isoforms has been shown to impair associative memory and motor function; simultaneous inhibition of these isoforms by broad spectrum HDACis may contribute to the disappointing results displayed in clinical trials. HDACis have also demonstrated anti-apoptotic and anti-inflammatory properties, likely through the increased acetylation of non-histone proteins. However, increased acetylation of some non-histone targets, e.g. Nuclear Factor Kappa-B, produces both pro- and anti-inflammatory effects, casting doubt over the clinical viability of HDACis. Further, the inhibition of individual HDACs can yield dichotomous results; inhibiting HDAC6 increases microtubule stability but also reduces autophagic clearance of protein aggregates. Additionally, the development of therapies targeting histone acetyltransferases (HATs) may present a suitable alternative, helping to overcome issues with specificity. HAT activators may also enhance the activity of HDACis, providing a potentially successful combination therapy. In summary, the results of recent investigation suggest that HDAC inhibition does not offer a viable solution to the treatment of neurodegenerative disease as a monotherapy; however, combination with other epigenetic therapies, especially HAT activators, may increase their clinical applicability, warranting further investigation.

Author	Emily Johnson, The University of Portsmouth
Title	Brainwashed! How traditional and Digital Marketing tools and the Media are being used to manipulate consumer behaviour
Abstract	How companies have adapted their approaches to manipulate consumer behaviour and an insight to how consumers are reacting to this and how these approaches are affecting consumers in their decisions making process. Through my research, I discovered that businesses and organisations are purposely using 'stunts' or scandals to amplify their online presence or raise awareness through press and the reaction of consumers online. I have taken particular interest in Guerrilla marketing and have been studying papers by Naeem Akhtar (2016) on his paper looking into how Guerrilla marketing is becoming an increasingly popular method of advertising. Through research, I discovered that many consumers are not aware that they are involved in the process and often help businesses by posting on social media, this creates mass amplification. A recent example of this is Starbuck purposely misspelling customer's names on their cups. I plan to develop my research and findings further by using psychological evidence this includes branding, the emotion created and economic factors and case studies from industry experts for an insight as to why companies are finding this approach more successful and 'cost effective' and whether this is an acceptable marketing tool or misleading advertisement. I also plan to look at this from a consumer perspective and how it affects their buying behaviours. I believe my research is important for the understanding by marketers on how unconventional marketing can profit or damage the business and its reputation.

Author Lisa Johnson-Davies, University of Leeds

Title Minsky's Financial Instability Hypothesis - An Agent Based Model Approach

Abstract This paper examines Minsky's Financial Instability Hypothesis, using an agent based model framework and a Keynesian-Kaleckian approach to profits and investment. It models the balance sheets of three agents, firms, banks and households, and attempts to quantify what level of hedge, speculative and Ponzi financial units cause financial instability and crisis, by observing the emergent behaviours of the system.

Author Rebecca Johnston, Staffordshire University

Title The Migration of Volatile Organic Compounds Through Various Polymer Membranes to Find an Alternative to Nylon 11 Pouches Used for the Collection of Fire Debris and Clothing.

Abstract For fire investigation, it is important to identify volatile organic compounds to determine if the deliberate act of arson was conducted. Nylon 11 bags are currently used for the packaging, storage, and analysis of fire debris and clothing. The research concentrated on the migration of ethanol, toluene, and decane through Kapton and metallised polyethylene terephthalate (PET) to find a replacement to nylon bags; as research suggests that compounds can migrate through nylon with ease due to its molecular structure. This topic was important to focus on because samples are tested in cases using nylon bags which certain VOCs may migrate through. This affects the results obtained on the sample because as compounds are lost from the sample, the outcome of whether an accelerant was used or not could change. The aim was to establish a type of packaging which better retains the compounds to discover a replacement to nylon bags. Automatic thermal desorption-gas chromatography with flame ionisation detection (ATD-GC-FID), and gas chromatography for the preliminary studies were used for the samples. Samples were trapped onto Tenax tubes for thermal desorption. So far, it has been found that the PET membrane retained the compounds best over a 48 hour period. Changes that could be made due to this work would be to use PET as it preserves the sample, and would therefore make a more effective fire debris packaging, prior to, and during analysis, also for storage, as bag-to-bag transfer would not occur. I will create a poster about my research.

Author Aathira Jojy, University of Portsmouth

Title Do the cognitive biases uncovered in the gender-career Implicit Association Test predict behaviour in a salary allocation task?

Abstract The gender pay gap is an important issue for all employers to address and research has explored why it exists. Substantial research has investigated general attitudes towards stereotypical gender roles, however, there is little research on the attitudes of males and females towards the gender pay gap. The current study will look specifically at attitudes towards the gender pay gap using Breckler's (1984) 3-component (Cognitive, Affective and Behavioural) model. The Implicit Association Test (IAT: Nosek et al., 2002) will be used to assess the cognitive aspect, and participants will be presented with scenarios whereby they act as a manager hiring 16 candidates, to assess the

behavioural aspect. Participants are asked to allocate a salary based on a description of the candidate, who will be male or female and vary in qualification level. The study will look at how biases towards males and females may affect salary allocation, even where qualifications and experience are the same. It is predicted that those with a higher positive IAT score, will be those who show more bias towards stereotypical gender roles and will be more likely to pay women lower wages than men regardless of qualifications and experience, and this will be explored via correlational analysis (Pearson's r). In addition, if participants have a wide range of IAT scores an analysis of variance will be used to determine whether there are significant differences in allocated salaries given by males and females with positive and negative IAT scores.

Author Jenita Jona James, Newcastle University

Title Elastic Taping: A Novel Therapy for Children with Hemiplegia

Abstract Affecting 12,000 UK children, cerebral palsies are a group of neurological disorders causing movement and posture impairments, due to damage to the developing brain. Hemiplegic cerebral palsy (HCP) predominantly causes weakness on one vertical side of the body, often altering hand function. Daily tasks involving both hands become more difficult since the affected upper limb is often unnoticed, with an abnormal thumb in palm posture and bending of the wrist. As the developing brain has greater ability to remodel itself by forming new connections between brain cells than the adult brain, earlier interventions for HCP could lead to improved outcomes. Current treatments such as botulinum toxin A injections and surgery are considerably invasive for toddlers. Therefore, we researched the efficacy of applying elastic sports tape to the affected upper limb of young children with HCP. We anticipated this would encourage an open hand posture and hence increase usage and awareness of the affected limb. Hand function was recorded during spontaneous play with toys, using the Assisting Hand Assessment. We also annotated the videos to compare duration of desired movement behaviour with and without the tape, for example duration of visual attention to affected hand. The data was analysed using Matlab software. With tape, the results show increased time looking at the affected hand, reduced time of thumb in palm but no change in duration touching toys. The findings show potential for elastic taping in HCP treatment, however, further investigation is required to assess whether hand use improves after sustained taping.

Author Louise Jonard, Abertay University

Title Indigenous minority in a globalised world: a case study of Chiapas, Mexico

Abstract This paper recounts a story of the revolutionary path of an oppressed indigenous minority in their quest for dignity and equality through the analytical lens of genocide. It will first examine how 'logic of elimination' can operate via indirect means, by attacking core aspects of a group's way of life. Lemkin's (1944) conceptualisation of 'cultural genocide' is at the core of this idea and understands cultural heritage as central to one's group sense

of identity. Secondly, it will argue that the absence of legal recognition of colonial strategies' impacts on indigenous people's life has provided a fertile ground for continuous exploitation, cultural assimilation, and identity destruction. Indigenous people now face new challenges brought by growing globalisation forces and neoliberalism advances. Following Docker's (2008) argument that colonial processes are 'inherently genocidal', and assessing globalisation as the continuation of colonialism, this paper will evaluate the extent to which globalised forces endure indigenous groups' cultural destruction. The protection of indigenous rights is fundamental to advance democracy and human rights. Although they have gained valuable focus and recognition over the last decade (UN Declaration on the Rights of Indigenous Peoples 2007; Council Conclusions on Indigenous Peoples 2017) indigenous minorities continue to be the most at threat of cultural genocide. By evaluating the case study of Chiapas (in Southern Mexico), this paper presents comprehensive knowledge on how to develop sustainable and democratic development in those regions.

Author	Matthew Jones, University of Sheffield
Title	A new visualisation method to identify coherent structures in a fluid flow
Abstract	Nonlinear solutions for the flow of a fluid through a pipe were first discovered in 2003. They take the form of coherent wavy structures, called travelling waves. Travelling waves are of interest because they have been shown to be intimately related to the onset of turbulence in a flow, which has immense importance in science and engineering. So far, it has been very difficult to identify these structures in simulations and from experimental data. This is because two states that look similar to one another can in fact undergo very different dynamics. In 2016, a visualisation method used to detect coherent structures in fluid flow, called coherent structure colouring, was introduced [1]. It was applied to a few test cases and was shown to successfully detect coherent structures. The method examines the dynamic dissimilarity between pairs of fluid trajectories, measured either experimentally or using simulations. Using this information, it then generates a colouring of the flow. We have applied the coherent structure colouring method to travelling wave solutions in the pipe and produced an animation to show how the travelling wave solution evolves over time. The animation reveals several new interesting features of travelling waves, including the interplay between different structures in the flow which characterise travelling waves. [1] Schlueter-Kuck and Dabiri (2016) Coherent structure colouring: identification of coherent structures from sparse data using graph theory. <i>Journal of Fluid Mechanics</i> , 811, 468-486.

Author	Bethany Jones, University of South Wales
Title	An investigation into a technique for monitoring and predicting the fracture point of composite materials
Abstract	The burgeoning interest and number of applications of composite materials has gained a considerable amount of research and development from of scientific sectors, most notably the aviation industry. Aerospace grade composites currently cost more to produce and manufacture than the vast

majority of materials for similar applications, so it is important to prevent undue replacement and life limiting damage. Impact damage and wear life of a material is hence an important feature to understand when reviewing the cost effectiveness and lifespan operations of a new aircraft component, or for a modification of an in-service component. An investigation into a technique for monitoring and predicting the fracture point of composite materials would therefore have a significant impact and usage for current consumers for the considerations related to material selection. Samples of a composite approved for use in aerospace applications in accordance with EASA Part-145 are to be tested with a Zwick Z10 in order to determine the ultimate tensile strength. Several sample groups were introduced with the inclusion of size, production method, and lamination structure in order to identify any undue correlation. Data collected may then be analyzed in order to identify the material nature. All information sets will be used to identify the critical stress intensity factor, using a modified Griffith equation. This investigation will present as the final results a full data set reflecting the fracture point of the material, which may be used for reference purposes. This research will be formatted as an oral presentation.

Author Simon Jones , University of Portsmouth

Title To what extent was the 2008 financial crisis an influence in the UK's vote to leave the European Union in 2016?

Abstract This paper investigates the link between the current political crisis in the United Kingdom, precipitated by the 2016 vote to leave the European Union (EU) and the 2008 financial crisis. To that end this study utilises both qualitative and quantitative research to explore if there is a correlation between the financial crisis and the vote to leave the European Union. The quantitative aspect will utilise voting data and individual and aggregate economic data to analyse the influence of economic conditions on voting patterns. The qualitative research will make use of post-election surveys that have explored leave and remain voters voting influences and will also analyse if the prevailing economic policy adopted after the crisis contributed to a leave vote. The UK has since 2008 experienced a contraction in living standards that has seen little sign of improving. It has also simultaneously experienced an influx of labour from the European Union. These difficult economic conditions, coupled with this increase, are believed to have contributed to a rise in Euroscepticism, and through it anti-migrant rhetoric. Many would argue that this situation has worsened as a result of a cost-cutting fiscal policy combined with increasing migration from the Eurozone countries. The analysis conducted within this paper suggests that there is at least some correlation between the financial crisis and the vote to leave the European Union.

Author Ryan Jordan, Solent University Southampton

Title Autonomous Vehicles

Abstract Autonomous vehicles are becoming a growing technology that will have a big impact on all major industries, due to job loss and improvements in production. Security around autonomous vehicles is a challenge that all car

manufacturers will face, the impact of an unsecure system could cause major harm. Hence, this report explores enterprise information security based around autonomous vehicles, showing the risks that are found and covering some new risks that could occur. Key points include policies, standards, practices and protection mechanisms. New approaches are found within this paper that could help to solve the security and communication problems. An analytical approach was used to find sources and to find backing for new approaches to autonomous vehicles. The conclusion shows that a new type of steering wheel with over seven sensors can help improve security and monitor the user and has been found to help solve communication for autonomous vehicles and allow mass data collection. The paper reflects that standards are found not to meet the needs of current and future systems on a global scale, also that current policies are found to not meet the requirements for current vehicles, requiring new policies to help solve misuse of this new technology.

Author Roni Kahraman, Queen Mary, University of London

Title Anti-Government Uprisings and the Use of Urban Public Space in Istanbul and Cairo

Abstract Citizens have been making more use of the public space in metropolises for protests and social movements in the past years. The symbolic meaning of gathering at famous squares in the heart of the cities has been redefined and shaped by recent uprisings in many urban cities. Civil consciousness and government restrictions on human rights and freedom of expression have ignited a wave of demonstrations, usually by occupying spaces. Using qualitative methodology based on academic books, journals, interviews and a study trip to Cairo, I aim to give an in-depth analysis of the causes and theoretical foundations of these protests. A brief introduction will be given about the history urban public spaces, followed by sections on authoritarianism, democracy, urban planning and citizens' participation. During the study trip, interviews with academics specialising in urban planning and political science will also be carried out. In both cases, the urban public space has been used, mainly by young citizens, for demand in change of regimes and are outcomes of autocratic rule. The public space has long represented the government, rather than the people. Crackdown on basic human rights and limited freedom have only strengthened citizens' desire to use democracy for social, economic and cultural freedom and development and the use of the urban public space has played a key role in these movements.

Author Donia Kamel, University of Sheffield

Title The different forms of deprivations and their effect on child development in Egypt

Abstract My fieldwork and research project aims to highlight the different forms of deprivations that contribute to an exclusive society and affect the well-being of the children in Egypt. This research is important because it highlights issues affecting the poor and the most vulnerable, children, in a country that is not sufficiently addressed in the literature. Secondly, acknowledging the issue

and investing in child development is essential to break from the inter-generational cycle of poverty, help the accumulation of capital, and facilitate economic growth. To conduct this research, literature survey was first undertaken to build the background information needed before undertaking analysis. Ethics applications and approval were done prior to data collection as this research mostly deals with primary data. Consent forms, participant information sheets, and questionnaires were created and translated. Interviews in Arabic, my native language, were conducted with NGOs and government officials where the focus was on the challenges and their current efforts. Afflicted families from 2 deprived areas in Egypt were interviewed through Likert scale and polar questions aligning with the taxonomy of deprivation developed by Gordon (2003). The focus was on the 8-12yrs old age group and child development was analysed based on health and educational outcomes examined through several indicators. Findings highlight 3 key points: the insufficient and inefficient role of the government, the active and yet still insufficient role of NGOs, and the strong negative effects of deprivations on the children's health and educational outcomes mainly demonstrated through vulnerability to diseases and exam performance.

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- Author** David Kandrac, University of Sheffield
- Title** What is the experience of Slovak Roma children in state education in Slovakia and, since they have moved to South Yorkshire, what is the impact on their educational performance?
- Abstract** Historically, Gypsy/Roma pupils have had the poorest outcomes of any ethnic group in England in terms of attainment, attendance and exclusion. This presentation/paper has two sections: the first focuses on the experience of Slovak Roma children in Slovakia and the second in the UK. Roma children were subject to three distinctive forms of educational segregation during and after the communist era, Roma children from mainstream schools were enrolled into special schools because they were, arguably, diagnosed as having 'mental disabilities'; in some parts of Slovakia, Slovak Roma pupils attended mainstream schools but then they were moved to special classes because their state language was not sufficient to access the mainstream curriculum; and the last part of the segregation system saw students attending majority Roma schools because non-Roma families refused to enrol their children with the Roma. Drawing on research amongst Slovak Roma who moved to South Yorkshire first as refugees in the 1990s and subsequently, when Slovakia acceded to the EU in 2004, as EU citizens, the paper concludes by arguing that while Slovak Roma children may remain below average in primary and secondary attainment, have comparatively low school attendance and significantly high rates of exclusion in particular schools, the educational performance of Slovak Roma, both in Slovakia and South Yorkshire is susceptible to strategies to improve attendance, attainment and exclusion outcomes.
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- Author** Surajit Kar, Queen Mary University of London
- Title** Visual representation of the Universe in special relativity

Abstract Our current understanding of relativistic effects allows us to visualise the Universe at different, relativistic, speeds. When an observer travels the universe at non-relativistic speeds, objects will appear the way we expect them to. As the observer's speed tends to relativistic limits, approaching the speed of light, the Universe will begin to distort from the frame of reference of the observer. Our current understanding of special relativity tells us when and how objects will appear to us when it enters our light cone. Using a VR headset, one may explore the universe as the observer and experience the apparent distortion. Once an object has entered our light cone, one may determine the actual position of an object from its apparent position to the observer by using its space-time continuum with the Poincaré Transformation. Due to this, we can only see objects in its past and not present as it would not have entered our light cone by then. We can use relativistic aberration from the reference frame of the observer to determine the angle a photon of light is travelling in from the source frame by knowing the apparent angle to the observer. Through all this, we can create a simulation of a visual representation of the Universe where the observer approaches the speed of light by modelling objects with wireframe models.

Author Abirami Kathiravelupillai, Brighton and Sussex Medical School

Title The development of a sophisticated culture model of Acute Myeloid Leukemia to study mobilising tumour cells out of their protective niches.

Abstract Acute Myeloid Leukaemia(AML) is an aggressive blood cancer affecting both children and adults. It is caused by failure in myeloid precursor cell differentiation into functional granulocytes resulting in accumulation of immature/ineffective leukaemic cells in the bone marrow (BM). Normal haemopoiesis fails and patients suffer infections, bleeding and anaemia. AML has poor prognosis and is challenging to treat with many patients relapsing following initial remission. Unfortunately, intra-venous chemotherapeutic agents are ineffective at completely eradicating the disease due to cell-mediated drug resistance (CAM-DR. This is caused by AML cells residing in the BM where they are protected from therapeutic agents by their surrounding microenvironment. By adhering to BM stromal cells, AML cells create a protective niche and avoid entering the therapy containing peripheral circulation. A key molecular interaction in this process is the CXCR4/SDF1 complex. AML cells strongly express CXCR4 which adheres to its ligand SDF-1 on stromal cells. The aim of our research was to devise an in-vitro AML model to test the efficacy of Plerixafor, a CXCR4 inhibitor, in mobilising tumour cells off stromal cells into the peripheral circulation. Using 3 human cell lines- HS5(stromal), THP-1 and HL-60(AML), we treated AML cells with Plerixafor before adhering them to a plated stromal cell layer. Suspension and adherence AML cell counts were done at regular intervals. Our research showed that Plerixafor significantly mobilised AML cells off the stromal layer. Future experiments will build on this research to build a more sophisticated model and compare different types and concentrations of CXCR4 inhibitors.

Author Zainab Kauser, Barts and The London (QMUL)

Title Prediction of ascending aortic dilatation and its complications in patients with bicuspid aortic valves from MRI images using machine-learning

Abstract Background: 1-2% of the population are born with a bicuspid aortic valve (2 valve leaflets rather than 3). Along with aortic valve dysfunction, some patients develop ascending aortic dilatation, which eventually is associated with sudden fatal complications. Dynamic 3D MRI is used for their regular surveillance; however, it is unclear when to replace the aorta before complications arise. Current size-based guidelines have only weak evidence supporting them. When needed, patients undergo valve surgery and a decision must be made whether to concurrently operate on the “aneurysmal” aorta. Subsequent aortic surgery adds considerable risk. Aim: To determine dimensional changes in the ascending aorta during the cardiac cycle manually, for comparison with a machine-learning algorithm for automated measurement. This will be tested on historical and prospective surveillance scans and correlated with patient outcomes, to identify the morphological and mechanical factors, which predict those aortas requiring (concurrent) surgical replacement. Method: Maximum (systolic) and minimum (diastolic) size frames were isolated from dynamic MRIs. A centre-line was identified through the ascending aorta. The area and diameter of the aorta perpendicular to the centre-line was manually measured at 1mm intervals along the ascending aorta to build up a “4D” image. Conclusion: This dimensional model of the ascending aorta will be a gold standard baseline to validate a machine-learning algorithm to automate this laborious process. Deeper understanding of ascending aneurysms in this subset of patients will improve evidence-based clinical decision making for intervention, thereby improving outcomes and patient wellbeing.

Author Patrick Keith, University of Aberdeen

Title Interspecies differences in foraging behaviour drive variation in sensitivity to environmental, phenological & fishery effects in three seabird species (presentation)

Abstract With the impact of climate change and anthropogenic activities on natural ecosystems and habitats becoming increasingly apparent, it is important to understand how the interactions between species at a variety of trophic levels respond to changes in their environment. Seabirds, as conspicuous and widely-distributed top predators, are increasingly used as indicators of changes in lower trophic levels, as fluctuations in the availability of key prey species can directly impact their populations. Recent research has identified annual weather variations, climatic trends, and anthropogenic effects including fisheries, as important factors influencing the breeding success of different seabird species. This study investigated the importance of environmental and phenological factors, and fishing, for the breeding success of three common seabirds with contrasting foraging behaviour and ecology: guillemots (*Uria aalge*); kittiwakes (*Rissa tridactyla*); shags (*Phalacrocorax aristotelis*). The hypothesis pursued was that differential inter-species responses to environmental and phenological variation, and fishery effects, may be related to foraging differences between the study species. Breeding success and egg-lay data for the period 1974-2017 were obtained for the Isle of May National Nature Reserve. Sea-surface temperature and the seasonal

cycle of primary productivity were simulated using a 1D physical-biological model. Sandeel catch data were also obtained, for the North-Western North Sea. Data were analysed in linear and generalised-linear models. Results indicated that breeding success of the surface-feeding kittiwake was more sensitive to direct reductions in prey abundance, whereas diving and benthic-feeding species (guillemots and shags respectively) were more responsive to factors representing the timing of prey availability.

Author Laura Kennedy, Open University

Title "A roof over my head": A phenomenological exploration of the experience of young mothers living in social housing.

Abstract Tajfel and Turner's social identity theory highlights how an individual's identity is influenced by interactions with those around them, further research shows that an individual's identity is influenced by places and objects in their home (Hauge and Kolstad, 2007). Research into identity, place and the home has been carried out in deprived areas where it is difficult to distinguish between the effect of housing or deprivation (Kearns, 2015). Semi-structured interviews were used to collect information from two mothers selected randomly from a strategic sample. Interviews were transcribed, and a thematic analysis was conducted using a third order coding. Four themes were highlighted, firstly, a person's identity is influenced by feelings of ownership, Safety of the home and ability to choose where you live. The freedom social housing brings allows mothers to merge identities, "priorities change" which is important at a time when they may struggle to take on the new identity of a mother. It was also found that identity was influenced by those living around them along with objects and areas within the home resulting in experiences like "it's just me", supporting the work of Kolstad and Hauge (2007) and Kearns (2012). This research highlighted that similar findings can be found in non-deprived areas of the UK and that the security and freedom that social housing has, opposed to private rent, influences the individual's identity. Future research could use these findings to produce a quantitative survey and influence social policy as social housing continues to decline.

Author Robert Kenyon, University of Sheffield

Title Where are all the Neanderthals? An Archaeological and Palaeoanthropological Survey of Palaeolithic Cave Sites in Britain Using GIS

Abstract This project represents the initial stages in a larger body of research aiming to test the hypothesis of hominin absence from Britain between c.180-60Kya, by identifying and mapping potential sites of Neanderthal occupation. Whilst Neanderthals and their associated artefacts have been identified at sites around Britain from later dates, archaeological research into the middle Palaeolithic is poorly documented; excavations have occurred over a vast timeframe and with varying levels of research aims, strategies, reporting mediums and professionalism. This presentation therefore reports the creation of a pilot database which combines numerous avenues of investigation into cave sites of archaeological interest, collating material such as existing databases, publications and unpublished material. The resultant

site data were tested based on the nature of archaeological or environmental finds, identifiable chronologies, and the extent of previous excavation. Sites were then mapped using GIS and overlain with other published archaeological and geological databases. To date this methodology has identified a significant number of cave sites in the north of England alone that have the potential to harbour Palaeolithic deposits. A much larger number of cave sites are identified that have been determined to be of archaeological significance, but which remain unexcavated. Further, more data was uncovered than was feasible to process within the scope of the project, as such is highly likely that these figures will rise with further research. These findings will inform the next stage of research in which a number of test excavations will be carried out.

Author Jessica Kerrey, University of Leeds

Title Development of a biomimetic mucus-like gel

Abstract Mucus protects epithelia from desiccation, or attack of pathogens, provides lubrication, among other functions. These biological functions are, to some extent, achieved due to the viscoelastic nature of the mucus. The main component of mucus and responsible for its viscoelasticity are mucins, which are a diverse family of glycoproteins. Commercially available mucins do not form viscoelastic gels. However, they are widely utilised for research, despite the lack of homogeneity on their composition and batch to batch variability. In this work, we examined porcine mucin Type II and Type III for the development of a mucin gel via crosslinking with glutaraldehyde that could serve as biomimetic material surrogate of mucus gel. The viscoelastic parameters of the obtained materials, given by the frequency and strain dependence of the viscoelastic G' and viscous G'' moduli, were evaluated by small deformation rheometry. The results indicate that mucins Type II and III behave differently when exposed to glutaraldehyde in terms of their viscoelastic properties. Factors which modulate the rheological behaviour are the concentration of the mucin and the crosslinker and time of incubation and temperature, among others. The development of a biomimetic mucus-like gel is highly desirable in terms of recreation of the mucosal barrier for developing biomedical studies such as permeation studies, also for microbiological assays to study the interactions between mucus barrier and microbiota, among other applications.

Author Alicia Kevin, Maynooth University Ireland

Title Research Poster: Isolation of Anti-Microbial Compounds from *Armillaria mellea*.

Abstract *Candida albicans* (*C. albicans*) is an opportunistic human pathogen which is responsible for the death of thousands immunocompromised patients each year and has many aggressive strains which have proven difficult to treat, which calls for an increased focus in the research for alternative antibiotics. The majority of antibiotics in use today are actually produced by bacteria and fungi as small bioactive molecules which increase their competitive advantage against other species within their environment. *Armillaria mellea* (*A. mellea*) is a fungal plant pathogen is known to produce bioactive molecules which have

been primarily associated with anticancer activity. My poster reflects the research conducted which lead to discovery of a potentially novel bioactive molecule secreted by *A. mellea* which inhibits growth of *C. albicans*. Isolation and analysis of the bioactive molecule was undertaken using activity guided bioassays, size exclusion, High Performance Liquid Chromatography, and Mass Spectrometry. The bioactive molecule has yet to be completely isolated and cause of *C. albicans* inhibition is not yet clear. *C. albicans* growth inhibition may be caused by disrupting biofilm formation, a virulence factor of the yeast that confers resistance to many antibiotics as it coats the species in a protective mucosal capsule which also allows them to stick to human cells. Researching naturally produced bioactive molecules, such as those produced by *A. mellea*, is essential in the race to produce new alternative antibiotics, as they are more selective and efficiently produced without the need for heavy metal catalysts than that of synthetically engineered alternatives.

Author Robiya Khafizova, University of Warwick

Title Determinants of destination language proficiency among refugees in Germany

Abstract Refugee crisis is a recent phenomenon and there has been little empirical research conducted in this field. This paper examines the key determinants of destination language proficiency among recently arrived refugees. A large number of studies have proven that language proficiency is one of the main determinants of economic and social prosperity of migrants. However, refugees' motives to learn the destination language may differ from other immigrants. Refugees' decision to migrate is affected by exogenous factors, such as war. Understanding the determinants of destination language acquisition among refugees is the key in implementing effective integration policy measures. Using the main theoretical determinants of host language acquisition, such as exposure to the language, learning efficiency and economic incentives, this paper investigates the reading and speaking proficiencies among refugees. The analysis is based on data from Germany on Refugee Survey of 2016. The population represented in the sample is displaced people who entered Germany to seek protection between 2013 and 2016. This research adapts ordered probit analysis. In the first part, using personal pre and post-migration characteristics, such as age, gender, education, country of origin, years of residency, integration courses undertaken among other explanatory variables, the analysis determines the odds of speaking and writing German language. In the second part, controlling for the year of arrival, this paper investigates the impact of a reduction of the labour ban period for asylum on their motives to acquire the host language. The results of the paper provide with guidance on the integration policy measures.

Author Isaac Khalifa, University of Leeds

Title Bio-Inspired Cellular Composite Structures

Abstract Cellular materials by the very nature of their structure represent optimised solid structures. Possessing significant lightweight properties due to their volumetric composition consisting of mostly air voids, with light but regular

distribution of solid material in a 3-dimensional lattice configuration. The challenge of meeting a biologically inspired structural arrangement with both lightweight properties yet still of sufficient strength, combined with the huge limitations posed by conventional manufacturing practices is something yet to be solved, should cellular materials be accepted within various industry applications. The adoption of carbon fibre reinforced polymers (CFRP) materials, which have a high specific stiffness, have bridged the gap between lightweight and stiffness causing an advance in the appeal for industrial applications of cellular materials. The limitations posed by conventional manufacturing processes which looked to manufacture holistically is becoming replaced by a new concept – “discrete assembly of digital components” which looks to assemble larger structures from a small set of components. This concept promises prospects for rapid assembly, disassembly and repair of large lightweight, bio-inspired structures; this dissertation looks to develop a new design for digital materials and digital fabrication based on the arrangement of bio-inspired structures.

Author Deema Khunda, Newcastle University

Title Nitrogen Oxides Emissions Control and Prediction: Bio-fuel Vs Natural gas Combustion

Abstract NOx emissions control in the engine business has been at the centre of research for the past decade, these compounds are classified as greenhouse gases and contribute to Ozone layer formation (NO reacts readily with organic chemicals to form Ozone O₃). In order to regulate these emissions the Environmental Protection Agency released Tier regulations, in 1973 the acceptable level of NOx emissions was set at 9 g/bHp-Hr and has since decreased dramatically with technological advances to the latest Tier 4 regulation by EPA which set the limit of NOx at 0.5 g/bHp-Hr. NOx is known to correlate highly with flame temperature, lower flame temperature results in lower NOx formation, however lower flame temperatures reduce power and brake thermal efficiency of the engine. Renewable bio-fuel is being studied as the most likely alternative to Fossil Fuel-based Natural gas in IC engines. Bio-fuel is expected to produce lower NOx emission than Natural gas for the same power output as the charge mixture will have lower concentration of Nitrogen and oxygen and higher CO₂, however bio-fuel combustion has a trade-off, the engine will require richer-fuel charge which will result in higher flame temperatures and facilitate NOx formation. This research aims to quantify the effects of bio-fuel combustion and compare it to Natural gas in terms of NOx, brake thermal efficiency and flame temperatures. Mathematical modelling and experimental data analysis is conducted with the aim of building a formula to predict NOx formation from bio-fuel combustion and compare it to Natural gas.

Author Sinem Kilinc, Queen Mary University of London

Title A thematic analysis of nutrition education within the Barts and London NHS Trust medical curriculum

Abstract Background: One of the most important preventable risk factors for non-communicable diseases is poor nutrition. Doctors can play an instrumental

role in tackling this however, many feel they lack the necessary knowledge base, confidence and clinical skills related to diet and nutrition due to insufficient teaching within medical education. Aim: What is the current state of nutrition education within the Barts and The London medical curriculum is and what are possible education interventions to improve nutrition knowledge, skills and attitudes? Methods: A thematic analysis of the Barts curriculum was performed by generating codes using the, Intercollegiate Group on Nutrition's 2013 Undergraduate Curriculum in Nutrition, as a template. Supplementary coding was added based on other background information. All content on the learning environment, QMPlus, was analysed for nutrition-related content and coded in a purpose-made spreadsheet. Results: The findings showed that the fundamental biochemical and physiological basis of nutrition was taught extensively. However, the assessment of nutritional status, provision of nutritional care and treatment of nutrition-related disease were very deficient. Discussion: There is plenty of biochemical and physiological description of nutrition but little clinical transferability of this. Teaching skills required to implement nutrition care in clinical practise is lacking within the curriculum i.e. taking a dietary history, managing nutrition care with or referring to other health professionals, applying evidence-based nutrition information to clinical practise and providing appropriate and relevant nutrition counselling. Conclusion There is a lack of teaching directed at transferring nutrition-related knowledge into clinical practise within the Barts curriculum.

Author Claire Knight, Nottingham Trent University

Title Understanding Social Isolation and Loneliness

Abstract Understanding Social Isolation and Loneliness Presenter: Claire Knight (Nottingham Trent University) Co-Authors: Sarah L. Buglass, Lucy R. Betts, Rowena Hill (Nottingham Trent University) Objectives Social relationships provide sources of social, informational and emotional support and can provide a sense of meaning and purpose to an individual's life. When social relationships are absent, limited, or deemed inadequate individuals may feel socially isolated and lonely. In the UK, approximately 30-35% of older adults report being lonely and/or feeling socially isolated on a frequent basis and it is an increasing issue amongst younger people. The aim of the project has been to explore peoples' understanding of social isolation and loneliness in a local community. Design A qualitative study was conducted, guided by thematic analysis, to explore the understanding of social isolation and loneliness. Method Data was generated through four focus groups with 12 participants. The groups consisted of 3 groups of 3 participants (65+, 6 females and 3 males) and 1 group of participants (11-18 years, 2 females 1 male) Participant discussions were guided by semi-structured interviews. Results Four key themes emerged. Both groups highlighted the lack of services, the problems with online engagement and how lack of mobility and illness can lead to loneliness and social isolation. Conclusions The research will provide an insight into peoples' understanding of social isolation and loneliness in the local community. Gaining the perspective of both younger and older people will help to highlight the way in which their social needs differ or possibly even overlap.

Author Devon Knowles, Blackpool and the Fylde College

Title Lost at Sea? - Not for profit marine conservation projects vs traditional projects. Is being guided by a professional body the only path to success, or is something missing?

Abstract

Some Project Management professional bodies operate globally, but are they of use when it comes to addressing the real global issues? Recently, there has been an increase in media attention in respect of the damage we are doing to our planet. After years of plastic pollution and it being disposed in the oceans, our coral reefs are being damaged and wildlife is dying at the expense of human negligence. It has become more prominent that projects are being conducted to protect the marine environment in this modern world. These are not simple projects. They take time, effort, resources and funding, but have a key aim to make the world a better place. Knowledge of what needs to be done is enabling large corporations e.g. the Professional Association of Diving Instructors (PADI) and the Marine Conservation Society, to plan and execute large scale projects for an aim that is not profit. The general idea of a traditional profit-making project is guided by numerous professional bodies in the industry that provide direction on how to conduct a project from start to finish. Many of these companies also encourage project teams and managers to gain expensive professional qualifications, but is following this guidance always necessary for a successful project? This research and the methods used aim to explore how not-for-profit projects are achieving success without professional body guidance. Is a different path to success missing in the execution of traditional projects?

Author Sercan Kobazoglu, Brighton & Sussex Medical School (University of Brighton)

Title Examining the effects of adrenergic stress on immune cell interaction in 3D in vitro ovarian cancer models.

Abstract Ovarian cancer is deadly, it is referred to as the 'silent killer' because of the non-specific symptoms patients present with at a late stage. In 2015, there were over 7,400 newly diagnosed cases of ovarian cancer in the UK and it is the 6th most common cause of cancer related deaths in females, with 4,200 deaths in 2016. Adrenergic stress plays an essential role in ovarian cancer growth and metastasis. It is postulated that increased levels of noradrenaline play a role in modulating the immune system and by doing so preventing it from effectively killing cancer. The effects of Propanolol, a non-specific beta-blocker, have been studied in vitro using 3D models of ovarian cancer (murine ID8 cell line) co-cultured with splenocytes of stressed mice. We found that in samples treated with Propanolol and noradrenaline, there was a reduction in tumour size, as well as decreased protein mass, compared to samples treated with noradrenaline alone. Preliminary examination of proteins using mass spectrometry, demonstrates that samples treated with Propanolol showed an increase in RNF18, an E3-Ubiquitin-Transferase protein. Senft et al, have stated that genetic and epigenetic alterations account for the deregulation of E3-ligases in cancers. Defects of E3-ligases have been reported to be involved in the molecular aetiology of a number of cancers, such as colorectal. Further studies aim to elicit the role of E3-ligases in ovarian cancer and understand whether it is implicated in the immune response to cancer. We hope this will help develop a novel treatment for ovarian cancers.

- Author** Maya Kokerov, University of Warwick
- Title** Feminist Aesthetics – to what extent does art, literature and film promote the subjugation of women?
- Abstract** In this essay, I will explore how art and aesthetics, in the format of cinema, literature and fine art pieces/installations, are engrained into a woman's perspective of her self-hood in ways which lead them to objectify themselves and integrate the male gaze into their consciousness. Examples of key interlocutors will include Simone de Beauvoir and Bartky who argue that objectification sets up the ego as a 'double stranger' so that a woman may live her self and body as seen by an anonymous, patriarchal 'other'. This reflects the 'other' perspective which portrays women as objects to look at and assess by using narrators, camera lenses and paint (that take on the patriarchal, cisgender male role even away from reality). I will ultimately argue that, while subversive aesthetic forms such as art, literature and cinema can contribute to a woman's internalisation of sexism, encouraging her view of herself as 'the other', it can also help women form an emancipatory conception of the self by helping them realise, through aesthetic practices, how their metaphysical world view is effected by such sources so that embodied subjectivity may become possible for women.
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- Author** Christian König, University of Warwick
- Title** 'Collaborative Refo-lutionism': Towards a New Theorisation of the Egyptian Uprising
- Abstract** This paper proposes a new conceptualisation of the Egyptian uprisings for the period of January 2011 to July 2013 as a 'collaborative refo-lution'. The concept is based on the work of Nouri Gana on collaborative revolutionism and of Asef Bayat on refo-lutions. It is put forward in order to facilitate a comprehensive reading of the uprisings, connecting individual groups and movements to wider societal and protest-driven dynamics. This addresses a common gap in the literature on the uprisings, which has not produced framework-based approaches and remains focused on individual groups taking part in the protests. Based on existing accounts, the paper uses the proposed framework to investigate dynamics within and between movements, especially the workers' movement and middle-class pro-democracy groups. The uprisings are read as the parallel, but separate actions of groups demanding reforms to be carried out by the state, failing due to a lack of group cooperation, internal organisation, and shared goals post-President Mubarak. Furthermore, there was an opportunity for well-organised counterrevolutionary forces to seize reformist demands. This dynamic is used to explain the success of the Muslim Brotherhood and the Supreme Council of the Armed Forces in gaining power after the popular uprising. These trajectories were caused by the fact that the events constituted a collaborative refo-lution.
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- Author** Danai Koutsoupias-Baltazani, Queen Mary University of London
- Title** Is double copy theory a suitable model for gravity?

Abstract	<p>In the most widely accepted theory in Physics there are four fundamental forces in nature: electromagnetism, the strong force, the weak force, and gravity. Three of these can be described by the so-called gauge theories, which unify quantum effects with those of relativity, creating a well behaved theory. Gravity, the fourth force, is best described by the theory of general relativity, which breaks down at a quantum level. The search for a theory that can unify quantum theory with general relativity, often referred to as the 'theory of everything', has been a prominent and long-standing open problem in Physics. Double copy theory, a recent discovery, suggests a relationship between a certain kind of gauge theories, called non-abelian gauge theories, and gravity. Particularly, it was noted that scattering amplitude of gluons, the force carrier particle for the strong force, match those of gravity when put through the process of the double copy. In this report, we aim to address the correspondences between gauge theories and general relativity, explore how solutions to the equations of electromagnetism correspond to solutions to the equations of general relativity, and how these could potentially be unified to form a new understanding of gravity.</p>
Author	Oliver Kozsla, Bournemouth University
Title	Personal branding on LinkedIn and its implications for employee advocacy – a study of professional influencers in a pharmaceutical context
Abstract	<p>Social media has enabled employees to share their work-related experiences within their own networks. This allows organisations to increase their reputation without increasing costs, through implementing employee advocacy programmes. Recent years have seen the development of online advocacy tools such as LinkedIn Elevate, which allow companies to leverage employees' efforts and encourage them to promote the organisation to others. This research looked at how personal branding influences employee advocacy behaviours, to determine if this should be considered when identifying likely advocates. The research also looked at how personal branding influences prosocial behaviours targeted at individuals, which can help organisations identify employees who would perform well as mentors and coaches. The study focused on the employees of a pharmaceutical company in a highly talent competitive environment who advocate their organisation through Elevate. A bivariate correlation was run for each dependent variable, along with a binary logistic regression and a multinomial logistic regression to understand the predictability of employee advocacy and prosocial organisational behaviour from personal branding. Our findings showed personal branding is likely to predict advocacy and certain elements of personal branding on LinkedIn can help organisations determine who would be the most effective advocates. We have also found that personal branding can predict prosocial behaviour towards individuals. This research contributes to our understanding of personal branding on online platforms, employee advocacy and how we can determine potential 'professional influencers'. As there have been no previous studies on the use of LinkedIn Elevate, this research can also be useful in the field of employer branding research.</p>

Author Felix Kroner, King's College London

Title Anthropology, transitional justice and criminal law

Abstract My research explores the benefits of an interdisciplinary approach to legal theorising and the adjudication of international criminal law, with a focus on transitional justice. Currently, the law relies almost exclusively on its own epistemology. For instance, the legal models of causation applied in international speech crime trials do not seem to correspond with research findings in the social sciences on whether and how speech acts by political figures lead to the carrying out of violence. I argue that international criminal law ought to be to a greater extent informed by social science research, and in particular anthropology, because this will allow for a more comprehensive and nuanced understanding of difficult areas of the law, such as the main themes of the books that I reviewed: - "Causation" in 'Incitement on Trial' by Richard Wilson, an anthropological exploration of international speech crime trials, - "Consent" in 'After Rape' by Holly Porter, an ethnographic account of rape and social cohesion in Uganda, - "The role of the state and criminal courts" in 'State of Rebellion' by Louisa Lombard, an anthropological study about the porousness of the ideal type nation state in the Central African Republic. I argue that legal theorists and international judges should include ethnographic-anthropological perspectives, rather than only a purely legalistic one, when approaching these themes. By reviewing the books above I attempt to demonstrate how doing so will improve international criminal law doctrinally and ultimately lead to more consistent, fair and just outcomes of international criminal trials.

Author Hanne-Kari Kvam, Kingston University

Title How do Norwegian and British students view punishment?

Abstract The aim of my research is to understand and compare how young men and women in the age of 18-25 view punishment. Mason (2005) writes that research shows that on a global basis, the public wants harsher punishments, which is based on the lack of knowledge of the criminal justice system in society, and the ignorance of actual practice is a result of knowledge. The research will survey 80 Norwegian and British students and I will conduct follow up interviews with six of them. A comparison will then be made between the two groups using quantitative and qualitative analysis. The analysis will test the following hypotheses: Norwegian students wish for more lenient punishments than British students. This hypothesis is based on a study conducted by Kjensli (2009) which shows that out of 1400 contributors over 80 percent wanted a more lenient punishment than the one given. Norwegian students believes that convicted criminals can be rehabilitated more than British students do. Norwegian students have more knowledge and interest in the criminal justice system than the British students do. This hypothesis is interesting as the Norwegian population has increased their interest for the criminal justice system after the mass shooting at Utøya in 2011, however, surveys show that the general public in Norway still believes in rehabilitation of convicted criminals.

Author	Wing Nam Kwok, City University of Hong Kong
Title	Victimization and discrimination of McRefugee in Hong Kong
Abstract	<p>McSleepers, also known as McRefugees, are the homeless who sleep in 24-hour McDonalds. This is a unique phenomenon in Southeast Asia, especially in Hong Kong. Although the numbers of McSleepers are rising, little research had been done about the vulnerability of McSleepers, which limited our understanding towards victimization and the discrimination of McSleepers. By using qualitative research method, this research will examine two directions: (1) Identify the victimization of McSleepers, including the fear of crime of Mcsleepers, and the chances of Mcsleepers being victimized in any crimes. (2) Discover the discrimination against McSleepers, including the discrimination of McDonald's staff towards McSleepers and McSleepers' experiences of discrimination. The data will be collected by on-site observation and in-depth interview with McSleepers, 24-hours McDonalds staff and related NGOs. The on-site observation will be conducted in 24-hour McDonalds in N.T. and Kowloon around 9pm to observe the environment, the number of staff and McSleepers, and environmental design in relation to crime prevention. Data gathered from the observation is used to identify whether there is harassment against McSleepers. Purposeful sampling will be used to determine the sample for in-depth interviews to gather deeper information about the situation of victimization among McSleepers. Around 8 to 10 participants will be interviewed. This method allows participants to share their own experiences without bias from others. This research aims to gain a better understanding of this new phenomenon, andto raise the awareness towards the vulnerable groups in Hong Kong.</p>
Author	Anita Kyurova, De Montfort University
Title	The rise of a new elite as an expression of wealth due to inconspicuous consumption
Abstract	<p>During the years scholars have made extensive research on the conspicuous consumption and using the material goods as an expression of identity. Due to the capitalism and mass production, people have wide access to luxury goods, leading to the 'death of a class' and creating equality for the rich people and the middle class by having access to the same goods. This presents the change in the consumption patterns where rich people no more spend money on luxury goods, but they invest in immaterial goods. This presents a shift from conspicuous to inconspicuous consumption, creating the so-called 'aspirational class' that creates better future for people. The inconspicuousness creates the emergence of new elite in the 21st century that invests in health and education. This allows the interaction in the higher class to decode signals of capital that signifies their wealth but is only understood by them (Begner and Ward, 2010). As a result people impress others in the aspirational elite, distinguishing them from the middle class and creating stable ground to race for class and status (Douglas and Isherwood, 1979). It is important to study this new elite as it demonstrates that it is not necessary for luxury goods to be associated as conspicuous consumption, giving the meaning of the 'new luxury goods' of the 21st century.</p>

Author Natasha Lake, Blackpool and the Fylde College

Title Customisation of Cards: Physical and Digital

Abstract In current times, items that are personalised are trendy. Martin (2017) writes that a variety of people are grateful of personalised items because it was made for them. This study is designed to create a product which will allow for people to create their own physical and digital cards (e-cards) and send it to a friend or a loved one. As such the development of Space Card Designer will be completed utilising WordPress; with the assistance of a plugin that will help customise products. Users will be able to add text and images to a card and have it sent to their address or the address of the recipient. If it is the latter, the user can type in their personal message before sending the card. The user is also able to upload images directly from their social media accounts. The methodology implemented will be largely based on autoethnography which will look to consider the efficacy of creating such a program within existing sites, but also a further study will be completed upon the products completion which will allow for user testing and questionnaire completion in order to identify the strengths and weaknesses of the product. The results of the study will hopefully show that such a product is required within the online space, and that using simple plugins and existing CMS can lead to usable effective products.

Author Swapnil Lal, London School of Economics

Title HEDONIC HOUSE PRICE MODEL ANALYSIS OF HOUSE PRICES IN METRO MANILA REGION

Abstract The paper analyses house prices in the National Capital Region (NCR) of the Philippines, using the hedonic house price model to understand the key determinants of house prices in the sixteen cities of the NCR. Panel data was first agglutinated on the internal and external characteristics of houses in the NCR, with data observations for every five years between 2005-2015. Similar hedonic house price models have been utilised in other developing countries and cities, yet its contemporary application to the Philippines have not yet been realized by the literature. We use spatial econometric techniques as an empirical application of the hedonic house price model, and rely on a 'spatial Durbin model' to quantify the spillover effects of both our dependent variable, housing prices, and covariates, the internal (e.g. number of bedrooms, bathrooms, etc.) and external (e.g. crime rate, proximity to public transport, etc) characteristics of housing as a cross-section. We then account for the temporal dimension of our data by employing a spatial autoregressive distributed lag model, controlling for the nature of lags in both space and time. The NCR is currently facing very rapid urbanization with a projected population of about 30 million by 2030, much of who will be without homes; more than a third of the population are slum dwellers. Consequently, this paper will help us understand what basic factors affect house prices and create a market in which basic necessities, like housing, remains inaccessible to a vast majority of the NCR populace.

Author James Lamyman, University of Southampton

Title An investigation into the use of simple methods for modelling deforming marine propeller blades

Abstract Shipping is a competitive industry with often low margins, it also accounts for 4% of global greenhouse gas emissions. Increasing emissions regulation alongside continuing financial pressure demands efficiency improvements. With propellers being the dominant mechanism for propulsion, they provide a large opportunity to improve vessel efficiency. Flexible propellers, made of composite material, are of interest to the marine industry due to their potential to improve propeller efficiency in the off-design case. Currently very few vessels are fitted with flexible propellers, however, methods of designing them form a large area of research due to their potential. Current work is mainly focused on complex and expensive models, most often; boundary element method and finite element analysis. This study investigates the use of simple methods; Euler beam theory and blade element momentum theory to estimate flexible propeller performance. The limitations of Euler beam theory were discussed in relation to marine propeller blades, particularly in relation to blade geometry and material layout. A tool was created in python to assess the validity of such a method. Blade element momentum theory was determined to function with good accuracy for a flexible blade when compared with a rigid blade. The combined tool was found to produce results of a similar trend to more complex models, widening the efficiency curve of a propeller in a matter of seconds. The findings suggest that in the future these methods could be used during the initial design phase, enabling large computational cost and time savings.

Author Paige Leach, University of South Wales

Title How Nick Knight has used conventional constraints of fashion media and advertising to make unconventional propositions about human beauty and feminine self-identification with fashion imagery

Abstract Nick Knight is one of most influential British fashion photographers creating innovative and experimental aesthetic images which not only challenge conventional ideals of beauty within fashion and media imagery, but he presents a decontextualised form of subjectivity. There is little context to which his images are constructed which add to the radical aesthetic design of his images. He distorts and crops bodies in his imagery to reflect the realities of body dysmorphia and the fabrication of conventional fashion media advertising. He reformulates fashion concepts within his imagery to portray a defiance to conventional assumptions of beauty. Much of his work creates an optical illusion for the viewer which allow for numerous interpretations. His photographs for the 1998 series 'Access Able' for Dazed and Confused magazine represent the instability of the subject, because to present it as stable would allow for narrow interpretations and understanding of the image. Although the purpose of these images was to challenge conventions of beauty they allow for a feminine mirror identification with the issues they raise. The athletes photographed in this series fashioned their physical disabilities although the images do not draw attention to the disabilities alone which suggests they aren't critical rendering the intent of the photographs imperceptible.

Author	Stephen Leadbetter, University of South Wales
Title	User experience and interface design: the role of cultural difference in graphic design
Abstract	<p>I will explore how the graphic designer must acknowledge cultural difference when designing user interfaces. Technology is a key part of our lives, and the rise of the smartphone has allowed web and graphic designers to work extensively on platforms that are accessible to many different people from different cultures around the world. This causes problems in developing countries that are less technologically adapted than western countries. User interfaces have become stripped back to provide seamless experiences, most of the western civilisation know how to scroll on a smartphone without instruction. Scroll bars and informative labels are no longer needed because western users know that scrolling is convention within user interfaces and therefore no longer need to be instructed to know how they work. However, in countries such as Ghana, users do not know how to scroll or understand user interface conventions that are seen in western culture. Therefore, designers have to resort to basic communication principles and show multiple pieces of information to reinforce messages. For example, some interfaces might show a combination of text, symbols and photographic images together to help users understand simple navigation methods. If the designer creates an interface on the basis of their own cultures codes and conventions, then this could cause aberrant readings for users with a different cultural background. The designer must not only acknowledge cultural differences but also research the signification of signs to help users understand an interface.</p>
Author	Jing Xian Lee, Newcastle University
Title	Expanding the role of virtual clinics using multimodal imaging in hospital ophthalmology services
Abstract	<p>An increasingly elderly population with a corresponding increase in eye conditions has led to increased pressure on Hospital Eye Services (HES). In this study, we evaluated the use of a virtual clinic, which has expanded into assessing all new referrals for retinal diseases, where the need for urgent treatment was not clear. Methodology: Retrospective analysis of all new patients who were seen in the virtual clinic between April 2016 and May 2018. Pro forma sheets were used in this clinic to record the patient history, visual acuity and type of imaging required. Two consultants reviewed the completed pro formas and images and provided a final diagnosis and management plan. These results and reasons for face-to-face (F2F) clinic appointment requests were analysed. Results: 610 new referrals were enrolled in the virtual clinic. The most common diagnosis was diabetic eye disease (59.9%). 44.1% were followed up in the virtual clinic, 28.1% were discharged and 27.8% were booked a F2F clinic appointment (Urgent/Routine). The main reason for F2F clinic was to offer treatment. Urgent F2F appointments took place on average</p>

11.9 days after virtual clinic attendance. In only two cases was the image quality felt to be inadequate to assess the retina. Conclusions: Virtual clinic is an effective way of triaging ophthalmology referrals to allow patients needing treatment to be seen promptly in the hospital eye department. The use of multimodal imaging allows assessment of a wide range of retinal diseases and is a promising solution to alleviate the burden on HES.

Author Caroline Lelliott, University of Sussex

Title Does practice make protection? An investigation into cognitive training in middle aged adults

Abstract Despite over 46 million people living with dementia worldwide, cognitive decline and dementia are not inevitable consequences of ageing. However, growing older is a risk factor for these conditions, with risk increasing as a function of age. Thus, identifying when cognitive decline begins may determine when preventative strategies should be employed to protect against the onset of cognitive impairments and progression to dementia. Research so far has failed to produce an effective pharmaceutical treatment for established dementia, suggesting prevention may be a more promising avenue of investigation. Mid-life activities have previously been linked with the risk of cognitive decline in later life, indicating that interventions aimed at middle-aged individuals may maintain cognitive wellbeing in old age. However, much of the research into cognitive decline is focused on older populations, with little interest in middle-aged, healthy individuals. Here, we address this omission by studying the effects of a computerised cognitive training programme on the cognitive abilities and fluid intelligence of healthy, 40-50 year olds. To determine the neural basis of any improvements, training was combined with magnetic resonance imaging (MRI) to allow observations of brain structure and function. Cognitive training improved performance on trained tasks and showed transfer effects to others. Additionally, functional MRI (fMRI) measures indicated altered patterns of activity in the pre-frontal cortex and parietal lobes. Finally, we report increased neurite density, an indication of a structural change following training. These results provide a promising foundation for further research and development of training-based interventions aimed at preventing cognitive decline.

Author Supattra Lennie, University of South Wales

Title Using geological mapping to build up a picture of the past

Abstract The presentation will show how the Isle of Eigg in the Inner Hebrides, Scotland has evolved over the past millions of years. The paleo-environment represented by each geological formation and the transition between them will be discussed. This will begin with the description and interpretation of Jurassic sedimentary formations of the island followed by that of the Late Cretaceous. The gap in geological record which occurred after this period will be explained. Basaltic lava flows were deposited in the Paleocene and like the earlier formations, the events responsible for its formation will be described. This geological development is then related to the regional geology of the Hebrides as well as the rest of Scotland. The presentation will be accompanied by geological and geomorphological maps of the island.

Author Prithvin Leonard, Solent University

Title An Evaluation of the Availability of Low Sulphur Fuel in 2020

Abstract On the 1 January 2020, all ship owners will be required to reduce sulphur emissions from their ships by 85% after the UN agency for shipping, the International Maritime Organisation (IMO) introduced regulations that aim to limit air pollution, in particular sulphur oxides (SOx) and particulate matter (PM) after studies linking SOx produced by ships engines burning Residual Fuel Oils (RFO) or Heavy Fuel Oils (HFO) to 60,000 deaths annually in coastal regions. To meet the new stringent emission requirements involves costly retrospective engineering with new equipment retrofitted to a ship that will clean engine emissions or a change in the fuel used by ships to low sulphur fuel oil (LSFO). This research evaluated the global availability of LSFO in preparation for the 2020 deadline. The literature provided a conflicting picture, some authors predicted a dire shortage, others that sufficient LSFO would be available but at a cost. Using quantitative data and statistical analysis this study predicted the level of supply of LSFO, using data from oil refiners and bunker fuel suppliers and calculating the demand for LSFO. The research demonstrated that the oil refineries do not currently have the capacity to meet the global demand for LSFO and there will not be sufficient time available to retrofit exhaust gas emission scrubbers. This means that shipowners will need to use very costly marine gas oil which will have a significant impact on operational costs.

Author John Levee, Stetson University

Title Correction of Spatialization Issues in Acousmatic Music: Remediating Incompatibility Between SpatGRIS and Logic Pro X

Abstract Through completion of this project, I have designed and implemented a technical solution for incompatibility among software programs involved in the spatialization of acousmatic music for multichannel speaker arrays. University of Montreal's Groupe de Recherche en Immersion Spatiale, led by acousmatic composer and sound spatialization expert Dr. Robert Normandeau, have created a software plugin, SpatGRIS, which uses a graphical interface to allow any number of virtual speakers to be placed in any configuration to represent how their physical counterparts are arranged in a space. A composer, using pan law, is then able to send sounds around the space to come seemingly from anywhere in relation to the listener. This allows acousmatic composers to send sounds around, over, or through the audience for a completely immersive experience. Through use of SpatGRIS in conjunction with Logic Pro X, one of the most globally popular Digital Audio Workstations, I found the plugin useful to create complex sonic movements in my own acousmatic compositions. However, when trying to export these projects in their entirety for playback and sharing, I found that both programs labeled and exported channels differently in multichannel compositions, specifically those composed for playback on an octophonic ring. This

difference results in sounds from the composition being either omitted completely, or present in their entirety but with incorrect spatialization. In this project, readers will be introduced to a method which, utilizing a free third-party software, can easily remedy this error and correct the final recordings to their originally intended state.

Author Jessica Leverton, Bournemouth University

Title Does attending and engaging with peer assisted learning provide any measurable impact on learning and personal development to students from widening participation backgrounds?

Abstract Increasing numbers of students from disadvantaged backgrounds are entering higher education, yet a gap remains between them and other students in relation to continuation, completion and classification. Peer Assisted Learning (PAL) is an academic scheme that fosters cross-year support between undergraduate students on the same course (Ford et al., 2015). Spedding et al. (2017) identified a positive correlation between attending PAL and academic performance in students, whilst Ediger (2007) found that through PAL, the achievement gap reduced for students of colour and those with lower level of academic preparedness. The aim of this longitudinal study is to determine whether PAL at Bournemouth University has a positive impact on students from underrepresented groups. This mixed methods research consists of qualitative and quantitative approaches. In 2017-18, questionnaires were deployed to Level 4 students before and after receiving PAL. The questionnaires consisted of rating/ranking and free text questions. Wilcoxon signed-ranked tests compared self-rating scores, showing a significant improvement in learning, life skills and personal aspects. This quantitative data was further supported by qualitative analysis on free text open ended questions. Thematic analysis identified themes relating to: the learning component, life skills and a personal component. Within the theme personal component, confidence, belonging at university and self-esteem were improved by attending PAL. Furthermore PAL enhanced understanding assignments and other academic skills in the learning component. Lastly, life skills, especially survival skills were significantly rated as better after experiencing PAL. These results suggest that BU PAL has a positive effect on underrepresented groups of students.

Author Tallulah Lewis, The University of Winchester

Title Dare, Narrate Ancestry (DNA)

Abstract This solo performance was created from a module that investigates autobiography/ethnography in performance, drawing primarily on the work of autobiographical performance makers from Bobby Baker to Ntozake Shange. We explored approaches to performance making using personal narratives as tools for empowerment in relation to social, political and cultural visibility. When developing my piece, I was inspired by the work of Maya Angelou: her poem Caged Bird describes a bird who is free, and one who is trapped, both reminiscing upon different lives; “the free bird thinks of another breeze...but a caged bird stands on the grave of dreams” (Angelou, 2016). When I look in the mirror, to what extent do my features represent who I am? What role does

my body play in the discovery of my expression? Do I have a right to write my own history, when it is otherwise unknown? If the answer is yes, where do I draw the line between what I know to be true (reality) and what I want to be true (my imagination). These are some of the questions that arose during my rehearsals, as I interrogated what science revealed about me - through a DNA test - and from that, what I could reveal about myself. Through storytelling, I wanted to portray how I felt as a mixed-race woman 'stuck' between realities. Throughout my process, it was important to me to investigate and 'claim back what is ours' as women; our identities, body parts, our own truths. Name: Tallulah Blue Lewis Age: 21

Author Frances Li, Yuhan Ji, Michelle Dyonisius, Aneta Pavliukevic and Kealeboga Madise, London School of Economics (LSE)

Title Eating your way to integration: the making of a diverse community at LSE

Abstract This research paper examines the significance of food on intercultural relationships. We analyse the extent to which consuming different cultural foods impact the integration of students at LSE, a culturally diverse community. Although the existing literature explains how food is a symbol of cultural identity and helps integration in culturally diverse communities, there is none that focuses on the integration of students at university and in particular, universities located in cosmopolitan cities. Hence we hope to illustrate this through the microcosm of LSE. Our research investigates student's consumption of different cultural cuisines and we examine how important they deemed it to be in their social interactions. Based on our online survey of 103 LSE students, we found that there is a positive correlation, significant at the 5% significance level, between the diversity of students' choice of food and their degree of integration into a diverse student community, confirming our hypothesis. Through our qualitative survey responses, we found that there do exist causal channels confirming the significance of food on intercultural relationships. Overall, through this research, we emphasise the limitations of students' cultural experience through the microcosm of LSE. Thus, a further discussion can inspire new ways to improve integration at LSE and in other universities located in cosmopolitan cities, and ultimately help students find a sense of belonging beyond the boundary of their national backgrounds.

Author Chaoyu LI, City University of Hong Kong

Title The Gender Difference in the Effects of Value Similarity on Friend Selection

Abstract Peers and friends work as more and more important social agents for adolescents and young adults. Human value was verified as an important role in predicting the behaviors, such as mate selection. This research focuses on the similarity of human values in friend selection and investigated the gender differences in homosexual and heterosexual friendship. It is proposed 100 undergraduate students who are born and raised in Hong Kong (50 males, 50 females, age range: 18-25). The Implicit Association Test (IAT) is used to measure their implicit self, imagined homosexual and heterosexual friends' human value: Openness-to-change versus Conservation" (OTC-C) and Self-transcendence versus Self-enhancement" (ST-SE). The polynomial

regression with response surface analysis (RSA) could be applied to test the discrepancies and similarity of human values in two respects. As a proposed result, both female and male would prefer to make homosexual friends with those who shared more similarity, and females sharing higher score of self-transcendence had more possibility to become same-gender friends, while male sharing the one of enhancement. As for making heterosexual friends, both female and male would prefer to choose those who shared less similarity with them. Key words: Human value, friend selection, gender difference, self-transcendence, self-enhancement, openness-to-change, conservation.

Author Yujie Li, City University of Hong Kong

Title Learned to Be An Abuser: Correlates of Marijuana Use for University Students in Hong Kong

Abstract As marijuana has been legalized in several countries, majorly it is still recognized as an illicit drug, especially in East Asian countries where drug abuse used to be a substantial social problem. In recent years, marijuana has shed its light onto college campuses as a recreational drug. However, we must question its prevalence and frequency. How severe is marijuana abuse for university students? Similar surveys have been conducted in the USA (see Bell et al., 1997). This study examines personal background traits that correlate with marijuana use among university students in Hong Kong. A self-estimated online survey is randomly spread to students from various academic departments without any limit of nationality and ethnicity. We expect the main studied group to be undergraduate students aging from 17 to 23. In our study, we hypothesize that marijuana use is the product of socialization through learning. We have adopted the social learning theory by Akers (1973) to explore the impact of peer influence on university students' cognition, attitude, and behavior regarding marijuana. We aim to examine other possible underlying factors for marijuana use and refusal from a sociopsychological perspective, such as economic deprivation, academic hardship, and family impact, with comprehensive psychometrics. Note: there are two student researchers for this study. 2nd participant - Name: Ming Yan Chan

Author LI Kymm Marie, City University of Hong Kong

Title Does Cooperative Learning Enhance Reading Comprehension and Reduce Reading Anxiety in Second Language? What reading strategies are most effective?

Abstract In second language (L2) classrooms, students experience certain degrees of anxiety which hinders L2 learning. The present study aims to investigate the effects of cooperative learning on affective (i.e., anxiety) and cognitive (i.e., reading comprehension and strategies) components of L2 reading. 60 Chinese undergraduates learning English as an L2 are recruited. The participants are tested on anxiety and comprehension, and then randomly assigned to the experimental or control group. In the experimental group, Jigsaw classroom method is applied, in which reading tasks are divided among participants to cooperatively carry out. In the control, participants learn the materials independently. Afterwards, participants are assessed on the materials and reading anxiety individually. An Independent T-test conducted

on 25 pilot participants, revealed that participants in cooperative learning setting ($M = 3.50$, $SD = 1.00$) performed significantly better than control ($M = 2.23$, $SD = .725$); $t(23) = -3.655$, $p = < .05$, on summary writing. Mixed ANOVA on state anxiety, indicates a non-significant main effect of time $F(1, 23) = .974$, $p > .05$. Further analysis will be conducted on reading anxiety. The Mixed ANOVA conducted on social support perceived, revealed a significant interaction effect between time and group, $F(2, 46) = 9.906$, $p < .05$. Past studies on cooperative learning focus on cognitive aspects, with few studied affective domains. Extending past research, the present study determines which setting and reading strategies promote reading performance and reduces reading anxiety. These findings help to identify effective learning methods in improving L2 acquisition.

Author Alice Lippard, University of South Wales

Title The impact of women social club movement, and their role in empowering women

Abstract In graphic design the ratio of female to male students is higher, however, more men attain graphic design positions than women. A dedicated space for women graphic designers to work and network might help to tip the balance a little. Also, this year has seen the 100th anniversary of female suffrage, my paper will demonstrate how the fight for equality is still ongoing and how women still struggle to become accepted in the graphic design profession. The presentation will discuss the way that pink and other colours have evolved into a symbol of women's empowerment. My main case study is the New York social club 'The Wing', a dedicated space designed by Emily Oberman for women design professionals to work, hangout and network. I will draw comparison with the long established tradition of the gentlemen's club and how this notion has been turned around with 'The Wing'. Special reference will be made to The Wing's colour scheme, the typography, and general brand image. I will demonstrate how The Wing draws on the legacy of the Suffragettes.

Author Ryan Littlejohn, Reading University

Title Global environmental controls on soil animal body size

Abstract Soil community responses to global environmental change could have dramatic consequences for terrestrial ecosystem multifunctionality. Yet, little is known about global patterns in soil communities and the environmental controls on their functional traits. As a central trait linking organisms to their environment, this study investigated the response of soil animal body size to environmental controls at a global scale. First, a global dataset of body size was compiled for thirteen soil animal groups across tundra, boreal, temperate, mediterranean and tropical climates ($N = 1239$). Then, the global dataset was analysed to investigate allometric scaling relationships between body size and environmental variables. Data analysis revealed a number of significant correlations between soil animal body size and global environmental variables, including latitude, mean annual precipitation and pH, but the overall best predictor was temperature ($R^2 = 0.22$, $p < 0.0001$). The response of

individual soil animal groups with temperature, however, varies widely across the overall positive correlation. Using linear mass-temperature models for each soil animal group, we predict future body size responses to changing temperatures, assuming a 0.20 °C increase in global temperatures per decade. Model results indicate potentially diverse responses to future warming, of varying magnitudes and directions. Anticipating the consequences these shifts in soil communities will have on ecosystem functioning requires a better understanding of the environmental and biotic controls, and effects of multiple global changes, on soil communities and their activities.

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- Author** Cheuk Lai Lo, City University of Hong Kong
- Title** Perfectionism, academic motivation and achievement goals; an integrated study in the Hong Kong context
- Abstract** Maladaptive perfectionism is a potentially risk factor of poor academic performance (Lee, Wong, Chow, & McBride, 2006) and mental health (Blankstein, Lumley, & Crawford, 2007). Previous research with western samples has examined the linkage between perfectionism and variables pertaining to academic outcomes, academic motivation and achievement goals but inconsistencies were found in the Asian countries. The current study aimed at integrating the above three variables in Asian university students and using the independent variables to predict academic outcomes and student's approaches to learning (SAL). Method: 145 Hong Kong undergraduate students were recruited using convenience sampling using an online questionnaire. Instruments included the Short Form of Multidimensional Perfectionism Scale (SF-MPS), Academic Motivation Scale College Version (AMS-C 28), Achievement Goal Questionnaire-Revised (AGQ-R), Revised Study Process Questionnaire (R-SPQ-2F) and demographics. Results: Correlational analyses showed that students' Cumulative Grade Point Average (CGPA) was positively associated with adaptive perfectionism, deep approach to learning, performance approach goals, introjected-motivation but negatively associated with surface approach and amotivation. The effect of adaptive perfectionism to SAL was moderated by sex. A main effect of adaptive perfectionism to deep approach and surface approach was fully mediated by mastery approach goals; while partial mediation of mastery approach goals was observed on maladaptive perfectionism to surface approach. Conclusion: Students scoring higher in adaptive perfectionism and adopting a deep approach in learning tend to have higher CGPA than those with surface approach, among which female students have higher CGPA than male students. Educational and practical implications will be discussed.
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- Author** Stefan Loncar, Nottingham Trent University
- Title** Investment partnership with a risk-taker: modelling examples
- Abstract** Cooperative investment (CI) is an idea proposed in contrary to the individual investment mostly used in the world of finance. The general idea of CI is to join the capital of two investors and then to split the outcome of the investment, based on a prearranged agreement between the investors. In this

study, it is assumed that one investor is risk-seeking while the other one is risk-averse. These assumptions differentiate the goals of the investment and create a completely new investment strategy. This strategy should minimise the risk and maximise the profit which compels both investors to cooperate. This project seeks an answer to the question whether CI is better than individual investment. The answer to this question was examined on a cash or nothing example and by creating a linear programming system. Portfolios for two individual investments were created by mean-variance analysis and the CI portfolio was created as an optimisation problem which included the risk preference of each investor. The optimisation problem was solved by modelling in MATLAB and later, the results from individual investment and CI were compared. Theory of the CI was illustrated with those two examples and it has been shown that CI is more beneficial than the individual investment.

Author Alexandre Lopez, Oxford Brookes University

Title Challenges and developments in Chinese foreign policy

Abstract Africa has always been significant in Chinese foreign policy, yet recently China has been expanding their security presence in Africa at increasing rates; Djibouti in East Africa now holds the first Chinese overseas military base. But why increase their security role in the region? Why not remain simply a powerful economic actor? This research aims to address such notions, investigating what China hopes to gain from an enhanced security presence on the African continent, and how this compares to the foreign policy of different political eras in China's modern history. Evidence and arguments will be developed through qualitative research methods, but empirical data will help reinforce conclusions made – allowing a greater analysis of long term Chinese political gains, which do not always present themselves quantitatively. Such research is important as it opens a discussion into the changing dynamics of international politics and the relationship between foreign economic and security policies, as well as providing an investigation into the motives behind China's growing international role. It is predicted that China will be shown to be increasing their security role in Africa, not only for economic gains, but as preparation for an attempt to challenge the United States as the world's largest superpower. This therefore differs from Mao Zedong's foreign policy, where intervention, expansion and forms of imperialism were strictly opposed. The economic liberalization of China, initiated by Deng Xiaoping, caused a shift in the core foreign policy tenants of the Chinese state, eventually resulting in the policies we see today.

Author Joseph Losh, University of Liverpool

Title An Anthracological Assessment of Neolithic Midden deposits from Çatalhöyük

Abstract The aim of this study is to examine the spatial distribution of wood taxa in an archaeological midden deposit from the Turkish, Neolithic site of Çatalhöyük. The hope is that the variation in taxonomic composition of the samples will provide information on the differences in taphonomy across the deposit. A secondary aim is to analyse trends in the quality of the wood charcoal and to relate this to the ecological conditions the specimen grew in and firewood collection strategies adopted by the inhabitants of the site. The data has been

gathered by archaeobotanical procedure whereby a specimen's species is determined through microscopic examination of its anatomical structures in three sections, and its quality is assessed by the occurrence of variation in the tissue and state of decay. Samples were gathered as procedure during archaeological excavation in 2016 under the direction of Ian Hodder, the charcoals were then extracted through a process known as flotation; during which the sample is submerged in a tank of water and the lightweight material, which includes the wood charcoal, float to the surface and are collected and sent to the University of Liverpool where they were examined. At the time of writing no conclusions have been drawn.

Author Kelsey Loveday, University of Leeds

Title The Jugular Foramen in Skull Base Surgery: Anatomy, Pathology, and Interventional Approaches

Abstract Jugular foramen (JF) pathology can affect a patient's ability to speak, swallow and maintain visceral control with life-altering consequences. Although pathology is rare, due to its deep location, its proximity to major structures and complex anatomical architecture, surgical intervention is fraught with consistently high morbidity rates. Additionally, there are currently no large-scale anatomical studies to accurately determine prevalence of anatomical variations reported in the literature. Many centres are phasing out operative approaches in favour of stereotactic radiosurgery, where lesions can be ablated with limited damage to adjacent structures. This review aims to analyse the anatomy of the JF and reported variations, discuss the main conditions impacting the JF, examine the outcomes of current surgical approaches, and consider the future of JF management in stereotactic radiosurgery.

Author Lenette Lua, University of Warwick/Royal College of Art

Title Why Art? Examining the Impacts of Funding Reductions on Arts and Cultural Sectors in the U.K.

Abstract Years of austerity result in continuous funding reductions in arts and cultural sectors. Research shows that the funding is likely to be cut by 77% by 2020 (Adams, 2017). By analysing the financial statements of the selected non-profit institutions of different sizes from 2013 to 2018, the research compares and contrasts the impacts of funding reductions on the educational programmes in London, Wakefield and Liverpool, among which Liverpool holds the largest contemporary art festival Liverpool Biennale in the U.K and was chosen as the European Culture of Capital in 2008. Wakefield has received a grant from Arts Council England as Cultural Destinations initiative since 2017. The paper concludes that funding reduction on arts and cultural sectors is a double-edged sword. On one hand, it encourages the institutions to diversify their income sources, reducing business risks. On the other hand, it has a negative impact on a wider community, especially in a long-run because creative industry is one of the key sectors in British economy and soft skills such as creativity and critical thinking are growing in demand. Drawing from contemporary art theories, the paper rethinks the notions of art in the contemporary settings — what are the purposes and functions of art? What constitutes art? What values does art create? The discussions seem

ever more urgent in recent years, when the proportion of students enrolled in arts and music fell to the lowest level in decades, because of the high costs on arts subjects and the “promotion of the narrow English Baccalaureate”, criticised for its lack of arts subjects (Bounds, 2017; Harvey, 2016; Abrams, 2017).

Author Marwan Abbas and Omar Abougabal, American University in Cairo

Title Easy Bus

Abstract Easy bus is a system concerned with to facilitate transportation to and from schools and universities for students. It is designed to contain hardware and software components. Card readers should be installed on buses in order for a student to swipe his/her Id in order to unfold a seat. In this way, the university can easily know how many people are on the bus and how many usually use this route at this timing. Therefore, this will help them with making decisions for the allocations for buses for each route. In addition, students will be able to reserve a seat prior to the ride through the application, which will contain all the different routes and timings. However, in order not to waste seats, a student who reserves a seat needs to come 5-10 minutes early in order to confirm his reservation or his/her seat will become available. Furthermore, in order to make sure that students experience a ride comfortable as possible, they can easily change their seats by swiping their id on the other preferred seat, and the old seat will fold immediately and becomes available to others. Therefore, they have the ability to choose the seat they are most comfortable in. Students also have the ability to raise any reports or complaints through the app as well. And not only will this app be available for students, but also it will be available for drivers to know the stops they should take and receive and check their pay.

Author Chris Madders, Bournemouth University

Title How Soyinka writes back to the historical record of World War Two in *Death and the King's Horseman*

Abstract A priority of postcolonial literature is the “rewriting of the European historical [record]” (Ashcroft 1991). Soyinka’s 1975 play *Death and the King's Horseman* achieves this by examining Nigeria’s history as a British colony. The play has been studied fervently by scholars, but little has been written about how it challenges the European historical record of WW2. Specific events have taken centre stage in collective British memory, like the Normandy Landings, the Battle of Britain, and the Dunkirk evacuation, which have become iconic and remain part of the national psyche. Proof of this lies at the box-office, where films like *Darkest Hour* (2017), *Dunkirk* (2017), *Churchill* (2017), and *Their Finest* (2016) have all recently told stories based heavily on these three events to a modern audience. These events focus on Britain as an island nation resisting annihilation, framing Britain as an underdog. However, this perception has been written from within Britain itself, and may alienate former British colonies. How could a wide-reaching global empire be the underdog? Soyinka addresses this in *Death and the King's Horseman*. Through a close analysis of the play, I have identified subtle but significant challenges to this dominating perception of WW2 that promotes the

Nigerian contributions to the war and its history under British rule. With the current effort in BU to challenge a “white curriculum”, and the little attention given to this aspect of the play by scholars, this study will contribute greatly to the surrounding literature and discuss how the record ignores black history.

Author Connor Magson, Blackpool and the Fylde College

Title Does Direct Guidance of the Player Affect Player-Experience Positively?

Abstract This research aims to evaluate player guidance and objective tracking methods, and their impact on player experience. Existing games user research, including player experience and playability research, gives little attention to the effect of player guidance specifically although almost all games utilise objective tracking in some form be that as written/auditory guidance or visual stimuli. Through the development of a World of Warcraft Addon (Modification), this research aims to discover how the player experience is affected when they are guided directly through gameplay through text-based prompts. The study will use four groups in total, two group who are somewhat experienced with PC gaming in general but have not played the game in question before, and another two groups who are experienced with the game. For each pair of groups, one will play a ‘level’ together without using the modification, and the other will. An observer will make note of how the groups are progressing through the level with timestamps, and afterwards, the groups will report their experiences through both a questionnaire and focus group. Expected results are that all groups using the modification will find gameplay less challenging as they will not have to consider their direction through the. For the less skilled group using the modification; their experience is expected to be improved by the additional guidance, however, the skilled group’s experience is not expected to be improved (and potentially even reduced), as they likely would not require the guidance.

Author Fatima Mahmood, Queen Mary University of London

Title Cooking Cancer: Magnetic Hyperthermia Therapy

Abstract Carbon nanotubes filled with iron can dissipate enough heat to preferentially kill cancerous cells within the human body when energy is supplied by an external time-varying magnetic field. For these structures to be used by clinicians, we firstly need to assess the reaction of healthy cells to the presence of these structures. X-ray diffraction and Raman spectroscopy will be used to quantify the relative abundances of the elements and compounds within the structures together with the chemical reactivity of its surface. Standard tests for cell proliferation and cytotoxicity will provide information concerning the potential side effects associated with the use of these structures for magnetic hyperthermia cancer therapy.

Author Amal Malik, University of Warwick
Title Women in Cartoon and Caricature

Abstract Researching between 1815-1850, my poster focuses on the portrayal of woman in cartoon and caricature, tracing the changes of political protest and political thought over the nineteenth century. In the nineteenth century there was a growth of women intellectuals and radicals, who used the 1790s age of revolutions, as a platform from which they could increase their political writings. There was a shifting social order, as evidenced by women's growing presence in the public sphere. I will consider the fear of female spaces, and the suspicion towards the female intellectuals. In particular, I will refer to the Bluestocking's movement to trace the changing attitudes towards female intellectuals, as the once respected female literary figures became subject to intense scrutiny in the early nineteenth century. With prints being widely accessible at a public level the restrictions on women's intellectual works, particularly when considering the lack of women caricaturists in relation to public consumption, is suggestive of the fear of women's presence in the public sphere. Overtly patronising, male critiques used caricatures to undermine the growing women's emancipation movement of the nineteenth century. Looking at the critical tropes of the juxtaposing hyper-feminised and de-sexualised women, I will consider how male critiques would use satire as medium for their social commentary in the nineteenth century. Focusing on the satirical gaze, I will illustrate that the employment of caricatures was a vehicle of social commentary on the shifting power relations between men and women.

Author Honey Manso, Brighton and Sussex Medical School
Title Identifying soil triggers of podoconiosis

Abstract Podoconiosis is a form of elephantiasis (swollen legs) that occurs in the tropics. It affects some of the world's most disadvantaged communities. The main burden of disease is in Africa where over 4 million people are affected. The exact cause of podoconiosis is unknown, but it is known that it affects people who are exposed to a certain type of soil - volcanic red clay. It is thought that the soil contains irritant particles that get through the skin of the feet and trigger irritation that leads to swelling. It can be prevented by wearing shoes but most are too poor to buy shoes. This project is laboratory-based research into the cause of the disease. The aims were to determine how macrophages respond to soils from podoconiosis-endemic, non-endemic areas and transition zones in Ethiopia; as well as mineral standards. Furthermore, to identify the soil components that were triggering the disease and identify which inflammatory pathways and cytokines are specifically associated with the pathogenesis. This was done by challenging THP-1 macrophage-like cells with various soil and mineral standard samples in addition to cytokine assays including Nf-kB pathway and caspase-glo 1 inflammasome. Results showed key inflammatory signalling pathways were

activated by macrophages challenged with soil samples from disease endemic, non-endemic areas and transition zones. However, no differences were observed between the 3 regions. There were also positive results shown from mineral standard activation and cytokine assays. Further soil fractionation may be required to identify relevant components in endemic regions.

Author Isabel Maranhão, University of Sussex

Title Auditory and tactile deviant detection in dyslexic and non-dyslexic groups

Abstract The underlining causal factor of dyslexia is still a topic of high controversy, with the leading theory hypothesising that dyslexia is caused by a phonological deficit which results in decreased awareness of speech units, subsequently leading to difficulties in reading and spelling. This is supported by electrophysiological studies showing attenuated mismatch negativity (MMN) in dyslexic groups, when compared to controls, to auditory oddball tasks. However, there is evidence that dyslexics also have deficits in visual processing, raising the question of whether dyslexia's impairment could be a more generalised temporal processing deficit across modalities. In order to test this, I compared the performance of dyslexics and controls in a task involving deviant sequence detection using either auditory or tactile stimulation. Each session comprised 2 blocks, one with an easier globally structured target sequence structured as two repeats ("global recognition") and another where the target sequence had to be recognised based on its individual elements ("local recognition"). 16 people (8 controls, 8 dyslexics) participated in each modality. Next, the tactile participants had their neural activity recorded during a tactile passive oddball paradigm, in order to investigate differences in MMNs between groups. Results showed that dyslexics significantly underperformed controls in both global and local recognition in the auditory ($p=0.0016$; 1.55×10^{-4}) and tactile tasks ($p=0.0157$; 0.0028). On top of that, electrophysiological results showed control MMNs reached significant discriminability while they did not for dyslexics. This suggests dyslexia can be a more generalised multisensory deficit of temporal processing, beyond just a phonological deficit.

Author Apolline Marion, Queen Mary University of London

Title An economic forecasting of a UK recession caused by a potential collapse in the London housing market

Abstract Mark Carney announced back in August 2018 that a no deal Brexit could imply a 35% collapse in the London housing market over the next three years. The current literature is suggesting that such a collapse would affect economic growth, employment, consumption and investment. While some are suggesting that only London house prices could tumble and others are evoking the possibility of a full-blown crash in the UK-wide housing market; this project focuses on the London housing market only, as the current literature indicates that it distinguishes itself from the UK-wide housing market in terms of population and prices. This ongoing study examines the extent to which a collapse in the London would affect the UK economy. An econometrics model called Vector Autoregressive is therefore used to

estimate the response of the main components that determine the health of the economy to a shock in the London housing market. The analysis consists of two main parts: the impulse response function which is helping determining the reaction of GDP, inflation and uncertainty to an impulse in the London housing market; and historical decomposition which calculates the contribution of the different accumulated structural shocks to each observed variable. Results are showing that a shock in the London housing market does affect GDP and inflation at a significant level, however uncertainty remains unaffected. This paper therefore considers that uncertainty can be replaced by other variables such as the short-term interest rate and stock prices, which is yet to be fully analysed.

Author	Gabriela Marmolejos, Johns Hopkins University Bloomberg School of Public Health & George Mason University
Title	Global trends in e-cigarette legislation
Abstract	<p>Objectives: Determine the timespan and trends of e-cigarette policy development around the globe. Methods : To fulfill objective 1, effective or publication dates of national policies regulating e-cigarettes, as of July, 2018, were identified using (1) the Institute for Global Tobacco Control E-cigarette Policy Scan database, (2) Tobacco Control Laws website and (3) official country websites. The study identified the effective or publication dates of policies used by countries to specifically regulate e-cigarettes at the national level. To fulfill objective 2, this study identified World Health Organization (WHO) geographic regions, World Bank income levels and national policies regarding e-cigarette sales for 70 countries. Data collection took place between June and July 2018. Results : The study identified the effective or publication dates for 107 policies in 70 countries. The effective or publication dates for 93% of national policies (n=100) regulating e-cigarettes were between the years 2010-2020. 67% of policies in countries with sale bans on e-cigarettes (n=14) were effective or published between the years of 2011-2015. 79% of policies in countries which do not ban the sale of e-cigarettes (n=38) were effective or published between the years of 2016-2020. Countries within regions with harmonized policies (e.g. Eastern Mediterranean and Europe Regions) also tended to have similar effective or publication dates. Conclusion : Overall, this study highlights contemporary trends in e-cigarette policy development globally. Effective and publication dates of e-cigarette legislation suggest a recent trend towards regulating rather than banning and restricting the sale of e-cigarettes.</p>

Author	Daniel Marshall, University of Sheffield
Title	A high-performance agent-based model of tuberculosis transmission
Abstract	<p>Tuberculosis is one of the biggest causes of death from infectious disease in the world, but its transmission is still poorly understood. The ideal way to model transmission of a disease is to model individual people and their movements as this captures many of the possible factors in the spread of disease, but this is difficult to put into practice computationally as communities can be made up of relatively large numbers of people. This project involved using FLAME GPU, a tool for agent based modelling developed by the Department of Computer Science which takes advantage of the fact that modern graphical processing units have thousands of cores</p>

	<p>and so simulations of many agents can be run in parallel, and applying this to data about communities collected from Zambia and South Africa. The eventual aim was to both create a model that can be used to assess the impact of different factors on tuberculosis transmission and also to benchmark the performance of FLAME GPU in this area. The resulting simulation models individuals with characteristics such as age, sex, HIV and TB status, household memberships and visit patterns of other buildings, and runs around 30x faster than would be expected from a comparable model running on a single core. In addition, many input parameters such as the ventilation of buildings can be varied between runs of the simulation, which allows for experiments to examine the effects of various interventions on reducing the spread of tuberculosis.</p>
Author	Angela Martin, Nottingham Trent University
Title	State-of-the-art of VR in design for performance
Abstract	<p>This research explores how virtual technologies have been used in design for performance and how they are transforming artistic practice and audience experience. The use of virtual technologies can take design for performance one step further, offering designers an immersive toolset to create new worlds and storytelling environments where audiences become creative participants. The potential application of different virtual technologies within performance - such as augmented, virtual and mixed realities - is yet to be fully realised and so this research begins to address this potential by exploring their existing use, what is possible now, and what could be possible in the future. The research is separated into two themes, each one covered by a researcher: performance and technical. Within the performance area the focus is on a selection of known studies at Nottingham Trent University that incorporated virtual technology, alongside a selection of performances worldwide, and these are evaluated and discussed in the findings. The technical research predominantly focuses on the possibilities of current technology and creative boundaries such as: budget; motion sickness; and, accessibility that may hinder a performance. Current virtual technologies are explored via multiple tests using a state-of-the-art virtual reality headset and augmented reality devices. This research was part of a Nottingham Trent University research initiative and was presented as an infographic poster incorporating augmented and virtual realities. The poster was view by an audience allowing them to see the potential of the technology itself and the importance of the research.</p>
Author	Melissa Martin, University of Warwick
Title	Fit for Work: Neoliberal Discourse Surrounding Work, Illness and the Body
Abstract	<p>The number of people who are out of employment on a long-term basis due to chronic health problems or disability in the UK has risen considerably in recent years, resulting in a significant increase in the number of people claiming incapacity-related benefits. As such, since the financial crisis of 2008, austerity measures under the Conservative government have aimed to reduce the costs of such benefits. One such measure is the Fit for Work scheme, a government-funded initiative that offers free work-related health advice with the intention of reducing work absences resulting from ill-health. Sociological consideration of such initiatives is pertinent, as it reveals how they reinforce broader neoliberal discourses surrounding work, illness and the body, particularly in terms of values of productivity and individual</p>

responsibility. Through an in-depth discourse analysis of the Fit for Work webpages, I examine how they interpellate people to embrace these values through 'nudge' tactics. They encourage them to continue work regardless of sickness, for example, through casting doubt on the legitimacy of their level of sickness and underlining the benefits of working at home while unable to attend the workplace, emphasising how sickness absence is costly to organisations and to society as a whole. This ultimately results in the perpetuation of an unhealthy culture surrounding the relationship between illness and work with harmful consequences for wellbeing, especially of disabled and chronically ill individuals, who struggle or fail to meet the expectations of this culture, which reinforces the normalcy of wellness and non-disability.

Author	Jacob Mather, University of Leeds
Title	Investigating the role of amino acids in glucose homeostasis
Abstract	Background: Type 2 Diabetes Mellitus affects an estimated 422 million people globally. The disease and its complications account for 10% of NHS expenditure. A high protein diet has been shown to improve glycaemia, in part due to weight loss effects. However, little is known about the direct effects of protein's breakdown products, amino acids, on glucose homeostasis. Hypothesis: Amino acids influence glucose homeostasis, altering glycaemia through various pathways. Aims: To assess the impact of an oral equimolar amino acid load on blood glucose levels in response to a glucose, insulin or pyruvate tolerance test. Methods: An equimolar 18 amino acid solution was orally gavaged to mice immediately following intraperitoneal injection of either glucose, insulin or pyruvate. Blood glucose levels were measured over the next two hours. Results: The oral amino acid load did not alter glycaemia following a glucose tolerance test but did attenuate insulin tolerance test-induced hypoglycaemia, resulting in a more rapid return to baseline blood glucose levels (overall; $p=0.016$). During the pyruvate tolerance test, the oral amino acid load attenuated the rise in glycaemia and accelerated the return of blood glucose to baseline levels ($t=30$; $p=0.033$). Conclusion: The oral amino acid load hastened the return to normoglycaemia following both insulin and pyruvate tolerance tests. Further studies should measure the glucagon:insulin ratio speculated to mediate amino acid-induced alterations in blood glucose levels. A better understanding of the mechanisms by which amino acids regulate glycaemia may lead to more effective dietary interventions for Type 2 Diabetes Mellitus.
Author	Anna Matrai, University of Warwick
Title	The Norwegian Approach to Climate Change Mitigation: The Role of Government Policies and Venture Capital Investors in Supporting the Cleantech Start-Up Sector A Market Analysis Report
Abstract	In the era of technological disruption and climate change mitigation, both governments and private investors need to look for innovative solutions, effective policies and investment strategies, and successfully adapt to the

	<p>changing environment. Supporting the growth of cleantech start-ups provides an opportunity for accelerating the energy transition while embracing technological change, thereby creating competitive advantage. Norway ranked 9th on the Global Cleantech Innovation Index in 2017, thereby underperforming other countries in the region: Denmark, Sweden and Finland (Cleantech Group,2017). Norway's underperformance in cleantech is partly explained by different government priorities in the countries and Norway's heavy support for the Norwegian Petroleum Industry, which has been successfully built from ground-up over the past 50 years (Engen,2009). The Norwegian approach to climate change mitigation proves to be a unique case, and therefore this research investigates an unconventional way of supporting clean growth in the country, through investment in cleantech start-ups and the creation of a supportive policy environment. The aim of this research is to demonstrate whether or not government policies and VC investor activities complement each other in enabling the growth of the Norwegian Cleantech Start-up Sector, and how their interaction can be improved. By the end of this project, I will have proposed recommendations based on lessons learnt in the Norwegian Petroleum Industry and in other Scandinavian countries with successful cleantech support. This research is my undergraduate dissertation - yet to be conducted. Presenting at BCUR would be the dissemination event. My methodology includes: a literature review and semi-structured interviews.</p>
Author	Georgia Matthews, University of Reading
Title	Intonation processing in Autism Spectrum Disorder
Abstract	<p>Individuals with Autism Spectrum Disorder (ASD) have been found to present with impaired intonation processing, that is, the perception and production of changing pitch. This study recruited 18 adults (10 with ASD and 8 typically developing) and 19 children (13 with ASD and 6 typically developing) who took part in intonation discrimination and identification tasks. For the discrimination tasks, participants discriminated between both speech and non-speech sentences where intonation was either the same or different. For the identification task, participants identified whether sentences were questions or statements based on the differing intonation. Results across tasks found that typically developing adults outperformed ASD adults, whilst ASD children performed better than typically developing children. These results suggest group differences in intonation processing that may change with age. This research may provide support for the development of language interventions to improve the communication skills of adults with ASD.</p>
Author	Eleanor Mawson, Newcastle University
Title	Measuring the Effects of Over-protection from Academic Adversity: Developing the PASS.
Abstract	<p>The effect of 'helicopter parenting' or 'over-parenting' has been a growing concern in both academia and industry. This increasingly ubiquitous parenting style is characterised by parents, and society in general, attempting to shield young people from negative environmental stimuli. Increasingly, employers are finding recent graduates are struggling with conflict at work, and counselling services are stretched with cases of student anxiety. Previous research has focused on parenting styles involving poor care that leads to emotional neglect, but there is scant</p>

research on how sheltering affects student performance in Higher Education. We developed the first comprehensive scale assessing the extent of helicopter parenting behaviours in 180 participants (mean age 21.83, 76.8% female). A factor analysis of the 78-item Protection from Adversity, and Sheltering Scale (PASS), revealed six sub-factors underpinning the scale: academic entitlement, academic identity, experience of challenged opinions, school coaching, intolerance of academic uncertainty, and academic instant gratification. Analysis revealed participants were generally well distributed between high and low scorers on all sub-scales. Academic entitlement was a negative predictor of university academic performance. Other key factors were intolerance of uncertainty and amount of school coaching, both of which negatively correlated with academic resilience. Our findings suggest that the over-protective school and home environments negatively affect academic attitudes and achievement at university. The results also provide strong validation for the use of the PASS as a tool that may help target interventions to those who may struggle the most in their transition into undergraduate study.

Author Sophie Maxwell, Blackpool and the Fylde College

Title Using Virtual Reality to Develop A Mindfulness Safe Space

Abstract Virtual reality technology is already being utilised within many different industries, from military, education, entertainment, health and more. This technology has the potential to increase wellbeing from within the home, with virtual reality becoming more accessible through reduction in price, access to equipment and general technological advancements. This dissertation investigates if virtual reality technology can be used to increase mood and happiness through mindfulness sessions; and if virtual reality applications can be a positive part of day-to-day life. The study is partially autoethnographic, examining the development of the application, but also features a sample group investigate if users feel an increase in happiness and wellbeing after completing various activities. Information collected from the sample group, through use of qualitative semi-structured interviews, observations and quantitative data through surveys and the application will be used to answer the questions: 'can virtual reality improve happiness?', 'is virtual reality an effective tool which should be utilised more in everyday life'? And finally, due to previous research featuring less advanced hardware - yielding minimal or negative results - 'does the technology hardware impact the ability for the application to improve happiness?' If the data indicates an increase in happiness through the use of the technology and application it means that an individual could use this technology within their own homes to increase their happiness through participating in an immersive, mindfulness-oriented virtual experience.

Author Jake McCarron, Blackpool and the Fylde College

Title Online Collaborative Environments - Marrying Feature Sets with User Experience

Abstract This research focuses on the necessity of modern online collaborative environments, their purpose and a consideration of the myriad features and services these platforms can offer, across a range of platforms and devices. Many modern, popular collaboration environments perform well in certain tests when considering specific features, however, might fail to bring with

	<p>those elements a fulfilling user experience; whereas, other services offer a fantastic user experience, however the range of features is not as broad as one may assume of such a product, which the core aim of this project will aim to rectify. The development of the product will consider the research undertaken in critically analysing the current, widely available solutions, selecting the most utilised features of each and attempting to develop a solution which allowed for each feature combined into a single product which allows collaborators a unified and seamless experience. The product's success will be evaluated in two ways: firstly, with by considering the autoethnographical approach which will allow for the undertaking to be considered as a potential development for others to consider, and secondly, by testing the product itself with a small sample group. The internal and external criticisms will then be analysed against the initial research questions and considered against the current platforms in order to evaluate the development's success in achieving its aims of developing a seamless collaborative experience.</p>
Author	Nicole McCluskey, University Centre Reaseheath
Title	Occurance and Impacts of Ingestion of Microplastics in Species in Freshwater and Marine Habitats
Abstract	<p>This rationale behind this project relates to the increased global use of plastics, and the potential for their ingestion by wildlife species, which may result in a negative impact on their health and welfare. In particular since the mass production of microplastics began in the 1940's, it has been revealed that they may have serious implications to animals living within ocean habitats. In consequence, this is a subject of particular importance due to the continued increase in plastic usage in the last decade and it's far reaching impact upon the planet and its inhabitants. Although there is current research focus on how to extract microplastics from sediment, much more research is needed to identify methods for extraction of microplastics before they get into the ocean. Moreover there are currently considerable gaps in scientific knowledge surrounding the general impact that microplastics are having on wildlife. With this in mind this project will involve the completion of a meta-analysis which aims to identify patterns in species affected by plastic ingestion and highlight the quantities of microplastics which they have ingested. This will involve extraction of data from up to 100 peer-reviewed articles using the keywords 'microplastics', 'ingestion' and 'fish'. This project is important to future and current research as there is an ongoing increase of microplastics being released into habitats. The data which is gathered can be used to for current researchers, the data will provide where the most microplastics are and what can be done in the future for species.</p>
Author	Cameron McCready, University of Warwick
Title	A Critical Analysis of the Role of Space Privatisation in the Development of London's Resilience to Terrorism: Investigating London's resilience to terrorist attacks in an era of governmentality
Abstract	<p>Whilst orthodox is largely concordant in identifying the factors facilitating the privatisation of space within urban areas, predominantly in association with the present era of neoliberalism, the consequences of spatial</p>

privatisation are rarely discussed outside of claims of democracy's infringement. Despite London's experiences as the target of multiple fatal terrorist attacks in 2017, contemporary scholarship is yet to fully explore the interlinkages between neoliberal topographical evolution, socio-environmental influences and resilience development. This research will utilize both primary research and secondary literature to provide a critical analysis of the impacts that the privatisation of space has upon London's resilience to terrorism, with a primary focus on the 'prevent' and 'prepare' elements of CONTEST, the UK's counter-terrorism strategy. Ultimately, the findings of this research will be presented using a logic model in order to present proposed interconnections between the process of space privatisation; governmentality as a form of control; and Allport's contact hypothesis. This analysis hopes to contribute to extant literature on how urban topography influences behaviour and perceptions of others, as well as to instigate further discussion on how the diminution of public spaces and interactions, exacerbated by the 'public responsibilisation' of the governmentality era, is antithetical to the development of London's resilience to terrorism.

Author Robert McDonald, University of Warwick

Title Topological Data Analysis of Random Networks

Abstract If you wanted to open a new international airport, which destinations should you run flights to? You might choose to operate routes to big hubs such as London Heathrow, or New York JFK, given that these airports are already busy with potential transiting passengers. However you might choose to connect to quieter airports such as our very own Coventry Bainton, since these locations are not currently well served. Given the huge network of existing airports and their connecting flights, we require efficient analytical techniques to help us answer questions such as the above. We appeal to Algebraic Topology - an abstract branch of mathematics, concerned with the overall 'shape' and 'structure' of an object, to help us realise the key features of such a network. To a topologist, there is no difference between an inflated football and an aeroplane itself - since both are smooth surfaces enclosing a 3-D space! In this paper we consider three large networks - where connections between nodes are assigned using different random attachment criteria. We find that, the case of so-called 'anti-preferential attachment', where new nodes are attached to the least popular existing ones, leads to a non-trivial second homology group - or 3-D hole within the network. Whilst this kind of network would be beneficial to the residents of Coventry, it would lead to a major inefficiency within the system. Once identified however, this could tell you exactly where your new airport should offer flights to.

Author Catherine Mellor, Staffordshire University

Title A Lifetime of Farming: Evaluating the impact of EU subsidies on family farms in the West Midlands

Abstract This research is focusing on the potential impacts of 'Brexit' and the loss of CAP payments for a small family farm, focusing on the older, more experienced farmers which are based in the West Midlands region of the United Kingdom. Data was collected through the completion of four hour long, semi-structured and completion of a timeline aid, both of which were later analysed. The results found that for the older generation 'Brexit' was

	<p>not a concern due to their age, however they felt that post-'Brexit' a subsidy payment should be rewarding farmers for the food that they produce, with the focus of a new scheme on food production, not environmental management; despite this they still recognised the importance of looking after the environment. The impact of losing their CAP payments for the farmers would have meant that they would be losing their profit, making their business less viable. Results are discussed within the context of the research questions which are set out within the literature review.</p>
Author	Daniel Mendoza, University of Alabama at Birmingham
Title	Service-learning as a means to foster values of civic engagement and sustainable practices in a large enrollment non-majors biology class
Abstract	<p>National efforts to reform undergraduate education have highlighted the need to relate abstract concepts in biology to real-world examples. Among the suggested interventions to help address this need is adopting service-learning. We, therefore, decided to explore the impact of service-learning on civic engagement and sustainable practices in a large enrollment non-majors biology class. To begin with, we had data driven class discussions by climate change scientists, on environmental pollution and on sustainable practices. Upon completion of this module, students volunteered for three hours with any of the five selected community partners, who had adopted sustainable practices to run their respective organization. To assess student learning gains (n=46), an adapted version of the instrument from Dauer and Forbes 2016, was administered in pre- and post-assessment format. The pre-post survey was designed in the form of an open-ended questionnaire to observe a shift in student knowledge about sustainable living and global climate change, and how these affect living organisms including human beings. Based on our survey results, 18% and 21% of students changed their stances and were increasingly concerned about how plastic pollution could influence human health and how changing their personal habits could have a large environmental impact, respectively. Our focus group interview data indicates that students gained a valuable experience that changed their previous understandings regarding the impact of pollution and global warming on living organisms. This suggests that service-learning could serve as a robust means to foster values of civic engagement and sustainable practices in a non-majors biology class.</p>
Author	Daniel Mercer, University of Reading
Title	Streamlining delivery of chemotherapy for lymphoma patients
Abstract	<p>Patients with Non-Hodgkin Lymphoma (NHL) are treated with up to six courses of chemotherapy. Each course of chemotherapy is prescribed 3 days before treatment is due and must be clinically screened and ordered by a specialist pharmacist. However, within a busy cancer unit, prescribing delays can sometimes occur. To improve service efficiency, patient experience and minimise cost implications that may come with late ordering of chemotherapy the feasibility to safely prescribe courses of chemotherapy in advance was assessed. To understand whether this was feasible, information on the frequency and timing of dose adjustments, the reason these happened and whether there was a requirement for an improved workflow within this unit was gathered retrospectively. Information on dose modifications was extracted from the hospitals designated chemotherapy prescribing system, analysing over 200 NHL patients treated between 2016</p>

	<p>and 2018. Reasons for dose modifications was confirmed from medical records and checked against chemotherapy prescribing protocols. Approximately 70% of patients did not require dose adjustments throughout their treatment and could therefore be selected to have their courses of chemotherapy prescribed in advance with continued monitoring and review before every course of treatment. Overall this could help relieve prescribing workload on busy NHS clinicians and minimise cost pressures, whilst maintaining patients' safety. Future efforts will include creating selection criteria to identify those patients who can safely have their treatment prescribed in advance with governance systems in place. This work also highlighted potential role for patient review by a competent non-medical independent prescriber to improve skill mix.</p>
Author	Ajit Ark, Rebecca Davies, Nikita Jiwan, Roy Middup and Sabrina Rasaiah, University of Leeds
Title	Augmented Reality as a Novel Method of Denture Tooth Selection and Setup
Abstract	<p>Choosing the shape and size of teeth for dentures is difficult for patients. Conventional methods involve patients browsing catalogues of various shapes and sizes, unable to visualise them in the mouth. While patients should be the final arbitrators on tooth selection, with support from the dental team, often they are not engaged in the decision resulting in significant dissatisfaction. Increased evidence of such limitations suggest a gap between the current system and the clinical need for innovation. A literature review revealed a lack of technology to help patients envisage treatment outcomes. Our research aims to revolutionise patient-centred denture provision by creating a virtual library of artificial teeth, for use in our own augmented reality (AR) software. The AR software places virtual upper anterior teeth into the patient's mouth in real-time, providing a simulation of the final denture. Twenty-two alternative setups allow patients to compare appearances with a finger swipe. Having gained NHS REC approval (IRAS 238446), clinicians and patients used the AR application at two appointments and assessed the usability and accuracy of the AR against the current method of tooth selection. Preliminary results show the majority of patients and clinicians preferred the AR (82% and 88% respectively). Patients rated the AR easier to use, enabled better visualisation and improved their informed choice. Clinicians agreed, although highlighted the AR took longer. The results of the study show the promise that AR has to improve patient involvement in tooth selection. Further developments are continuing to make the App convenient for dentists.</p>
Author	Yana Miladinova, Bournemouth University
Title	B2B PR: how can B2B PR agencies manage the reputation of SMEs in the creative sector?
Abstract	<p>Despite the practice of business-to-business (B2B) marketing being used and published for many years, B2B Public Relations (PR) studies do not exist in such vast amounts. Contributions to that area are based on the need for PR and communications activity that is coherent with the business goals and is a key part of reputation management. Therefore, this paper aims to explore if a collaboration between small-to-medium enterprises (SMEs) in the creative sector and a B2B PR agency could be beneficial. Benefits, in this case, are considered to be new business leads, talent</p>

	<p>retention, and a good reputation. It focuses on services such as B2B media relations, thought leadership, and reputation management. This study aims to add to the currently limited discussion in the B2B PR sector regarding the role of a PR agency in reputation management for SMEs, specifically in the creative industry. The paper takes a phenomenological approach operationalised through qualitative research methods such as semi-structured in-depth interviews. The 10 participants are identified as information rich, and are founders or managing directors of creative agencies in the UK. To gain comparative information, half of them work with PR agencies and the other half do not use external help when it comes to reputation management. The emerging themes and patterns from the interviews will be used to address the research question on the advantages of B2B PR and the benefit B2B PR agencies could bring to reputation management, specifically in the creative sector.</p>
Author	Nic Miller, University of Warwick
Title	"Toujours la Question des Asiles": Media representations of psychiatry in Québec, 1865-1962.
Abstract	<p>Current scholarship on psychiatric history in Québec tends to focus either on the political context or, more recently, the lived experience of patients. While the voices of psychiatric patients have proven useful analytical tools, and the political approach has established the context which underpinned these voices, this paper proposes a new method of approach: the analysis of newspapers, pamphlets and other material designed to be consumed by the wider public to develop a clearer understanding of how psychiatric care and those with mental ill-health were represented to the public and how the public felt about these issues. The current body of scholarship is also notably compartmentalized by period, relating to different themes or psychiatric perspectives including moral treatment, degeneracy theory, mental hygiene, and the arrival of psychotropics in the international context. This paper will aim to consider whether the current periodical distinctions are appropriate, or whether we can bridge these discrete periods together through common themes, proposing a more comprehensive view of psychiatric history in relation to the national identity of Québec. The paper will work between 1865-1962 to reflect the long period of institutionalised psychiatry between the opening of the first significant asylum up to the start of deinstitutionalisation</p>
Author	Jack Mitchell, University of Warwick
Title	The Generalisation of Africa in Contemporary European Society
Abstract	<p>It has now been over half a century since the beginning of European decolonisation in Africa. In this period, the nations of Africa, in particular those in western, sub-saharan and eastern regions have faced numerous difficulties in their national histories. Yet, as these modern nations emerge from past turmoil and move towards unprecedented levels of growth and development, they face a new challenge; the generalisation and stereotyping of their individual identity. In spite of the post colonial context in which we now all live, contemporary European attitudes continue to deny agency to individual African nations. Europe still sees Africa as one monolithic body, whose politics is beyond our comprehension and whose people are permanently downtrodden. With the remnants of colonial relations further decaying as African countries become partners with their</p>

	<p>former metropolises, this generalisation is becoming increasingly problematic. Through establishing the general public's preconception of Africa, and seeking to understand why people think in such a way, this research will help academics to engage with this problematic relationship. As well as this, the role that the media, education and politics play in the formation, and sustainment of this injustice will become visible. This investigation will thus demonstrate how current stereotypes are fed by residual racist and colonially based preconceptions of Africa as a continent, and how this has prevented individual nations from establishing and developing their own identity in the modern world.</p>
Author	Nariell Morrison, University of Warwick
Title	Student perspectives on barriers to performance for Black & Minority Ethnic graduate-entry medical students at the University of Warwick
Abstract	<p>The aim of this research was to explore graduate-entry medical students' experiences of undergraduate training in the context of academic underperformance of medical students from black and minority ethnic (BME) backgrounds. It drew on qualitative semi-structured focus groups involving 24 MBChB BME students. The research found BME students reported facing numerous barriers that impeded their learning and performance. The relationships with staff and clinicians, though also identified as facilitators to learning, often hindered progress, as many students felt that a lack of representation and lack of understanding of cultural differences impacted their experience. Students also reported a lack of trust in the institution, with many not seeking support. Students reported having to mask their identity to fit in amongst their peers as well as to avoid negative stereotyping. Although rare, BME students faced overt racism from other students and patients. Several students described experiencing daily microaggressions and witnessing microaggressions against others. Many BME students reported feelings of isolation, reduced self-confidence and low self-esteem that hindered their learning and performance. BME students in this study faced a range of difficulties throughout their graduate-entry medical training that they felt impeded their learning and performance. Although it is not clear from this small study of one institution whether these findings would be replicated in other institutions, they nevertheless highlight important issues to be considered by the institution concerned and other institutions. These suggest that future interventions should consider improving peer relationships and student-staff relationships and institutional changes to diversify student and staff populations. Guidance on tackling racism as well as adequate training in anti-racism, culture and diversity for both students and staff is likely to be key.</p>
Author	Delaram Mostowfi Zadeh, Barts and the London School of Medicine
Title	The Practical Efficacy of Intra-Abdominal Pus Sampling in the 21st Century
Abstract	<p>Appendicitis is the most common global surgical emergency. In the UK alone, 70,000 appendicectomies are performed each year. Left untreated appendicitis can lead to perforation resulting in irritating fluid from the appendix leaking into the abdominal cavity and causing inflammation of the lining of the abdomen, referred to as peritonitis. Sampling the free fluid or pus within the abdomen, known as intra-peritoneal pus sampling, during surgery for microbial culture in the laboratory, has been a long standing</p>

	<p>practice. Identification of the bacteria implicated in the appendicitis was previously used to guide selective post-operative antibiotic therapy. However, for the past two to three decades, empirical and broad spectrum antibiotic therapy has been favoured for pre- and post-operative use. In light of this, many surgeons advocate the abandonment of intra-peritoneal pus sampling, as regardless of results, it is not generally used to alter the course of antibiotic therapy in patients. In other words, the practice has apparently become futile. However, in the 21st century, can we justify continuing to give the incorrect antibiotics to a patient with a demonstrably resistant infection and what are the associated ethical and legal liabilities with choosing to ignore readily available microbiological data? Furthermore, with global incidence of antimicrobial resistance on the rise, is it perhaps medically irresponsible to abandon guided antibiotic prescription? This paper considers whether we are too hasty to abandon this historical practice and proposes a novel approach towards the microbiological management of patients undergoing abdominal surgery.</p>
Author	Rayah Munn, Manchester Metropolitan University
Title	Racial Discrimination: An empirical investigation into ethnic minority wage disparity in the UK, 1975 - 2017.
Abstract	<p>Neoclassicalist, Gary Becker's theory on discrimination, theories that discrimination does not exist in the labour market primarily due to the notion that the discriminator would not want to encounter an income loss. If such an extremity does not exist, then how can one offer an economic explanation to the Cabinet Office's (2017) race disparity audit findings? Ethnic minorities, excluding Chinese and Indians, were highest in unemployment levels, lowest in education attainment and were more likely to be living in persistent poverty and depriving areas compared to Whites. If discrimination cannot survive long in the labour markets, then disparities in various social factors and wages should not exist too. Yet, it does and this paper seeks to explore why. Evidence of income disparities between ethnic groups has been reported to exist in the medical and education field today whereby Whites were found to be earning significantly more than ethnic minorities. If discrimination does not exist, then income differences between all ethnicities should be relatively small. Hence, the aim of this paper is to empirically investigate how racial discrimination has affected wages between whites versus ethnic minorities in the UK over the last 42 years. This research paper will consider a panel data regression model, with log transformed variables and restricted conditions when analysing wages provided by the Labour Force Survey data. This paper presumes to achieve similar results to Simister (2000), who found wage disparities did largely exist between ethnic minorities even after the revised Race Relation Act in 1976.</p>
Author	Jack Murphy, Blackpool and The Fylde College
Title	Bloody Scope Creep – A Study into Scope Creep within an Aerospace-Engineering Project-Based Organisation
Abstract	<p>"Once again... we've lost out by giving in to the customers every wish...bloody scope creep". A phrase which resonates around the offices of an aerospace-engineering project-based organisation (PBO). But why does this happen? The general theme from management literature indicates that scope creep is a gradual, incremental increase in the defined scope of a</p>

project which is not normally met with the necessary increase to the project's authorised budget and defined schedule. If these increases were present, scope creep would become scope change, which when managed effectively can be beneficial to a project. The general theme across the literature is that the changing of scope is not being managed effectively. Scope creep is accepted as an inevitability for most projects, based on the ever-changing environment in which projects operate. This indicates that the management of scope creep has become the norm for project managers. Despite this requirement, there is a distinct lack of project management literature surrounding the management of scope creep, aiming to reduce the likelihood of its occurrence and/or the effects of its existence when it is present. A mixed-method research approach (specifically quantitative survey tools and qualitative face-to-face interviews) will be conducted on a sample of project managers (Survey: N = 850, n=150) within a large engineering PBO. Through thematic analysis results triangulated with descriptive statistics a rich picture will be built regarding the causes and consequences of scope creep while looking into the rarely-explored idea of how to manage scope creep itself.

Author Sam Murray, Newcastle University

Title An in Vitro Model for Complement Dysregulation

Abstract Complement is part of the immune system which fights infection. It is constantly active in order to protect us from pathogens, however must be tightly regulated so that it does not also damage our own cells. This regulation is essential – without it, Humans can develop several severe and debilitating diseases. Complement Factor H is a key regulator of complement; and is often seen to be inhibited in diseases of complement dysregulation. One of the ways that factor H is inhibited is when the body produces antibodies that mistakenly bind to it: an 'autoantibody'. In Newcastle, scientists developed an 'artificial' auto-antibody (termed IIB6), which was thought to bind to and block factor H. In my research project, I tested this antibody to determine its activity in dysregulating complement - and sought to provide evidence that it can be used as a model for complement diseases. To do this, I first purified a known control antibody, which I used to help characterise the structural identity of IIB6. Once characterised, I used biochemical techniques to confirm IIB6 binding to factor H and then moved on to look for aberrant complement activation in Human serum that had been incubated with IIB6. Through this, I showed that IIB6 does cause abnormal activation and dysregulation of the complement system. In doing so, I provided evidence that IIB6 may be used as a model for complement disease - which in turn can be used as a platform to test new drugs for therapeutic potential.

Author Isabel Najera, University of Portsmouth

Title When 'No' Isn't Enough: Observing rape-victim stereotypes in mock-jury decision making.

Abstract In the age of the #MeToo movement our understanding of consent is supposed to be advancing. However, 53% of people believe they cannot withdraw consent if already naked. This figure shows that many people still do not understand their right to consent. This study explores where individuals would place blame in rape cases which are referred to as counter-stereotypical. For example, in cases where a woman is raped by an

	<p>ex-partner or acts flirtatiously beforehand. Contrary to this a stereotypical or so-called 'real' rape, is where a woman is attacked violently outside and says 'no' from the beginning. Previous research has looked into counter-stereotypical rapes, however, there is very little research into those victims who have given consent and later withdrawn it. In the current study, an online questionnaire was used, and participants were given different scenarios of victim behaviour. Participants were asked where they would place blame (attacker vs. victim), and how long a sentence the attacker should receive, if any. Finally, a Rape Myth Acceptance Scale, a way of measuring attitudes to rape myths, was completed. This provided an insight into participant views about rape and victim behaviour. The findings indicate that those with high acceptance of rape myths would place more blame on the victim and that participants would give shorter sentences in those attacks which are deemed counter-stereotypical. This research will further our understanding of the complexity of consent in our lives and in a courtroom and hopefully contribute to the prevention of 'he-said, she-said' rapes.</p>
Author	Diveena Nanthakumaran, University of Warwick
Title	The effect of social interaction and internet usage on stock market participation: evidence from Europe
Abstract	<p>Stock market participation rates have been steadily increasing, yet they still remain notably low given the high returns offered by the market. Understanding why some people do not hold stock can help explain this puzzle. Well-established drivers of stock market participation include age, wealth and education. However, literature analysing the role of information channels is relatively nascent. Using data from SHARE, this research analyses the impacts of internet usage and social interaction on stock market participation by using a probit model. Overall the results show that both greater social interaction and internet usage increase the probability of holding stock. Since both act as information channels, they provide the opportunity to gain insight on, for example, how to invest and the returns offered by the market. The implication of this finding is important; it can aid policy makers to address the welfare losses arising from limited stock market participation by reducing information frictions, which act as a significant barrier to holding stock. In line with social network theory, this research also finds that weak-tie social engagement has a greater impact on participation compared to strong-tie social engagement. Finally, the effects of both social interaction and internet usage are significantly higher in countries with relatively high levels of stock ownership. By incorporating the effects of both social interaction and internet usage into the model, this paper seeks to fill a gap in current literature, which fails to formally look at the two variables simultaneously, and finds that they reinforce each other's effects, rather than act as substitutes.</p>
Author	Danial Naqvi, Queen Mary University of London
Title	Constructing Urban Identity in an Expanding City: A Case Study of Fort Worth, Texas
Abstract	Sporadic urban agglomeration accommodates a growing population but carries connotations of developing space without a place. Consequently,

	<p>existing literature on urban agglomeration and place identity culminate in the ordinary cities debate where cities are considered as complex networks and development patterns difficult to generalise. This study critically explored the challenges facing Fort Worth, Texas — an emerging American city, neighbouring globally-renowned Dallas, with a Western heritage and a yearly population increase of 25,000 people— in fostering an urban identity preserving the heritage while attracting corporate investment and a younger demographic alike. The responses of governing change stakeholders (city government, business and commerce and community) were gathered through semi-structured interviews which scoped the extent to which this citywide issue affects existing and incoming residents and tourists. Additionally, visual analysis captured through self-taken photographs and media representation contextualised interview responses. The results drew together six factors placed in three pairs: heritage, culture, business, politics, infrastructure and community. First, the collision between heritage and culture presents an array of creative possibilities for identity development. Second, business and politics work at opposites with the conservative climate poses difficulties for corporation retention and questions of economic diversification. Finally, lacklustre provisions of infrastructure restrict the identity development of most affected socio-economically and racially segregated individuals who do not feel part of the 'small town' community. This study concludes that sustainable growth requires prioritisation on progressive developments to cater to population demand rather than reproducing the popularised idea that Fort Worth's past is better than its future.</p>
Author	Conor Newcombe, University of the West of England
Title	A Deep Learning Optimisation of Unfractionated Heparin Dosage Strategies
Abstract	<p>Unfractionated Heparin (UH) is a medication that works as an anticoagulant. Currently, many clinicians decide upon the initial dosage measure of UH based on a patients weight alone. Past studies have shown that when adopting this strategy, patients are likely to experience a supra- or sub-therapeutic window of anticoagulation, measured by activated partial thromboplastin time. Previous attempts to optimise the initial dosage of UH have found promise in taking consideration of other patient features, such as age and gender. The aim of this research is to train a Machine Learning algorithm known as a Deep Neural Network (DNN), to find UH initial dosage strategies that are more optimised than those currently used. The DNN will learn a posteriori features within the data of over 1,500 patients whom were in critical care. These features are then used to create a model for fuzzy classifying previously unseen patients into an initial dosage measurement. In doing so, the expected observation is seeing the learnt strategy consistently reaching a therapeutic window faster than current strategies. In addendum, this research hopes to deliver a model that is interpretable, such that the machines reasoning for any given patient classification can be understood by human operators.</p>
Author	Rachel Newton, University of Reading
Title	A digital exhibition, 'An Unconventional MP': The political career of Nancy Astor in 50 documents.
Abstract	A digital exhibition, 'An Unconventional MP': The political career of Nancy Astor in 50 documents. Nancy Astor was the first female MP to sit in the

house of Commons, November 2019 marks the centenary. This digital humanities project showcases Nancy Astor's political career and legacy using documents from the Astor Papers at the University of Reading. My role was to identify documents from the archive that would highlight key milestones in her career and these were entered into a detailed database. The database provided the foundation for the curation of the digital exhibition that is being delivered through Twitter, Instagram and the ASTOR100 website. I found fascinating letters, photos, cartoons, petitions, newspaper articles and leaflets that shaped the narrative of the online exhibition. My role also involved writing pithy museum-style text to accompany each image that would engage the public. More widely, this UROP underpins the UK Astor100 project which brings together a series of partners, academic and public engagement events planned throughout 2019. It makes accessible information relating to Nancy Astor and early female MPs to challenge the male narrative in Parliament. Outcomes of this project have been extensive. The exhibition will be kept as a permanent digital exhibition, and I am co-authoring a chapter of an accompanying book. Moreover, I am continuing my role as an impact assistant within the Astor100 project to support with future ventures at the University of Reading, with the National Trust, the City of Plymouth, Parliament and History of Parliament.

Author Christopher Nguyen, University of Warwick

Title The Mathematics of Bitcoin

Abstract Bitcoin is the world's first purely peer-to-peer decentralised cryptocurrency. Decentralisation allows users to digitally transfer value without relying on a third party, but this already introduces various issues. How can we ensure that transactions are legitimate? How is stored currency kept secure? How do we know that users cannot simply duplicate their Bitcoins? Typically, a bank would deal with the first two issues, and a mint with the last, but these services introduce unnecessary fees and processing times. Furthermore, using financial institutions means that payments between people must first be approved - giving way to expensive international transaction fees. Clearly, we need another way of resolving these issues, otherwise Bitcoin is no better than regular fiat currency. In this talk we will discuss solutions to the above problems, with a focus on the security of owned currency, i.e. ensuring that only the rightful owner may spend their Bitcoin. This requires the use of elliptic curve cryptography – similar to classical cryptography, but with significantly more complexity and security. We will build the theory for this from the ground up by introducing fundamental mathematical concepts such as algebraic groups, rings and fields, before moving on to the basic elliptic curve theory. We will then be able to look at Bitcoin's security mechanism: the Elliptic Curve Digital Signature Algorithm, which we will mathematically analyse the security of. Elliptic curve cryptography is also useful outside of Bitcoin, and so we will make more general comparisons with classical cryptosystems such as RSA and DSA.

Author Duc Nguyen, University of Warwick

Title Effects of Saudi Arabia's economic blockade of Qatar

Abstract In 2017, a Saudi-led coalition imposed a historic blockade on Qatar, including closure of Qatar's land border. At the time of writing, the blockade is still ongoing, and Qatar looks unlikely to concede. Most existing

academic work on the Qatari crisis has focused on its social and political impacts. Thus far, there is little to no work that has rigorously studied the blockade's impact on Qatar economy. The sudden and unexpected nature of the blockade constitutes a unique natural experiment to study the causal effects of a shock to barriers to trade. This is relevant in the present context of the US/China trade war and post-Brexit trade barriers. Hence, the quasi-exogenous nature of Qatari blockade makes it a neat natural experiment that can provide academic insights that are relevant beyond Qatar. The trade data that I collected from Qatari government provides monthly import/export at 8-digit Harmonized System code level, with value, weight, origin, and entry port. The 2015-2018 dataset has around 2.1 million data points. The project aims to tackle four interrelated questions. First, it will assess to what extent is the economic blockade effective (my preliminary research shows that Qatar's imports from blockading countries have collapsed to zero, while imports from close allies, e.g. Turkey, have increased substantially). Secondly, I'll assess the blockade's impact on inflation. Thirdly, I will assess trade rerouting effect i.e. which products get easily replaced by imports from elsewhere? Finally, I'll try to use synthetic control method to study how the blockade affected Qatari GDP.

Author	George Nightingale, University of Sheffield
Title	Automated Person Detection Algorithms for use in Search and Rescue Applications
Abstract	Unmanned Air Systems have enormous potential for use in search and rescue missions, to locate lost, stranded or injured individuals, however, with the application of automated object detection algorithms, rescuers would be able to more efficiently target their efforts. Traditionally, algorithms have utilised support vector machines and cascade object classifiers for object detection in images, but these techniques have been significantly outperformed in their accuracy and efficiency by the recent development of deep convolutional neural networks. This inspires the development of an automated person detection algorithm which uses such methods. A neural network is a framework which allows many different machine learning algorithms to work together to process complex data inputs. Convolutional neural networks are biomimetic systems, inspired by biological neural networks within the human brain, most commonly applied to the analysis of visual imagery. By re-training established neural networks with images collected from the cameras of unmanned air systems, it is possible to specialise the person detection to this type of aerial images, since it has been demonstrated that pretrained deep neural networks can generalise to aerial scenes. Our research aimed to develop an automated person detection algorithm, for use in search and rescue applications, which would improve upon the performance of traditional object recognition methods and offer the ability to differentiate between moving and stationary individuals in real time.
Author	Azib Norazman, Queen Mary, University of London
Title	Evaluating the Analogue Ensemble approach to forecast small-scale Solar Wind behaviour
Abstract	Space weather is an evolving area of discussion in space physics. Predicting the behaviour of space weather phenomena, such as the solar wind, enables scientists to anticipate properties as well as discovering its

	<p>effect on both large and small-scale events. We outline analysis on forecasting of large-scale solar winds, replicating data sets obtained by M.J. Owens in verifying previous results from literature using in situ spacecraft data. The process in reproducing the results use an analogue ensemble approach to predict solar wind parameters. Reconstructing the results allows us to proceed to analyse other properties of the solar wind and space weather phenomena. The analogue ensemble method to forecast solar winds will be used to analyse smaller-scale events. In doing so, we determine the effectiveness of this approach in small-scale events, verifying its reliability and investigating alternative methodologies and their justifications.</p>
Author	Omar Nousseir, Queen Mary University of London
Title	How do polymers convert heat into electricity?
Abstract	<p>Knowledge of the charge transport mechanism in a material is crucial to understanding thermoelectricity. However, the current problem is that there is no robust charge transport model for describing the behaviour of the most widely used organic thermoelectric material, PEDOT:PSS. Measurements of the temperature dependence of two key charge transport parameters, Seebeck coefficient and electric conductivity, are taken in order to identify the charge transport mechanism in the material. Such insight could prove useful for developing a better model.</p>
Author	Lotachukwu Nwokolo, Bournemouth University
Title	Examining the correlation between psychological and behavioural factors and risky cyber security behaviours
Abstract	<p>Research exploring the behavioural factors of users who are victims of cyber-attack is sparse and fewer seek a definitive link between the presence of or lack of certain personal characteristics and an increased likelihood of higher risk cyber behaviours. This means there is currently little in the way of advice or guidelines for reducing risk personalised to a user's profile. This project will attempt to discover a relationship between a device user's cyber-risk-taking behaviour and their unique variables and characteristics, assigning different levels of risk to user profiles. Using this research, recommendations will be made for each profile to individual device users and organisations to help mitigate against the unique threats faced. Audiences of the findings of this project may include individuals wishing to avoid cyber incident, particularly the portion of the population that have little day-to-day involvement with tech and the internet who find cyber security to be a daunting and inaccessible topic. The findings of this project will aim to make it easier for these users to recognise and reduce their risky online behaviours. Another audience of the findings of this project are organisations. Using the findings of this research, organisations can reduce the likelihood of incidents attributed to insider threat or human error by assigning risk profiles to employees and basing access controls, training and workshops and further components of their security programs on the assigned risk profiles.</p>

Author	Rodgers Nyika, Staffordshire University
Title	A verification study into the effects that different temperatures and substrate types have on the effectiveness of fingerprint development.
Abstract	There is a requirement for all techniques and methods used by inspection bodies for crime scene work to be ISO 17020 accredited, this includes the recovery of fingermarks by powdering and lifting and this can be done by conducting validation and verification studies. The aim of this research project was to look at the most commonly used finger mark development methods used by Staffordshire police's Forensics' Department, with the intention of determining what effects different temperatures and substrate types may have on finger mark development and to also help give these fingermark development methods ISO 17020 accreditation. To achieve this aim latent fingermarks were deposited onto 6 different substrates commonly encountered at a crime scene, including unwashed metal, clean and unclean (weathered) glass, painted wood, and weathered and non-weathered uPVC. The substrates were stored at 5°C and 25°C for time intervals of 24 hours, 72 hours and 2 weeks before they were lifted using either aluminium powder or magneta flake powder, J Lar tape, Warrender tape or Easy tabs and Squirrel hairbrush or fibreglass brush after which they were then graded. The results from this investigation where then used to determine the effects different temperatures and substrate types had on the effectiveness of fingerprint development, using different powders, different brushes and different lifting tapes/gels and the results were also be used to help give the most commonly used finger mark development methods used by Staffordshire Police's Forensics' Department ISO 17020 accreditation.
Author	Chukwuebuka Richard Obiora, Glyndwr University
Title	Ultrasonic enhanced solvent extraction of essential oil from mango seeds and the conversion of the extracted mango seed oils to biodiesel through the utilisation of lipase enzyme as a catalyst.
Abstract	The aim of this research was to design green methods that allow for efficient extraction of essential oil from mango seeds and the conversion of the extracted oils to biodiesel by applying various green/alternative solvents, a sonicator, an incubator, and an enzyme. Air drying of seeds in warm climates was assimilated by using an oven (30°C) to dry the mango seeds for ≤24 hours. To extract a suitable amount of oil, a sonicator was used by applying high ultrasonic frequencies to rupture the cells in the mango seeds. Furthermore, various green/alternative solvents were employed to absorb the extracted oil during the ultrasonication process. Energy-saving filtration techniques were exploited for the extracted oil filtration. A rotary evaporator was utilised to separate the oils from the solvents and the solvents can be reused for further extraction. By employing the incubator, ethanol, and lipase, the extracted essential oils were converted to biodiesel. The components of the biodiesel were examined by FTIR. The purpose of such an undertaking was to see if the extracted mango seed oil can be utilised as a viable/potential source for manufacturing biodiesel, which can alleviate the use of crude oil for biodiesel production. If the process is successful, an estimated yield of 15-75% of extracted oil and biodiesel should be obtained. This research was useful because it solely incorporated green methods compared to other

	literature that incorporated partial green methods. Additionally, it has the potential for industrial scale-up and applications.
Author	James O'Hara , Newcastle College University Centre
Title	An investigating into the reasons why, in relation to PISA attainment scales, Estonia has a greater level of attainment in education compared to other former soviet states.
Abstract	As part of my BA (Hons) Degree in Children and Young People, I will be looking at and investigating the reasons why (in relation to PISA attainment scales) Estonia has a greater level of attainment in education compared to other former soviet states. In particular, I will be looking at the impact of Finnish culture in Estonia and weather this has an impact on the view and ethos of education in post-soviet union Estonia. The aim of this research is to identify weather the Estonian model of schooling is influenced by Finnish culture and ethos and weather this has impacted on the structuring, deliverance and ultimately the attainment scores of Estonian education in accordance to the PISA league tables for education. In order to gain a greater, understand in of the ethos of Finnish culture, in particular towards education, I plan to interview a study group off current and former student from Finland and compare their understanding of the Finnish education system with the morals and guidelines set out in the Estonian curriculum. Drawing similarities to the delivery of education, morals taught in education and content of deliverance within relevant subjects.
Author	Ashley Oldershaw, University of Leeds
Title	Learning Robotic Plan Recovery Procedures from User Demonstrations
Abstract	Robots often reach points in their execution of plans where they're unable to know what to do next. Humans are really good at guessing how to get out of a situation they're not used to. We can use human interaction with robots to help the robots know what to do when they're unable to work out what to do. In the project we look at the design of a system developed across 2 universities in my undergraduate project with which novice humans who don't know anything about robotics or programming can help a robot get back onto its plan. The plans are represented with Petri Nets whereby there is a clear sequence of intended actions. When the robot gets into a situation it's unable to deal with a human can come in, suggest how the robot can detect it in the future, and how to deal with it. We intend to add an element of reinforcement learning to this system, by which when the robot has multiple options of what could be done to get out of a problem, it can decide which to use based on past experience. This adds a real level of robustness as the longer a robot is in the environment, the more it learns the nuances of how it can affect the environment in different areas, based on where it is in the plan it's executing. Applications of this range widely in the scope of robots, especially social robotics, but also applies to other areas.
Author	Jessica Oliver, University of Warwick
Title	Food and Mood: Does diet have an effect on mental wellbeing?

Abstract	The prevalence of mood disorders such as depression are increasing within the population as well as diseases such as cardiovascular disease and diabetes. Risk factors to mental health issues are being sought out, and it is coming to light that diet could be one of them, relating our diet to our mental wellbeing as well as our physical wellbeing. A review of current literature was conducted, supporting that poor diet, and a shift towards the fatty, sugar-rich western diet, is correlated to poor mental wellbeing although the mechanisms by which are not yet known. A questionnaire was developed assessing the dietary habits of the general public as well as gauging their general stress levels. Consumption of citrus fruits and leafy green vegetables was associated with enhanced mood and a decrease in stress symptoms as intake increased. Foods high in saturated fat such as takeaway foods were found to contribute significantly to stress, and avoiding this type of food was associated with much more positive mood levels. Chocolate gave ambiguous results on its influence on mood, maybe due to it having different effects short-term and long-term. It is likely that food can alter mood and mental wellbeing via shaping the gut microbiome, increasing or decreasing inflammation, and through control of neurotransmitter release. Although there is a clear link, more research is needed into the mechanisms of nutrient acquisition and its subsequent influence in vivo and dietary patterns must be looked at holistically, rather than just the effects of singular foods.
Author	Hana Olsarova, University of South Wales
Title	The Impact of Socioeconomic Factors on House Prices in the UK
Abstract	Following the study of Sivitanides (2018) which proved that the London market is a key driver of the UK economy, this paper will outline the extent to which UK house prices are driven by the London housing market by comparing a number of socioeconomic factors and defining the correlation between them and house prices in both the UK and London. Recently, due to Brexit the UK political situation has been volatile and brought more uncertainty to the market. Because these current unpredictable movements are being significantly reflected in investors' behaviour, it is essential for investors to be aware of the volatility in the housing market and the potential falls in house prices. These socioeconomic variables are often overlooked but are significant determinants of real estate appreciation and depreciation. Hence this study will provide useful information to both buyers and sellers such as the extent to which these factors affect the UK house prices, and how does behaviour differ from the situation in the leading segment of the national economy, the London market. Additionally, this paper will help households understand the risk associated with money they have tied up in both rented properties and main residences. The findings of this research will seek to provide these people with an answer as to whether or not to be concerned about the potential negative equity in their houses in 2019 by evaluating the trends and correlation of several quantitative variables over the past five years.
Author	June Ong, University of Warwick
Title	Synthetic biology: the intellectual property law debate
Abstract	Synthetic biology is an emerging field of research combining multidisciplinary efforts of biology, engineering and computer science to

alter genetic information which can help solve many societal problems. However, the rise of synthetic biology has implications for intellectual property law, especially due to the “open source policy” advocated by the BioBricks Foundation, as opposed to allowing synthetic biology products being afforded patent protection under intellectual property rights. By creating an open-source environment where synthetic biology components are freely shared, future inventions are encouraged, fostering the kind of innovation seen at the emergence of other new technologies such as microelectronics and computer software. On the other hand, many are of the opinion that patents are necessary for attracting investments that lead to innovation. As seen in the amicus brief to the court relating to the Association for Molecular Pathology v. Myriad Genetics case, the Biotechnology Industry Organization wrote: “In many cases, gene-based patents are critical for a biotech company’s ability to attract the capital and investment necessary for the development of innovative diagnostic, therapeutic, agricultural and environmental products.” Indeed, many synthetic biology-based technology start-ups who I interviewed for the paper are of the opinion that they fall under the camp of “pro-commercialisation” in this debate as they feel that the current policy stifles innovation. Therefore, the key question is how the law should balance between openness with investment. Furthermore, the paper also explores whether would the incorporation of blockchain technology be the answer to the future of synthetic biology product protection.

Author Ffion Owen, University of South Wales

Title An analysis of the experience of breast-feeding and clothing, in relation to the individual identity and dress of mothers

Abstract I will present research elements that make up identity and investigate how this evolves during the postnatal stages. I aim to explore the visual culture behind breast-feeding and how this narrates a mothers dress. I also want to be able to consider the social attitude towards breast-feeding mothers and how this affects the approach taken by mothers to dress appropriately and to achieve a level of control and confidence in their choices. Through talking to a lot of breast-feeding mothers I discovered that they don’t find postnatal clothing very fashion forward, and feel there is a distinct lack in choice. It a subject considered little by those who aren’t experiencing breast-feeding, and it’s my goal to change that. I understand that not all mothers feel the same and they love the ‘mumsy’ look that is available all over the high street. However I strongly believe that a breast-feeding mother still has the right to claim back her own identity, and have access to an alternative. The fashion industry displays an absence when providing for those who don’t fit the 5ft 10, size 8 category. Plus sized women raised an alarm, which has brought them great advances. Maybe this is the next step for breast-feeding mothers.

Author Lucinda Owen, Open University

Title A north Walian village’s 19th century experience from census and pictorial perspectives

Abstract The history and historical debate surrounding the rural areas of Denbighshire and Caernarvonshire are often lost when considering their impact on a Welsh identity, particularly with the traditional focus on heavy

industry and tourism in this region. The researched analysis presented here is an attempt to uncover some detail of the everyday lived experience of a “gwerin” family and that of their neighbours in a small Denbighshire village, Ysbyty Ifan. The focus of this presentation is the period 1841 to 1911, utilising entries from the census returns and photographs, taken by the roving, pioneer photographer John Thomas. Complex questions of religious affiliation, in a community which numbered non-conformist and Anglican congregations, and their rural financial agency, are considered, using the statistical analysis of available primary and secondary sources. The vibrancy of village life is captured. The economic development of trades and their subsequent decline are evidenced. Census returns also reveal the high numbers of Welsh speakers who resided in this area, despite an often-close affiliation to their landlord and a sizable Anglican congregation. The findings in this piece of work provide a wider perspective of the contributions that the country folk, of the Victorian era, made to the formulation of an idea of Welsh identity. This is a story of their attempts to preserve a viable, rurally based existence, in a world that faced economic downturn in the 1870s, and vast technological change.

Author Char Palfrey, University of Leeds

Title Final year research projects in the biosciences: diversity, outcomes and impacts

Abstract Final Year Research Projects in the Biosciences present an opportunity for Undergraduate students to apply knowledge and skills they have gained in previous years to a programme of research of specific interest to themselves. Students are often restricted to “traditional” project formats which are unrepresentative of their post-graduation career ambitions. A preliminary comprehensive literature review of published educational literature exploring the diversity and impact of Bioscience Undergraduate Final Year Projects revealed a deficit of longitudinal studies investigating the impact of such a project on the student’s future career prospects and employability. A survey was issued to 312 graduates from a selection of UK-based Higher Education Institutes (HEIs) one year post-graduation to better understand graduates’ views of their projects with respect to skills and graduate attributes obtained during the project, the value of such an experience, and the relevance of that experience to their current employment, with special focus on graduates’ perceived employability. Thematic analysis revealed the common perception that such research projects are viewed as invaluable opportunities to develop “soft skills” transferable to a variety of future career positions, including communication, independence and self-management. Graduates viewed their project work as relevant and insightful work experience; 71% of respondents considered their project experience to have had an impact on their career prospects. Regardless, only 30% of respondents believed their employer valued their project experience, suggesting there remains a mismatch between the variety of project formats offered by HEIs and those which hold the most relevance to students’ futures post-graduation.

Author Victoria Palin, University of Leeds

Title Endothelial IGF-1 receptors and atherosclerosis: are their protective effects mediated by changes in vascular endothelial cadherin junctions?

Abstract	<p>Insulin-like growth factor-1 (IGF-1) is a hormone that regulates metabolism and growth. The IGF-1 receptor (IGF-1R) is abundantly expressed in the vascular endothelium, and mice lacking endothelial IGF-1R respond abnormally to tissue injury. This abnormal response may offer further insight into the increased risk of atherosclerosis and cardiovascular disease seen in diabetes mellitus. Cardiovascular disease is now the leading cause of death in the UK and the incidence of type 2 diabetes is increasing rapidly. Therefore, investigation of the vascular endothelium in an abnormal IGF-1 environment is important in the attempt to understand and prevent mortality from these deadly diseases. The literature has found that that low IGF-1 concentrations are associated with an increased risk of atherosclerosis, and IGF-1 infusions reduce atherosclerotic lesion size in mice. Furthermore, unpublished data from my research group show that mice with endothelial overexpression of IGF-1R (hIGFREO) develop less atherosclerosis. Until now these data have not been extended to mouse models of atherosclerosis. This study will, for the first time, compare the effects of overexpression of the IGF-1 receptor in ApoE^{-/-} mice. But what mediates the protective effect of IGF-1 on atherosclerosis? hIGFREO mice also have lower circulating leucocyte counts, but preserved bone marrow cellularity, suggesting impaired leucocyte egress. We hypothesise that endothelial IGF-1R's anti-atherosclerotic effects are mediated by stabilisation of vascular endothelial (VE)-cadherin junctions that regulate leucocyte egress. This study aims to quantify structural and functional differences in VE-cadherin junctions between hIGFREO/ApoE^{-/-} and littermate ApoE^{-/-} control mice.</p>
Author	Venus Pang and Ying Hei Kong, City University of Hong Kong
Title	Effectiveness of vocational training in Hong Kong's prison on assisting ex-offenders' employment from several aspects
Abstract	<p>Our research aims to study the effectiveness of vocational training in Hong Kong's prison on assisting ex-offenders' employment from several aspects. It belongs to the field of Criminology. In terms of methodology, a qualitative research method will be used. In-depth and semi-structured interviews with eight to ten ex-offenders will be conducted in order to collect reliable and first-hand data from relevant parties. To assist offenders' rehabilitation and reintegration into the community, the Correctional Services Department (CSD) provides a wide range of vocational training courses to help them acquire market demanded job skills and gain public-accredited qualifications. It has been found that HKD\$ 74.3 billion social cost arising from crime was saved in five years. Undoubtedly, these training courses have had positive impacts on inmates. However, it appears that ex-offenders who express difficulty in finding a job after release. Thus, this research is proposed to study the relationship between the effectiveness of vocational training and work difficulty encountered by ex-offenders when they return to the community. Our preliminary conclusion is that the effectiveness of vocational training and inmates' future employment opportunity in society is positively related. The courses are not practical enough as the skills and qualifications acquired do not correspond with societal needs. The qualifications may not be recognized by employers in workplace. The knowledge and skills acquired in the courses can hardly meet the industry's current standards for practitioners. Therefore, reviewing</p>

	and making changes to the existing courses will enhance inmates' employability when they reintegrate into the community.
Author	Jun Soo Park, University of Warwick
Title	A feasibility study on North Korea's entry into international financial institutions: lessons from other Asian countries
Abstract	<p>This proposal performs a feasibility study on North Korea's entry into international financial institutions (IFIs) such as the IMF and World Bank, based on information acquired from other Asian countries. Since the North Korean government's long propaganda has been accomplished, Mr. Kim is now seeking to adopt a "new strategic line" and focus the nation's resources on rebuilding its economy. However, due to numerous limitations should Pyongyang can do for its national economic development on its own, lots of media speculate possible involvement of international agencies into North Korea. The study involves a combination of historical, comparative and normative analysis, and uses a theoretical framework of advanced foreign policy analysis based on the work of Graham T Allison. The paper draws on a range of secondary data sources collected through a systematic analysis of reports from IFIs, peer-reviewed articles, and credible books. The study asks three main questions: (1) why is North Korea suddenly open to peace talks?; (2) how could North Korea cope with international financial institutions' conditionalities?; and (3) what are the alternative options for North Korea to fund its development project? Joining the IFIs will be a starting point for North Korea's integration into the global economy. However, the writer believes that North Korea would prefer alternative sources when it comes to funding its economic development. This can be attributed to the expected structural adjustment imposed by the US-led IFIs which might threaten the regime itself by causing the political instability.</p>
Author	Lorna Parry, Blackpool and the Fylde College
Title	Exploring the use of assembly within video games through programming the Super Nintendo
Abstract	<p>Following the release of the NES Classic, there has been an increase in consumer demand for classic games and consoles. Although there has always been a strong Homebrew/Hacking scene, lately this has increased; forcing companies such as Nintendo to sue sites providing ROMs for old games. However, new games (though unlicensed) are now being made for these consoles and sold on the independent (commonly known as 'indie') market; proving that there is a demand for new games on old consoles. The research intends to identify if it is possible to create a game for the Super Nintendo using skills commonly associated with modern development and high-level languages, in under a year. As earlier consoles were programmed primarily in Assembly, a feasibility study will be used to assess the practicality of creating a game for a discontinued console. The microprocessor used is noted as being a particularly difficult processor to program; with the Homebrew community primarily creating games through ROM-hacks. The intended result is the creation of a simple game that will be hand written and will not be a ROM-hack to prevent any legal or ethical issues with Nintendo. The project intends to highlight the journey in</p>

	learning an Assembly language and create a guide for others to begin Super Nintendo programming. In addition, the results could show that Assembly is still relevant within the modern gaming industry as well as being a useful tool to help with optimisation within video games.
Author	Puja Patel, Queen Mary university of london
Title	The influence of posture on gluteal muscle function
Abstract	<p>Patellofemoral pain (PFP) is often labelled 'runners knee' - a common cause of knee pain. This is a syndrome of pain occurring between the kneecap and thigh bone. Impaired gluteal muscle function has been implicated in PFP, particularly the gluteus medius (GMed). Observation of standing posture, and the single leg squat (SLSQ) both assess the musculoskeletal system. However, the relationship between these clinical tools and gluteal function is not well established. Understanding what clinical assessment infers about gluteal function, is desirable to identify contributing and treatable factors in PFP. This study aims to explore the relationship between posture and gluteal activity. 21 participants were assessed to investigate 1) differences in GMed activity across posture types, 2) differences in GMed activity between 'good' and 'poor' SLSQ performers, 3) the correlation between SLSQ performance and GMed activity and 4) inter-rater reliability of postural assessment. Clinicians categorised participant postures using visual assessment. Categorisations were compared between clinicians to determine inter-rater reliability. Participant SLSQs were evaluated using a numerical score. GMed activity was then measured using electromyography during a step-up exercise. A trend of reduced GMed peak amplitude was observed when comparing kypho-lordotic postures to sway-back ($p=0.05$). GMed activity showed no association with SLSQ performance. Inter-rater reliability of postural assessment was 'fair' ($\kappa=0.39$). This study displays a trend suggesting a possible link between posture and gluteal function, potentially indicating relevance in PFP. Refinement of the visual posture assessment method however, is required to improve accuracy and reliability.</p>
Author	Chloe Patterson, Queen Mary University of London
Title	'Pe deuel jnto hir hert aligt': Tracing the Gendered Legacies of Brutus and Albina from Brut Chronicles to Le Morte d'Arthur
Abstract	<p>This research explores two contending foundation myths of Britain - Brutus of Troy and Albina and her Sisters - examining their disparate textual circulation and historical acceptance in the early medieval chronicles of Geoffrey of Monmouth, Layamon and Thomas Castleford. I then query: to what extent can the medieval narrative treatment of Brutus and Albina be said to set a politically gendered, mythological premise for the Arthurian Legend? The reign of the Brutus myth in the hands of male medieval chroniclers (c.1130-1320) attempted to nationalise Brutus as the founding father of the royal genealogy of Britain - a trend which was perpetuated and reclaimed by Britain's early kings as a form of dynastic or political justification. The only role left for Albina's origin story to play was as Brutus' romantic, mythologised female counterpart. This sets up the dichotomy of masculine chronicle and feminine romance, which, in the late medieval blossoming of the Arthurian legend (as written by Sir Thomas Malory), plays out in the heroisation and demonisation of male and female characters respectively. Through close readings and critical analyses, I</p>

	<p>argue for a theoretical causality between these myths: Albina and her sisters' monstrosity, anti-heroism and sin becomes that of the Arthurian Cornwall sisters, enchantresses and the adulterous Queen Guinevere, while Brutus' heroic, imperial landing on Britain prefaces the glory of the Knights of the Round Table, the Age of Chivalry, and Arthur's providential kingship. This research is important in contributing to the scant critical attention the Albina myth has received.</p>
Author	Laura Pattison and Tarunya Arun, University of Warwick
Title	Distinguishing neurosarcoidosis from multiple sclerosis based on cerebrospinal fluid analysis: a retrospective cohort study
Abstract	<p>Neurosarcoidosis is an aggressive manifestation of sarcoidosis, a systemic inflammatory disease. It has a heterozygous presentation, thus its distinction from several disorders, particularly MS, can be troublesome. Our study characterises a cohort of neurosarcoidosis patients with a focus on analysis of CSF and whether this could help distinguish these two conditions. We enrolled 80 patients with a diagnosis of neurosarcoidosis and measured the CSF protein, white cell count, and angiotensin converting enzyme levels. The CSF and serum oligoclonal IgG patterns were compared. 80 patients had a probable or definitive diagnosis of neurosarcoidosis, with a mean age at time of diagnosis of 48 years. The commonest neurological symptoms included limb weakness, headaches, and sensory disturbance. Frequent findings on MRI were leptomeningeal enhancement and white matter and spinal cord involvement. CSF analysis frequently showed lymphocytosis and elevated protein in the majority of patients, but oligoclonal bands were rare. Serum ACE levels were elevated in around half of patients, but in only 14% of those with isolated neurosarcoidosis. Large elevations in CSF protein, WCC and ACE occur in neurosarcoidosis, but are less prevalent in MS. The diagnostic use of these tests is limited, however, since minimal changes may occur in both conditions. Conversely, intrathecal synthesis of oligoclonal IgG is rare in neurosarcoidosis whilst occurring in 95-98% cases of MS and is thus a powerful discriminator. We suggest caution in making a diagnosis of neurosarcoidosis when intrathecal oligoclonal IgG synthesis is found.</p>
Author	Billy Peach, Solent University
Title	China's 'Belt and Road' initiative will affect the maritime industry
Abstract	<p>This research evaluated the People's Republic of China's (PRC) 'Belt and Road Initiative' (BRI) to determine whether it will have an impact on liner shipping. The Belt and Road Initiative is an USD 8 trillion project introduced in August 2013, by president Xi Jinping as a modern emulation of the Ancient Silk Road. The overarching strategy is to reshape global trade, maximise transport efficiency and to create better connectivity of China to Asia, the Middle East, Africa and Europe. The BRI will achieve its aim through five specific goals; these are enhanced connectivity of facilities, unhindered trade, financial integration, policy coordination and people to people bonds. The methodological approach was to complete an in-depth study of literature on the BRI, followed by a desk top study of the BRI policy and a quantitative statistical analysis of the current liner industry. The research demonstrated that the BRI will have an impact on current liner practises. In particular, in the areas of port development, increased use of</p>

	<p>technology and enhancements to hinterland transport links. The over-land silk road will provide an alternative option for goods to be delivered quickly to countries on that route. The impact of this research is valuable for transport providers, those seeking to develop transport infrastructure, international traders and investors as it clarifies the scope of the BRI and its impact on existing trade routes which will enable them to develop strategic plans for future trade routes, particularly as new markets are established.</p>
Author	Joshua Pearson, Blackpool and Fylde College
Title	Comparison of latency between a static and dynamic flow entry in OpenFlow SDN
Abstract	<p>Software-Defined Networking (SDN) is a new paradigm that aims to combat decentralised and complex legacy networks. SDN achieves this by physically separating the control and forwarding planes of networking devices to enable the network to be completely programmable and controlled by a centralised controller. The OpenFlow protocol is used to transfer messages between the controller and OpenFlow switches. The OpenFlow switch will populate a flow-table stored within the device with information to route packets between switches and network nodes. The SDN controller will populate switch flow tables with required information to forward the packet. Entries within the flow table can expire, and the process is repeated; adding latency to the delivery of packets. When multiple switches are involved in a linear topology the amount of latency increases. Alternatively, a static entry with no timeout can be injected into the flow table to prevent the controller request occurring. The effects on latency within multiple topologies regarding static and dynamic flow entries has not yet been compared and explored. Through the use of the emulation tool Mininet, data will be gathered from multiple topologies and compared to examine latency introduced by multiple switches within a Software-Defined Network. Finally, the results of the study will be reinforced utilising Wireshark which will be used to examine the travelling path of packets to determine if any optimisations can be made within the controller. These optimisations will then be categorised and utilised as a potential framework for practical applications of this nature in the future.</p>
Author	Junning Peng, University of Southampton
Title	Experimental suggestions in testifying the existence of time consistency
Abstract	<p>Time preference refers to personal preference of intertemporal choice. Economists have spent vast amount of time in constructing a model of individual's time preference curve. Time consistency was one of the earliest proposed time preferences, yet it has been contradicted due to its poor representation of the lifetime preference of individuals. Recently, Öncüler and Sayman (2008) found that individuals' time preference comprised of two discounting patterns – Reverse Time Inconsistency (RTI) and Time Inconsistency (TI). RTI is prevalent under short time delays (i.e. up to one week). It indicates that even though smaller-sooner is preferred at the beginning of a given time frame, individual's preference will alter to larger-later after a certain specified time. TI can be found under longer time delays, and it refers to situations where larger-later outcome is preferred over smaller-sooner outcome at the beginning of the time frame, but with the passage of time, preference will switch to smaller-sooner. The objective of this paper is trying to identify the time delay and time interval</p>

	<p>region which can change people's decision behaviour from time inconsistency to time consistency, through refined matching and choice empirical experiments with full coverage of time periods. The main contribution of this paper is to testify the existence of time consistency and identify whether individual's time preference is constructed by three kinds of discounting patterns.</p>
Author	Raphael Peralta, University of York
Title	Fish Tanks and The Algal War
Abstract	<p>In the UK, over 20 million fish are kept in ornamental fish tanks (pfma pet population 2017). Each and every household with pet fish would have undoubtedly been faced with the burden of algal contamination. Once colonised, algae rapidly multiply forming a green opaque film over the glass of the tank, which is unsightly and toxic to an aquarium's ecosystem. With this problem in question, I have been working on developing a biologically based algaecide, which entails the application of a competitive bacteria that competes with fish tank algae for essential nutrients. A dense population of this bacteria would simply be applied to the tank in a tablet or liquid form, at infrequent intervals. The bacteria would use up nutrients such as phosphates and nitrates, reducing their net availability, thus inhibiting algae's potential to exponentially grow. The science briefly involves conducting a prokaryote and eukaryote microbial community analysis from an aquarium ecosystem using rRNA amplicon sequencing (Stage 1). This is followed by testing species interactions between the most abundant algal species and several aquatic bacteria (Stage 2). Mesocosm experiments would later test if this bacteria is safe with other aquarium life forms, e.g. fish. I have recently completed stage 1, which was supported by the Laidlaw scholarship and I will be conducting Stage 2 as part of my dissertation. I am greatly optimistic about the project and I am keen to present my work in order to acquire as much feedback as possible.</p>
Author	Emma Percival, University of Liverpool
Title	Technological innovation and sustainability of a Chalcolithic community in southern Marmara (5900-5750 cal. BC): Archaeobotanical materials from Aktopraklik, northwest Anatolia
Abstract	<p>Anatolia is a key region in researching the origins, development and spread of agricultural economies. I will be presenting my research on Chalcolithic plant use in Northwest Anatolia (south Marmara region) based on the study of carbonised plant remains from the site of Aktopraklik (Bursa, Turkey). The well-preserved nature of the materials allow for the examination of crop species used by the prehistoric inhabitants of the site alongside an evaluation of crop processing and use areas and their organisation in relation to site architecture and planning. The broad suite of crops identified at the site demonstrates the diversity of plant use at the site, indicating sustainable and well-adapted agricultural practices and culinary technologies. Although archaeological research within the region has intensified in recent years, archaeobotanical research remains underrepresented in this important region. Consequently, the findings from the Aktopraklik archaeobotanical assemblage will provide novel insights into our understanding of the changing environmental and subsistence strategies of the Marmara region, informing on the wider socio-economic interactions in Northwest Anatolia and beyond.</p>

Author	Jason Perera, Oxford Brookes University
Title	A critical study of the function and effectiveness of Section 3 of the Human Rights Act 1998 in the context of Parliamentary Supremacy and case law: has the interpretative obligation had a positive effect?
Abstract	<p>The Human Rights Act provides the domestic foundations in human rights for all individuals in the UK. The focus of my study is on Section 3 which asks UK courts to interpret domestic legislation in a way that is compatible with Convention rights. I begin with a historical account which compares different interpretative methods to determine whether the process of transitioning into a Convention-compatible legal system was an easy one. Then, I explore whether the effects of Section 3 have been positive in light of UK case law and Parliamentary Sovereignty. Positive effects include an accurate representation of Parliamentary intent that compromises with the Section 3 principle; a flexible ability to interpret legislation that is square with the judge's role as interpreter of law which maintains Parliamentary sovereignty. I explore a combination of academic opinions and case law to assess the arguments for preserving, reforming or repealing Section 3, concluding in favour of its preservation. The reason I conducted this research was because these issues were topical, given the legal and political turmoil caused by Brexit. The UK may move to abolish the Human Rights Act; the 2015 Conservative manifesto promised this although initial plans to do so were shelved until after the UK left the EU. By reflecting on the current effects of the law and examining what reform in this area may look like, I am able to provide recommendations for a future-proof rules for human rights in the UK.</p>
Author	Rebecca Pierce, University of Keele
Title	Behind closed doors? Georgian Britain, gentlewomen and lawful female love
Abstract	<p>The 2017 LGBTQ+ pride parades were celebrated with an extra level of zeal, as they marked 50 years since the partial decriminalisation of homosexuality. These parades hailed the passing of the Sexual Offences Act 50 years earlier as a landmark moment, signalling a shift towards acceptance for the LGBTQ+ community. While this may be true, the act was only legally beneficial for men, as female homosexuality was never unlawful. So why, when male-male sex was considered a criminal offense in England for more than 400 years, were women never legally targeted? Although there are works on lesbian history, the pool of scholarly work is still sparse, especially in comparison to works on male homosexuality. Often work in this area has hinged on assumption that society was entirely oblivious to intimate female relationships. In fact, this was far from the case, evidence shows that there was not just awareness, but some acceptance of such relationships even in the Renaissance period. As the 18th century approached, however, the feelings towards homosexual women became almost as hostile as those directed at men. That Georgian Britain did not prohibit female same-sex desire at this point seems counterintuitive, and it is why this period specifically shall be the focus of this paper. By utilising</p>

	contemporary medical documents, diaries and letters, this presentation aims to not only demonstrate that there was a wider awareness of lesbian relationships than previously thought, but to offer an alternate explanation as to why women were able to avoid legal persecution.
Author	James Piggott, University of Warwick
Title	The impact of censorship on the 'historical' video-Game
Abstract	<p>This paper presents two related ideas. Firstly, video-games should be considered a historically-relevant medium, through their capacity to both generate narratives and lessons of the past. Subsequently, the issue of censorship – the doctoring of the past when creating said narratives – is equally detrimental to history within video-games as in alternative formats. The historical significance of censorship within video-games, however, has been largely ignored, due to the 'trivial' or 'ludified' nature of video-games. As a result, the trivialisation and undermining of the historical practice remains within video-games. These arguments are covered over three sections. The first unpacks several criticisms of video-games, in turn showing the medium's historical capacity. The second uses the example of Nazism to describe and explain the presence of censorship within video-games. The final section links these two ideas, discussing the historical impact of censorship within video-games, and why the 'ludic frame' of video-games seemingly shadows their equally significant 'historical frame'. I hope that, with this paper, video-games will be taken more seriously within academia. I hope to not only demonstrate their potential utility for the historical practice, and, subsequently, why protecting them from censorship is important. The historical field will be greatly enhanced when developers and historians are not fearful of presenting their novel or controversial arguments. If censorship is abhorrent in alternative historical formats, so should it be in video-games.</p>
Author	Kelly-Anne Platt, University of Portsmouth
Title	The anonymous body on stage: faceless and reborn skull (1580-1610)
Abstract	<p>Through the transition of death, the body becomes separated from itself as a whole, it loses its filled-out form which denotes the individual's gender and identity, as well as their class and status on earth. As a result of this transformation, all that remains is the physical element, the skeleton, and through this reduction all parts become equal and unidentifiable. Through the process of decomposition, kings are made indistinguishable from beggars and for early modern society this outcome was something that created unease. This progression undermines the foundations of constructed order, a society founded on difference is eventually reduced by the indifference of worms. This puts forward the notion that difference is aesthetic and can be understood by looking to opposite ends of the social scale, the idea of that opposition no longer existing creates the feelings of atrocity. My research will examine these concepts and how the lack of difference in decomposition is explored within Hamlet (Shakespeare, 2006), illustrating how this process ultimately results in the recycling of bodies. It will also investigate how the use of skulls contributes to anonymity, leaving them open to assume a new identity of another's choosing using close textual evidence from Hamlet, The Revenger's Tragedy (Middleton, 2002) and The Honest Whore (Dekker and Middleton, 1998). It will work closely with critical essays from Neill (1997), Coddon (2001) and Zimmerman</p>

(2007), all of which have considered in great detail the use of skulls and their effects on stage and for the early modern audience.

Author	Yasmin Pledger, Solent University
Title	A compairosn between free weights and resistance machines for isometric knee extension strength
Abstract	<p>Abstract: Background: A plethora of evidence supports that resistance training improves numerous physiological and psychological markers which, in turn, improve quality of life and longevity. Common reasons for a lack of adherence are time and perceived complexity, which might be exaggerated when using free-weight exercises compared to weight-stack resistance machines. Resistance training research is dominated by male participants, however, lower-body strengthening exercises are specifically important in females due to the hip-knee angle (Q-angle) which can impact knee pain and injury. Stronger quadriceps muscles appear alter Q-angle and subsequently reduce risk of knee pain and injury. Aim: With the above in mind, this study compared 6-weeks of free-weight (back squat; BS) or resistance machine (leg press; LP) exercise on quadriceps strength in recreationally active females. Methods: A six week training programme was carried out on female students aged between 18-24 years of age. Pre- and post-testing consisted of isometric knee extension strength, as well maximal strength tests (1-repetition maximum; RM) for both BS and LP exercises. Participants exercised 2 x / week for 6 weeks, performing 3 sets of 8 repetitions of each exercise using 80% of their 1RM with a 3-minute rest interval between sets. Results: Data collection will be completed and all data presented at BCUR. However, in brief; data will be assessed for normality of distribution and will be assessed for change in strength within- and between-groups.</p>
Author	Amy Pollard, Oxford Brookes University
Title	Literature, but lesser: can fanfiction be considered a legitimate form of literature?
Abstract	<p>With the growing popularity of comics and fantasy texts, such as the success of the Marvel Cinematic Universe or the Game of Thrones TV series, fan cultures and fan practices are emerging into mainstream culture. Therefore, it is important to examine fan contributions to literary culture in the form of fanfiction: fan-written texts based on published works. Can fanfiction be considered a 'legitimate' form of literature, or be respected alongside professional texts? This research will explore the legal contexts that affect fanfiction and will examine both the opinions of original writers of fan-revered texts, expressed in published interviews, and the opinions of fanfiction writers and readers themselves. The latter will be discovered through a web-based survey to be conducted in January 2019, via social media, with a target of 100 participants. As most fanfiction texts feature LGBT relationships, the research will also analyse case studies to explore whether LGBT representation in fanfiction is potentially constructive or exploitative. The research is valuable as it will capture a range of voices and opinions, from both professionals and fanfiction hobbyists. The research is timely and topical given current controversies surrounding Article 13 and copyright in the EU. Ultimately, whilst acknowledging any</p>

	criticisms of the practice, this research intends to use the results of the web-based survey to defend the legitimacy of fanfiction. Acknowledging the laws that exist to protect fanfiction, the research will also present fanfiction as a creative and inclusive outlet, giving credence to the legitimacy of fanfiction as a creative form.
Author	Rebecca Porter, Newcastle University
Title	"My baby isn't going to a hospice!": An ethnography on how perceptions of children's hospices create barriers to accessing palliative care.
Abstract	<p>Background: It is estimated that annually over 20,100 children in England require specialised hospice palliative care. There are significant benefits to accessing care early, yet there is a reluctance to be referred and lack of awareness of the services hospices offer. To ensure every child receives the best care, it's vital to explore how perceptions influence access to hospices. Objective: To explore whether family perceptions of children's hospices lead to barriers in accessing palliative care services. Methods: Adopting an ethnographic approach involving being immersed in the environment of a children's hospice in the north-east, I gathered data through observation, conducting semi-structured interviews and focus groups with healthcare professionals, hospice staff and parents. Findings: Three intertwining major themes emerged. 1) Emotional Negativity; due to the connotations of hospices being attached to death, families assumed hospices would be joyless and were concerned about the levels of sadness and grief on show. 2) Fear of Death, there was an assumption that utilising services indicated an acceptance of death or giving up hope. 3) Communication Issues; due to the sensitive nature of death, frank and honest discussions about services, were hard to find or difficult to engage with. Conclusion: Discomfort with death taints perceptions of hospices, leading to barriers in accessing care for families and difficulty in approaching the topic for professionals. The significance of communicating and having the accurate knowledge of what children's hospices are and do, can change perceptions and widen their appeal enabling better access and quality of life for children.</p>
Author	Fiona Powell, University of Leeds
Title	A place of our own
Abstract	<p>Arguably one of the biggest challenges facing young people today is finding safe affordable housing. Much emphasis has been placed within the research community on identifying vulnerable groups and targeting policy accordingly. This piece of research focusses on the lived experiences of young people who are currently students but have experienced diverse housing pathways and have vulnerabilities not recognised by policy. The research was approached by firstly undertaking a literature review of existing research, followed by a mixed methods approach, using a critical realism philosophy to reflect both the lived experiences of participants and the mechanisms and structures that impact these experiences. The quantitative research was undertaken using Excel data analysis and data drawn from the Family Resource Survey 2015/16 and the Labour Force Survey covering 1996-2016. The qualitative data was collected using semi structured interviews (n=5) to gain a better understanding of the lived experiences underpinning the choices made by young people negotiating the housing sector and what impact vulnerabilities had on these choices.</p>

	<p>The data was analysed using a sequential logic model where weight was skewed towards the qualitative data to reflect the focus on the lived experience. The overall findings were that although all participants had experienced some degree of housing precarity and agreed that their choices had been impacted by vulnerabilities, there was no evidence that these vulnerabilities had directly caused the housing precarity.</p>
Author	Liv Powell, University of Leeds
Title	New Diplomacy or new Imperialism? Soviet activities in the Far East, 1917-31.
Abstract	<p>Why, despite being the first example of a Communist state, did the Soviet Union collapse at the end of the 20th century whilst China, whose Communist movement struggled to establish itself, survived and flourished? This question has thus far not been adequately answered by current scholars, who have failed to account for both perspectives in their studies on the Russian-Chinese relationship. This research attempted to address this gap in the existing literature by examining how the imperialist policies employed by the Soviet Union ultimately weakened it, using China and the Far East as a case study. In order to evidence this argument, several key aspects of the Russian-Chinese relationship were investigated: the role of Soviet diplomats in China, the attitudes of key Chinese individuals towards Russia, and the controversy surrounding the Chinese Eastern Railway. A large range of both primary and secondary source materials were employed to conduct an in-depth and impartial analysis of the Russian-Chinese relationship. Primary source materials, such as the memoirs of key figures and foreign policy documents, revealed intimate details about the partnership often missing from current literature. On the other hand, secondary sources such as documentary histories on Russia and China provided greater details that could not be extrapolated from the primary documents. Through utilising a significant range of both Russian and Chinese sources, this research contributed a comprehensive answer as to why the Soviet Union struggled to retain its power and prestige during the 20th century, ultimately leading to its collapse.</p>
Author	Heidi Powell-Biney, University of Leeds
Title	Does the origin of a verb (Germanic or Latin) affect the grammatical acceptance of The Double Object Construction? A grammatical judgement task.
Abstract	<p>The Double Object Construction (DOC) (1) and its alternation (AltDOC) (2) arise when a verb takes two complements – a direct object (theme) and an indirect object (recipient) or its prepositional form (3). The syntax of the DOC and its variation have been researched extensively (Stowell, 1981), however there is little literature that identifies its acceptance and what affects the DOCs and the AltDOCs use, as the AltDOC is considered marginal (Gerwin, 2013). This research identifies a number of linguistic aspects that affect the use & the grammatical rating of the DOC; the effects of how Latin and German verbs form past tense, syllabic structure, and the ordering of DPs. A grammaticality judgement task was administered to 24 balanced sex (under)graduates who are native English. Participants were required to rate from 1-4 how grammatical declarative DOCs and AltDOCs sounded when preceded by introductory contexts. Mixed three-way ANOVAs were used to identify the effect of verb stem, verb frame and DP</p>

	<p>heaviness (pronominal or DP) on participants' ratings. The results show that DP order had an effect on the grammatical judgement but was a result of verb frame rather than verb stem. The result of verb stem was probably moderated by the number of syllables; Germanic derived verbs rated higher than those of Latin in the DOC. The findings have particular importance as variations of the DOC are used as productive constructions in British English. (1) He gave me it (2) He gave it me (3) He gave it to me</p>
Author	Daria Przybylska, University of South Wales
Title	Punishment and Gender: A Study of Public Punitiveness
Abstract	<p>Public perceptions of punitiveness have a significant impact on penal policy - politicians often include issues of crime and punishment, namely being 'tough on crime', in their campaigns in order to appeal to their voters. In light of the growing equality and feminist movements, the question of leniency or a 'double standard' regarding punishment of female offenders has become worth revisiting. The relationship between gender and attitudes towards punitiveness can provide valuable insight into the direction of future criminal and penal reform. This study analyses the levels of punitiveness among a sample public as well as the impact of the offender's gender on the punitive response in the participants. In the study, participants respond to fictional crime scenarios, indicating which level of punishment they consider most appropriate. In addition to details of the crime, the scenarios include the offender's background to ensure participants can make an informed choice regarding the punishment they deem most appropriate. The offender's gender is systematically varied, allowing for correlation analyses of the impact of the offenders' gender on public attitudes towards punishment. The data gathered assesses the levels of punitiveness among a sample public and measures the relationship between the offender's gender and public punitiveness. The findings have implications for both gender equality and gender specificity in sentencing and penal policy.</p>
Author	Willie-Henri Quah, Brighton and Sussex Medical School
Title	30-day Readmissions in Paediatric Surgery: the Brighton experience
Abstract	<p>Background. 30-day readmission post-surgery is used by the Care Quality Commission (CQC) when evaluating adult surgical care and by Clinical Commissioning Groups (CCG) to apply penalties to NHS trusts. This study aims to improve the paucity of published data for children's services and to provide parameters for continued appraisal. Methods. Using Hospital Episode Statistics (HES) and Healthcare Evaluation Data (HED), patients readmitted under paediatric surgery within 30 days of discharge, in the year ending 31 March 2017, were identified. Neonates were excluded. Details of primary admissions and subsequent readmissions were checked against patient notes. Results. There were 89 patients, 101 readmissions or 213 days. There were 1,663 primary admissions. Readmission rate was 6.1% and were mainly gastrointestinal (67.3%) . 53.5% of the primary admissions and 40.6% of the readmissions required surgical procedures. 8 readmissions (7.9%) were unrelated to their primary admissions (9 of 213 days, 4.2%). Corrected readmission rate was 5.6%. All unrelated readmissions were gastrointestinal cases. The most common related readmissions were for complicated appendectomies, repeated interventions for digestive tract disorders and non-specific abdominal pain. Tariffs from the readmissions totalled £174,949 (1.4% of</p>

	trust readmissions tariffs) . The CCG applied a readmission penalty of 15.9%, based on all readmissions at the trust, equivalent to £27,819. Conclusion. The nature of readmissions and their varying inevitability should be considered in service evaluation. Departmental-level data and granularity on related/unrelated readmissions are pertinent considerations when the CQC and CCGs apply penalties, as this can significantly affect overall trust income.
Author	Oisharja Rahman and Aysha Wahid, University of Sheffield
Title	Effect of Removing Patched Receptors on Muscle Regeneration
Abstract	<p>The emerging cancer stem cell theory hypothesises that a subpopulation of cancerous cells, sharing common features with stem cells, including the ability to self-renew, proliferate and differentiate, are responsible for causing Gorlin's syndrome. Gorlin's syndrome encompasses various cancers, including Rhabdomyosarcoma, a tumour of skeletal muscles. Rhabdomyosarcomas account for 5-8% of all childhood malignant soft tissue cancers. Satellite cells are adult skeletal muscle stem cells, that lie quiescent. Upon injury, these become activated, forming muscle progenitor cells, which proliferate and form new fibres. Satellite cells could potentially become cancer stem cells, due to overactivation of the Hedgehog pathway. The Hedgehog pathway, a key signalling pathway in most organisms, is activated via the Patched receptor. Previous research has shown that absence of Patched can lead to Gorlin's syndrome. Therefore, this project aimed to uncover the cause of Rhabdomyosarcomas using conditional knockout mice for Patched in satellite cells. Cardiotoxin injections were used to repeatedly injure the tibialis anterior muscle of these mice. Findings showed that mutant mice compared to the control displayed decreased self-renewal, and were less effective at repairing the damage, as mutants had more scar tissue depositions. Mutants also showed a higher number of regenerating fibres, however the fibres were much smaller compared to controls. These results suggest that perturbation of the hedgehog pathway greatly affects muscle regeneration. Though it is unclear how this may contribute to mechanisms that define Rhabdomyosarcomas, these findings are essential for future studies, which aim to identify therapeutic targets, to treat this rapidly progressing cancer.</p>
Author	Robyn Ramon, Blackpool and the Fylde College
Title	Interaction Methods: could mobile devices rejuvenate the point and click genre.
Abstract	<p>The purpose of this study is to investigate the current trends of PC and mobile gaming specifically focussing on the interaction methods within the point and click genre. The genre has predominantly been developed in the past for PCs with mouse capability, however with the steady growth in popularity of mobile devices used for gaming, the research will look to discover if mobile devices and this new interaction method could revitalise the point and click genre. A single game will be developed; however, this will be deployed on two different platforms, PC and a mobile tablet. The study will focus on two points; if the games can be developed coherently on different platforms and how well each game is received by a group of players. The method utilised for primary data collection will involve a closed questionnaire which will collect information from the player before and after playing the game. This will look to highlight the elements of interaction</p>

	<p>which allow the genre to excel and see whether the modern interaction method can be used as a modern take on the genre classic control system. This study will hope to provide an answer to the questions, can a point and click game be developed coherently on two platforms and which has the most playability. Looking to give recommendations as to how this genre could surpass in the modern market.</p>
Author	Uthpala Ramprasad, University of Leeds
Title	The economy of fabricated stories and its consequences in 18th century drama
Abstract	<p>Eighteenth century drama hosts an enormous number of stories that deal with social satire, viewed from male and female perspectives. The element that makes these plays topically relevant right now, is their approach to the idea of deception. As individuals in the 21st century political ecosystem we are more than familiar with this. We consume it in the form of rumours, misinformation and the ever-popular phrase 'Fake News' that decorate the very front page of our newspapers, screens and our social media feed. These playwrights only a few centuries ago, treated 'misinformation' as the key element in a much larger information trading system. The importance given to the causes and consequences of scandalous stories in plays mirror a similar value to shares and bonds in the commercial market today. Why point to the value of scandal? This question leads my dissertation into the discussion of the consequences of narratives that talk about 'deception' and positions itself behind the larger ideology known as the 'theatre of politics'. If the characters within these plays create a realm of appearance to credible more credible or legitimate in the social sphere, then the transaction of fabricated stories play a very important role. They form the bedrock of 'masks' used to manufacture an appearance in the theatrical nature of political life. This nature of politics creates a need for 'spectacle' once that deceptive narratives are happy to fulfil creating a strange symbiotic nature between politics and misinformation where one cannot exist without the other.</p>
Author	Tahira Resalat, The University of Sheffield
Title	Applications of Multi-layered PolyHIPE Composites
Abstract	<p>Traditional biomaterials often have issues with their degradation and biocompatibility. Polymeric biomaterials, known for their uses as scaffolds due to their mechanical and physical properties, are degradable. However, they lack biocompatibility. Recent research into polymerised hyper intensity phase emulsion (polyHIPE) hydrogels show promising results in overcoming the above issues. The microporous structure of polyHIPE has made them very useful for the synthesis of high-porosity scaffolds. This research aims to discover the material properties of synthesised polyHIPE and any existing correlation with its disc thickness in a thin film layer-by-layer deposition of poly (β-amino ester) -3 and fucoidan. The development of bio-active bio-composites has implications for the future progress of successful drug delivery systems, coatings for implants, anti-cancer treatments and wound healing among many others. Improvements in the bio-absorption of polyHIPE may prove to be revolutionary for biomaterials as well as the medication industry. During the research, PCL based polyHIPE was synthesised from scratch, turned into discs and plasma coated to positively charge the base. A calibration curve was formulated to</p>

	determine the concentration of fucoidan solution needed for the layer-by-layer deposition. The following layers of poly (β -amino ester) -3 and fucoidan were then opposingly charged to adhere to the surface to build up the material and understand how many layers could be deposited before the structure collapsed.
Author	Heather Roberts, Blackpool and the Fylde College
Title	Facilitating Female Leadership in Hospitality
Abstract	As family structures change, remote working becomes increasingly popular, and flexible working hours become the norm, industries are adapting to suit the needs of the millennial workforce and their lifestyles. The hospitality industry, has survived with dedicated individuals committing their time to ensure the success of hotels, restaurants and bars, that operate, in some cases on a 24/7 cycle. With the negativity associated with the hospitality industry's poor pay, long unsocial hours and few employee perks, a pertinent question in 2018 is whether it is possible for a woman to succeed in forging a fulfilling career in hospitality management alongside a desirable home life. The aim of this research is understand women in hospitality and their support network and whether this has any direct connection with female employee retention in the industry. The study will take a deductive approach, and use mixed methods. Data collection tools will include surveys, questionnaires and interviews. The findings from this study will be used to give employers an insight into the industry and the expectations and demands of hospitality and how it is viewed by ambitious women with a family life, and also young females looking at choosing their career. It will ideally, give a platform for employers to assess their current business and encourage any changes If these are needed in order to encourage females to enter, and stay, in the hospitality industry. Keywords: Hospitality. Millennials. Employability. Retention. Flexible working. Female Success. Women in hospitality.
Author	Rebecca Rolfe, University of Warwick
Title	The Animal Tokens of Rome
Abstract	Animal tokens are little studied, coin-like objects from across the imperial period of the Roman empire (27BC to AD284), which depict diverse images from livestock, to wild animals such as elephants. This research focused specifically on the use of animal tokens pertaining to entertainment, including the games and chariot racing: central activities within Roman society. Since animal tokens were common items, and used over such a large expanse of time, the research is important to reveal information about everyday life in the Roman empire. The animal tokens within the British Museum's collection were examined, and then compared to other depictions of animals across the Roman world, in both art and literature, in order to discern patterns indicating their usage, and provide wider context to the importance of animals in Roman society. A number of similar images to those on the animal tokens were discovered, for example a horse with a palm branch is seen on both a wax seal and on an animal token, indicating victory in a chariot race, while elephants are common on animal tokens and coins celebrating the games. This suggests animal tokens were commemorative items for special games, for example those to celebrate the emperor's birthday, as well as for betting at chariot races, where the audience supported different teams like modern day football. Additionally,

	literature revealed that animal tokens could have been used to allot the meat from the animals slaughtered in the games to the spectators, thus showing a wide range of uses.
Author	William Roper, University of Sussex
Title	Merger Trees to Merger Graphs
Abstract	Dark matter halos underpin all large-scale structure in the Universe; as such it is imperative we foster a robust understanding of how they evolve and interact. A Merger tree is a common tool used to investigate this evolution, mapping the history of halo mergers somewhat like a family tree. This makes them the backbone of a type of galaxy simulation (namely semi-analytic models) and an indispensable tool for describing how cosmic structure evolves. It is therefore of utmost importance that their production and weaknesses are properly understood. The Sussing Merger Trees Comparison Project (Srisawat, C. et al. 013) investigated the construction of merger trees, concluding that there are a number of shortcomings in current merger tree algorithms leading to unphysical evolution and the loss of important information. In this talk I will describe some of these shortcomings and present the Dark Matter Lumberjack, a python based algorithm which resolves these issues with 2 novel design choices, providing a deeper and more representative history of dark matter halo evolution.
Author	Augusto Rosario, Solent University
Title	The effect of sub-maximal resistance training on recovery variables following a resistance training session in competitive athletes
Abstract	Introduction: Weight training is a widely-used method within competitive athletes to improve physiological markers (e.g. strength & power), which in-turn promotes enhanced athletic performance. However, acutely weight training reduces force production and produces high amounts of muscle soreness making timing and recovery critical. This might be especially important in context of skill specific training and match preparation. Current research has produced equivocal results towards recovery and used typically cardio-vascular methods (e.g. cycling). A dearth of research has considered recovery using weight training which might prove beneficial from a central fatigue standpoint in competitive athletes. Aim: The aim of this study is to compare the use of an active weight training exercise session against passive recovery for strength, blood lactate and perceived muscle soreness in university athletes. Method: Male & Female participants will be recruited from university team sports (n=8). Participants will undertake a traditional lower body high intensity weight training session. Quadricep and Hamstring strength will be tested pre-, post- and 48 hours- after said training session. Blood lactate and perceived muscle soreness will also be assessed at all time points. Using a repeated measures cross-over design, participants will complete training and testing using both active (recovery weight training session at 24 hours after exercise) and passive recovery (no exercise) over 2 successive weeks. Results: Data collection and analysis will be performed to compare within participant recovery of strength, blood lactate and perceived muscle soreness in active and passive conditions. Data will be available for presentation at BCUR.

Author	Jack Ryan, University of Portsmouth
Title	Developing 3D-printed fingers for a myoelectric prosthesis
Abstract	<p>Additive Manufacturing technologies have developed rapidly over the last 30 years, leading to revolutionary research in the Biomedical field; from 3D-bioprinted organs to custom-made medical implants. 3D-printing has been key to these developments in terms of the flexibility of design; cost-effectiveness and patient-specific customisation capabilities that it offers. In the Spring of 2018, the world's first medically approved, 3D-printed bionic arm became available in the UK. This paves the way for new designs and other types of 3D-printed prostheses to become the norm. Dexterity and strength are key requirements in upper limb prostheses for practicality of use, hence the fingers have been targeted for development. The aim being to assess existing 3D-printed prosthetic finger designs and develop viable alternatives. There is significant development in the existing products, manufactured through conventional techniques. Prostheses can perform a range of highly dexterous tasks reliably and with little cognitive burden on the user. By contrast, 3D-printed prostheses have focused on the low-cost aspect, often for developing countries, subsequently using relatively basic designs. In both cases, often only 2 interphalangeal joints are incorporated, leading to a less natural curling motion with reduced dexterity. The research has led to the development, and comparison of, different Linkage Mechanism designs, like those seen in the high-end commercial products but, with the ability to articulate at all 3 interphalangeal joints. Multi-material printers have been utilised to improve the design further by creating a single non-assembly mechanism, including flexible materials.</p>
Author	Gaj Sabesan, University of Leeds
Title	Doctors versus nurses: are there differences in how each group perceive graphical information, and what implications can this have on dashboard design?
Abstract	<p>Over 100 national audits are undertaken in the NHS, providing important information about whether healthcare organisations are meeting expected standards. This can encourage improvements, which in turn can lead to improved patient outcomes. However, some clinicians find it difficult to make use of audit information. Dashboards present information in graphical formats and can make information easier to understand. An important attribute of users that should be considered when designing a dashboard is their ability to interpret different graphical formats. As part of a study to develop an interactive dashboard that allows clinicians to easily explore audit information, an online survey, using a multifactorial design, was undertaken to explore how nurses and doctors understand information presented in a range of graphical formats. Graph literacy and numeracy were measured using validated scales. Participants were randomised to one of four experimental conditions, each condition displaying data for 1 of 4 quality indicators, in 1 of 4 graphical formats (tables, bar charts, line graphs, spider graphs). Information was also gathered on comprehension of quality targets. Results will ascertain whether there is a correlation</p>

	<p>between numeracy, graph literacy and comprehension of quality targets, as well as whether doctors and/or nurses have a preference for a particular graphical format. This will shed light on how varied graphical formats need to be, in the hope of informing personalised health dashboards in the clinical setting. Results will be analysed using linear regression models and tested against a confidence level of 95% ($p > 0.05$).</p>
Author	Chloe Salehnejad, Queen Mary University of London
Title	Predicting GP Performance Using Online Patient Reviews
Abstract	<p>NHS patients often have the choice of a few local practices to sign up to. To help them choose, they may use the NHS Choices website to look up the online ratings of the GPs and read reviews posted about the practice. In many cases, the online rating is based on few responses. Furthermore, highly dissatisfied patients are more likely to take the time to post reviews, creating biases in the overall ratings. Currently, there is no platform that systematically analyses patient reviews and combines the reviews with other data on GP practices to predict the quality of services they offer. Such a platform would assist patients in making informed choices. This research aims to combine online patient reviews with other data on GP practices, including overall satisfaction score from the GPPS survey, to develop a prediction model that accurately predicts the quality of services / care provided by a GP. The model can serve as the core of a platform to assist patients in making informed choices. The research will use machine learning algorithms such as Random Forest and Neural Network to build a prediction model. The out-of-sample predictive accuracy of the models is estimated using Cross validation. Initial findings show that there are a greater number of poor ratings for the online ratings than the GPPS survey. This may be because it's the highly dissatisfied patients making the time to go onto the Choices website. There is also a greater variation between the online ratings than GPPS data.</p>
Author	Lubaba Samin, London School of Economics
Title	Human Rights and Canadian Anti-Terror Policies: An Analysis of Past and Present Anti-Terrorism Laws
Abstract	<p>The 9/11 attacks drastically transformed counter-terrorism policies around the world and Canadian law was not immune to that change. In the aftermath of 9/11, the United Nations Security Council adopted Resolution 1373, which called for all member states to 'prevent and suppress the financing of terrorist acts'. Whilst anti-terrorism laws are necessary, their implications often threaten various human rights. Over the past few decades, Canadian policies on terrorism have evolved several times and have taken many forms, starting with the enactment of the Anti-Terrorism Act 2000, up until today's Immigration and Refugee Protection Act. My research analyses whether Canadian law conforms to fundamental human rights principles and the Canadian Charter of Rights and Freedoms and whether anti-terrorism laws violate human rights under the banner of immigration law. I look at the development of anti-terrorism legislation by analysing primary legislation in Canada as well as the UK, which Canadian law often takes inspiration from. I analyse the historical context of anti-terrorism laws in Canada, critiquing provisions in the Anti-Terrorism Act, 2001 (ATA). I further evaluate the Anti-Terrorism Act, 2015 (Act) and look at immigration law as a source of anti-terrorism law. Analysing primary</p>

	sources such as cases, Canadian and UK legislation and parliamentary debates, as well as legal arguments put forth in secondary sources such as books and scholarly articles, I conclude that Canadian anti-terrorism policies, whether through formal anti-terrorism laws or immigration law, are and have historically been mainly unconstitutional and pose a threat to human rights.
Author	Preeti Sandhu, King's College London
Title	Clinical humanities in primary care for year 2 medical students: a student perspective
Abstract	As part of a new MBBS Curriculum at GKT School of Medical Education, King's College London, second year medical students undertook a clinical humanities assignment during their longitudinal GP placement to enhance their community care learning experience. The task was free for interpretation by students who worked in teams of 6-14 students to develop a final, collective output relating to medicine and patient care in the community. Data on the students' experiences of this task was collated through an end-of-placement evaluation (N=242). Qualitative analysis, using NVivo 11, of the students' experiences identified four themes from the evaluation: Broadening their horizons; team-working and leadership, wider community care involvement and seeing patients through different eyes. There was a near equal division in responses when students were asked how meaningful they found the humanities task: 38% either strongly agreeing or agreeing they found it meaningful and 35% either strongly disagreeing or disagreeing that they found it meaningful. The introduction of clinical humanities in the second-year medical curricula received mixed responses from students. Students engaging well with the clinical humanities task were able to see the benefit of health and social care in the community and developed an increased level of understanding of issues patients encounter. To ensure more active engagement from all students, clearer learning objectives and guidance should be provided to students and GP tutors alike, as well as more support from the medical school and exploration of students' views to ensure the effectiveness of including clinical humanities in the medical curriculum.
Author	Zachary Sandoval, University of Florida
Title	Comparative Expression of GD2 and GD3 as Translational Osteosarcoma Immunotherapy Targets
Abstract	Overall prognosis of human osteosarcoma has not improved in the last forty years. Immunotherapy has proven to be promising in treating other human cancers, offering great potential to osteosarcoma treatment. Disialyl gangliosides GD2 and GD3 are surface antigens used as targets for immunotherapy in human and animal cancers. Because canine osteosarcoma is similar to human osteosarcoma, we sought to evaluate the expression of GD2 and GD3 in both types to weigh their translational capacity. Several canine and human cell lines were cultured and stained for flow cytometry to determine the amount of GD2 and GD3 expressed. Our findings showed that canine and human osteosarcoma cells displayed significant expression of GD2 and/or GD3. Canine cells expressed more GD3 than GD2, as expected based on data for other canine cancers. One human osteosarcoma line showed higher expression of GD2 while another human line showed higher GD3. These findings add to existing literature

	that emphasize targeting GD2 only in humans. We demonstrate that human osteosarcomas have variable expression of gangliosides, supporting why treatments targeting both may be better. Additionally, a canine soft tissue sarcoma line showed positivity for GD2 and GD3, implying that targeted therapies may be applicable to other sarcomas in both canines and humans. These findings lay the foundation for projects that will examine targeted immunotherapies in canine osteosarcoma patients serving as translational models for human osteosarcoma treatments. Moreover, we will examine if other cancer types, such as soft tissue sarcomas, would be good candidates for similar types of targeted immunotherapy.
Author	Dayo Sangowawa, University of Reading
Title	Platelet-Factor XIII plays a significant role in platelet function
Abstract	Every 6 seconds a person dies from thrombosis globally. Thrombosis is a leading cause of deaths worldwide, in a process highly dependent on platelet function. These are fragments of megakaryocyte that circulate in our blood, normally responsible for blood clotting after injury – due to the action of several clotting factors, each with a defined role in the clotting process. Within these clotting factors, factor XIII (FXIII) has been found on the surface of platelets, though the specific effects of platelet-FXIII have not yet been defined. Identifying the role of platelet-FXIII could therefore pose as a new strategy to treat and prevent thrombotic events. The aim of this project was to determine the role of platelet-FXIII. Platelet function was assessed in the presence and absence of a known FXIII inhibitor, transglutaminase inhibitor (TGI), using different methods: clot retraction, shape change and spreading, degranulation of alpha granules, fibrinogen binding and aggregation. The results of the experiments suggested that the inhibition of platelet-FXIII decreased the ability of platelets to form compact clots, being largely involved in fibrinogen binding during the clot formation process. Moreover, platelet-FXIII played a regulatory role in shape change of these cells after their activation and enhanced the formation of larger aggregates. The overarching conclusion of this study is that platelet-FXIII is important for platelet function, being a novel strategy to overcome the burden of thrombosis as a leading cause of death worldwide.
Author	Carisma Santo, Plymouth University
Title	UK residents' perceptions, views and attitudes in medical tourism
Abstract	Medical tourism has grown rapidly in the past decade and is now a multi-million pound global industry. It involves travel to overseas destinations for operations, surgeries, and for holistic therapy treatments. Tourists travel to a variety of destinations in pursuit of health-care that is not available in their homeland, either due to high cost, poor quality, long waiting periods, and/or lack of access. Many countries are developing and promoting medical tourism to stimulate economic growth and consequently it has attracted the attention of academics and industry practitioners. However, the extant research is limited and traditionally focuses on the positive and negative impacts of medical tourism on tourists and destinations, the motivations of medical tourists and ethical implications. This study seeks enhance existing knowledge and understanding of medical tourism demand by focusing on evaluating medical tourists' motivations and decision-making. It aims to evaluate UK residents' perceptions, views and attitudes towards medical tourism. The research employs a qualitative, convenience sampling

	<p>approach based on a minimum of 15 interviews with tourists. The data will be analysed using a thematic framework which will enable UK residents' perceptions and views of, and attitudes towards, medical tourism to be identified. It is anticipated that this study will shed light on understanding why UK residents' travel abroad for their treatment, what treatments they are seeking, where they might travel to, and the factors that influence their decision-making. In doing so, several implications that are relevant to the demand and supply of medical tourism will be highlighted.</p>
Author	Beth Santry, Oxford Brookes University
Title	An analysis of the nutritional value of UK commercial ready meals
Abstract	<p>The research that will be carried out, will investigate the nutritional value of UK commercial ready meals, looking specifically at Indian ready meals. To investigate this, nutritional data from Tesco, Asda, Sainsbury's, and Morrisons will be gathered. This data will include; energy, fat, saturated fat, carbohydrates, of which sugars, protein, fibre, and salt. The meals will be categorised into meal ranges, for example, 'healthy' or 'luxury' meal. It will then be possible to compare and rank products according to their nutritional values. Parametric methods of analysis will be used due to the large sample size. Several t-tests will assess whether there is a significant difference between meal ranges. The sales of ready meals has been on the rise and it is important to see if they have a significant effect on health. With the obesity epidemic also on the rise, it is important to be aware of the foods that people are eating. Previous research has carried out similar analysis but is now outdated and newer products are now available on the market, therefore up to date research is needed in this area (Remnant and Adams, 2015). It is expected that the ready meals analysed will have high energy, high fat and saturated fat contents, with high salt and high sugar. The 'healthy' options should be lower in these nutritional areas. The results could be significant for highlighting action needed on ready meal nutrition (including reformulation), or for giving a rationale for reducing UK consumption of ready meals.</p>
Author	Pratyush Satyanarayan, The University of Warwick
Title	The contribution of legalised casino gambling to Singapore's economic growth.
Abstract	<p>This paper studies to what extent Singapore's casino gambling industry has promoted economic growth. I consider the industry's contribution from the opening of the first casino in February 2010 to 2017. Without the timely introduction of casino gambling, travel and tourism in Singapore may have stagnated and it would not be the growing sector that it is today, totally accounting for 8.8% of employment and 10.2% of GDP in 2017 according to the World Travel & Tourism Council. Despite the commercial success of casinos in some other countries, there are many negative social consequences. The Singapore blend is unique as it combines resorts with casinos – in what are called Integrated Resorts with a focus on tourism while reducing the negative ramifications on the local population. In my research, I aim to evaluate the costs and benefits of casino gambling from an economic standpoint and how the fusion with non-gambling activities makes Singapore special. By considering the integrated resorts in Singapore as a case study, I aim to apply my findings to other prospective</p>

	nations. Countries like Japan who have recently lifted their long-standing ban would greatly benefit from understanding Singapore's experience.
Author	Frederik Schneider, University of Leeds
Title	Understanding car culture as a barrier to self-driving car adoption
Abstract	<p>The car has been established as a vital component of society. It enabled mobility for the masses and has contributed significantly to economic development ever since its inception. However, significant issues remain including with safety as well issues surrounding the consumption and disposal of cars. Literature suggests that computer-controlled vehicles may one day be better at the driving task than humans. Furthermore, more organizations are moving towards business models that discourage the ownership of cars altogether. As a result, in recent years, significant investment has gone in to the development of self-driving cars. Several barriers remain including the technical feasibility, public acceptance and the changing of laws and infrastructure to accommodate them. One area that has been discussed in the media, is the importance of cultural and a nostalgic connection that people associate with the car and the driving task itself. People's love affair with the car may mean that the adoption and use of self-driving cars in the future may be hindered, if people for this reason are reluctant to adopting them. Thus, the ongoing threat of road safety and high consumption may continue. The literature is yet to explore the significance of the emotional connection people have with cars, and how it may be a barrier to self-driving car adoption. This will therefore be the focus for my dissertation. As there are around 1 million classic cars on the UK's roads, extreme case sampling will be used in order to understand the opinions of specifically car enthusiasts.</p>
Author	Jai Schrem, University of Sheffield
Title	Modelling Settling Behaviour of Sand Particle "Clouds" in Water
Abstract	<p>When a group of particles, such as a quantity of sand, is placed in a vertical column of still fluid, such as water, the group of particles will spread out and disperse during settling. The terminal or "settling" velocity these particles accelerate towards is characterised by weight, buoyancy and drag forces acting on each individual particle. Weight and buoyancy are well characterised by classical theory, but drag is highly dependent on flow regime (laminar, transitional or turbulent). As drag cannot be modelled using classical theory, settling velocity for spheres is modelled empirically in literature. Given a collection of approximately spherical particles (in this case sand) obeying a particular particle size distribution, this project obtained a distribution of time taken by particles to reach a given depth in the column. Novel theoretical histograms of time to reach given depth were computationally generated by transforming an input particle size distribution using empirical settling velocity correlations from literature. These time-histograms were compared to new mean bulk resistivity data from electrical resistance tomography sensors placed radially around a vertical column, as particle concentration directly affects resistivity. Although the modal time at which particles reached a given depth was well-predicted by the theoretical model, empirical data suggested that the "cloud" of particles was more spread out further up the column – which contradicts the well-known</p>

	<p>qualitative predictions of the advection-dispersion equation. Characterising settling behaviour of particles is relevant in engineering applications, such as improving models for predicting whether sewage contaminants will cause blockages during settling.</p>
Author	Jessica Schwarz, Newcastle University
Title	One Territory, Two Identities: Hong Kong's hybrid identity and separatism in relation to the Chinese Communist Party's unity narrative
Abstract	<p>Since the 1997 return of former British colony Hong Kong to the Mainland, the city has struggled with its identity as part of China. As a result of 156 years of British colonial rule and its Chinese origins, Hong Kong has developed a hybrid identity, where Western ideas of democracy and the rule of law have been inherited and incorporated into Hong Kong's political structures. In the face of the Chinese Communist Party (CCP)'s increasing erosion of their rights as promised by the "One Country, Two Systems" model, mass protests erupted in 2014, leading to the rise of separatism, where independence from Beijing is demanded. The aim of this paper is to examine the implications of Hong Kong's hybrid identity and separatist movement for the CCP's narrative of national unity. By analysing official statements on topics of separatism and unification with framing and narrative theories, this study elaborates on the unity narrative based around the CCP as the unifier of China. I argue that Hong Kong's hybrid identity contributes to the city's separatist movement, which in turn undermines the CCP's narrative. Consequently, this destabilises the Party's power and control over the country, which can have significant repercussions for Chinese politics. Touching upon the country's "Century of Humiliation" by foreign imperial aggressions, this paper relates Hong Kong's separatism to China's need to project an image of a strong state so as to avoid further humiliations, resulting in the CCP's suppression of Hong Kong's separatist protests to maintain stability, legitimacy, and unity.</p>
Author	Tiegan Seaton, Nottingham Trent University
Title	Memory for a complex cancer diagnosis: an experimental investigation of online forums as post-event misinformation
Abstract	<p>1 in 2 people in the UK are said to get cancer in their lifetime. So far, research has focused on breast cancer and prostate cancer despite melanoma being the second most common cancer in adults under the age of 30 (Cancer Research UK, 2006). The use of the internet for cancer information is thought to have the potential to cause misinformation, leading to confusion, distress and self-diagnosis. Therefore, the purpose of phase 1 was to look at how people rate the emotionality of online forum posts from an online cancer support community. This study will feed into a larger project investigating the impact of emotional online information on memory for a cancer diagnosis known as phase 2. Phase 1 involved recruiting 69 participants using social media and Qualtrics. Participants were asked to rate the emotionality of online forum posts on a Likert scale (1) Strongly negative (4) Neutral to (7) Strongly positive. Participant scores were then used to determine the suitability of the stimuli for use in phase 2. The findings in phase 1 provided evidence of validity for the stimuli to be used in phase 2 as the statements matched the emotionality perceived by those conducting the study. Phase 1 established what emotionality the online statements were to the general population to ensure that the statements</p>

	matched the emotionality perceived by those conducting the study. The findings in phase 1 proved that the statements for phase 2 were valid and therefore suitable to be used in phase 2.
Author	Melanie Seaton, University of Manchester
Title	Regulation of endothelial inflammatory signalling in the cerebrovasculature
Abstract	<p>Cerebrovascular disease refers to a group of conditions in which the blood vessels of the brain and cerebral circulation are affected. It is thought to be the primary cause of 20% of dementias and a contributing factor to 70% of dementias. One of the main underlying pathologies in cerebrovascular disease is small vessel disease. Small vessel disease can cause vessel thickening, vessel rupture, and occlusions, which disturb the blood flow throughout the brain. It has recently been shown that in arteriosclerosis, in response to disturbed blood flow, there is extensive extracellular matrix remodelling around vessels and increased fibronectin deposition. In this context, fibronectin has been shown to regulate endothelial cell inflammatory signalling via integrins. This study aims to establish whether this mechanism is also responsible for inflammatory signalling in the cerebrovasculature, and may mediate neuroinflammation and subsequent cognitive decline. Using in vitro model systems, we investigated the effect of different extracellular matrices, Matrigel and fibronectin, on the activation of inflammation signalling pathways. Brain endothelial cells were seeded onto either Matrigel or fibronectin coated plates, and treated with interleukin-1β for up to 16 hours. Cell lysates were immunoblotted for: Intercellular Adhesion Molecule 1, Vascular Cell Adhesion Molecule 1, IκBα (an inhibitor of NF-κB) and phosphorylated NF-κB. The release of chemokines CCL2 and CXCL1 was determined using enzyme-linked immunosorbent assays. Ultimately, understanding the complex interplay between the extracellular matrix and inflammation may help us to better understand the complex pathophysiology which occurs in cerebrovascular disease and identify novel targets for therapeutic intervention.</p>
Author	Tara Seedher, Queen Mary's University of London
Title	An investigation into the varying degrees of fairness in different fair die
Abstract	<p>How fair are fair dice? Can one fair die be more fair than another? It is natural to assume fairness - that is that the probability of each score is the same. However, with subtle differences in fairness, how exactly can we define fairness alongside its opposite - 'biasedness'? It is well known that there are many external factors that can affect the experimental event of rolling a die, which include the material and size of the die, as well as the surface it is rolled on; the experimenter's rolling technique; the state of the environment (for example, extreme weathers), and the amount of wear on the die. I will be comparing the fairness of 4 six-sided cube shaped dice of different materials - wood, plastic, bronze metal and foam - ensuring all other external variables are controlled. Alongside these trials, I will study a standard weighted bias die to compare alongside the results of the fair dice. I will carry out a detailed statistical analysis, running 150 trials per die for a precise study in the size of bias that exists in each case. From Taniguchi, Tomoko & Uehara, Ryuhei's study, 'Design Schemes for Fair Dice' (2018), it is demonstrated that there are conditions to design a fair die with 'n' faces, including that every side is equal. I expect that my study will</p>

	<p>be successful in showing a significant difference in the scores obtained, as the cube shape die fulfils these conditions as an isohedra.</p>
Author	Tara Self, Nottingham Trent University
Title	"It's like being a fish swimming the wrong way". Mature university students' perceptions and experiences of studying in higher education.
Abstract	<p>Background: Universities provide a unique social stressor environment as study, leisure, accommodation, counselling and social support are all provided in a single environment. Demographic analyses indicate that mature students are more likely to leave after one year of a first degree. Mature-aged students face adversities compared with younger students, report having financial difficulties and less supportive interpersonal relationships. Much research into student wellbeing has been conducted on students aged 18-24. Previous research has overlooked how universities impact mature students, and how support can be improved for these students. Aims: This study aimed to explore mature student's experiences of university and to explore NTU staff perceptions and experiences of supporting mature students. Methods: This is an ongoing qualitative study using semi-structured interviews. Data is analysed using the principles of constructivist grounded theory. Participants are mature-aged students (aged over 21 when starting an undergraduate degree) studying on a course within a School of Social Sciences and staff members with experience of support provision for mature students within the university. Results: Preliminary results indicate a number of themes which define mature student's experience and status within the university, including experiences of 'Us vs Them', 'parenthood and prioritising', 'the younger students' environment', and 'intersectionality'. Conclusions: Mature students can perceive themselves as distinct from their younger peers, which can redefine their priorities while learning, and pose unique adversities to achieving a degree. This research can help higher education institutions tailor the university environment to meet the needs of mature students and provide adequate support.</p>
Author	Sarah Sen, University of South Wales
Title	Sex and Relationship Education
Abstract	<p>Sex and relationships form a huge part of life, but, whilst parents have a part to play in educating young people on these subjects, the education system also has a responsibility. SRE has no formal place within the curriculum in Wales and even though SRE is to be included on the new curriculum, the content and delivery of the subject needs further consideration. Research was carried out to determine areas for concern. These included; the rise of internet influences, the subject of consent and the views of teaching staff. Qualitative analysis and empirical research was undertaken. Questionnaires and focus groups were used, along with desktop research of academic sources and evidence of policy governing the topic. The results identified, highlighted the fact that a more suitable provision is needed, to encompass the new technological era in which young people are maturing into young adults. Furthermore, there is a lack of provision of LGBTQ+ education and in the main, the education currently offered, is centred around heterosexuality. Thus, isolating some students</p>

	and allowing for discrimination and oppression to linger. The current provision does not wholly enable young people to develop positive views of sex, relationships and consent. Furthermore, it was surprising to find that the school staff are often embarrassed by the topic. It appears that societal norms in the education system remain rather conservative, whereas, youth workers work in a more liberal, open manner and perhaps it is this manner that is required to deliver SRE to the future generations.
Author	Andreea Serban, University of Leeds
Title	Rereading Zhang Ailing through French theories of abjection and feminine writing
Abstract	Zhang Ailing was one of the most prominent modern Chinese writers, distinguishing herself from most of her contemporaries or predecessors by focusing on the problems of everyday life upsetting the individual, while everyone else was, according to C.T. Hsia, “obsessed with China” and used fiction as a weapon to fight political injustice and save the nation. My research focuses on the abject characters, themes and motifs recurrent in Zhang Ailing’s works and aims to offer an interpretation of contrasting but intertwined and interdependent elements such as abject/sublime, feminine/masculine self/other, selfishness/affect, and trivial/important. It also aims to examine to what extent Zhang’s literary style can be considered ‘feminine writing’ and to challenge different views about her work, such as the claim that she was an apolitical writer or that her characters are self-absorbed and there is nothing sublime in her fiction. This interpretation is realised through a juxtaposition of Zhang’s writing and the theories of contemporary French thinker Julia Kristeva, popular for her interpretation of abjection and for exploring the theory of feminine writing. This research may interest anyone curious about literature or gender studies, as it uses a cross-cultural approach in order to better understand why abject characters such as embittered women and destructive mothers and a pessimistic view of life rendered Zhang Ailing highly appreciated in the Chinese-speaking world and to what extent this technique reflects women’s position in society or a feminist orientation of the author.
Author	Antu Shangguan, University of Warwick
Title	The cooperations and conflicts between China and the US in the next few decades
Abstract	The purpose of this essay is trying to explain the current political situations between China and the US. This essay will describe the advantages and limitations in economy, technology and politics in China and the US respectively. As the result, this essay will try to convince readers that the conflicts between China and the US cannot be avoided, however, it is not the only way to explain the relationship between China and the US, the cooperation can be achieved with certain conditions. In fact, the competition between China and the US will be the main stream in next few decades, but these two powers are actually rely on each other. In order to explain this purpose in detail, this essay will focus on three question link with this idea. 1. The reason why conflicts between China and the US cannot be avoided. 2. The possible cooperations between China and the US in this current political environment. 3. The future relationship between China and the US. This research project will use graphs and figures from wide-range of resources in order to answer the research questions. Quantitive data

	collecting is needed from government official reports and third party researches. Most of the data will be collected from secondary resources. The likely problem which this research project will meet would be the lack of relevant resources. The uncertain research validity from datas and resources. Most importantly, how to avoid bias when we carry on our research.
Author	Aden Sharif, University of Portsmouth
Title	Referenda and parliamentary democracy: The voice of the People or a mouthpiece for the political elite?
Abstract	What is the first thought that springs to your mind when you hear the word 'referendum'? Most people will immediately jump to Brexit – after all Brexit has been at the front pages of UK media and captured the attention of the nation. But, for a term that generates so much deliberation as to its potential consequences, the role of referenda in our legal system is given relatively limited attention. The 'Report of the Independent Commission on Referendums' (2018) recognises the lack of discussion on how referenda fit within our constitutional framework. The report suggests that the same is true about referenda that have recently been used within European countries. It is for this reason that my legal research is not (solely) Brexit-focused. Instead, I will be comparatively analysing the growing use of referenda within European parliamentary democracies. I will be looking at the laws regulating when and how referenda should be called in different European jurisdictions. I will also consider whether they can function as the "voice of the people" alongside existing democratic institutions or whether they are an under-regulated tool that can be manipulated by political elites. In answering these questions, the Brexit referendum and its aftermath will be used as a lens to look at the problems identified. My aim, is to demonstrate that, the current legislative framework which regulates referenda that answer constitutional complex questions, must be reformed to ensure that they can be, as Stephen Tierney mentions, a 'genuine manifestation of direct, popular democracy.'
Author	Arindam Sharma, Queen Mary, University of London
Title	Malware Analysis using Machine Learning
Abstract	Malicious software, or as it is more commonly known as, 'malware', is a potent threat in computer security. The existing tools for malware detection are mainly signature-based. Such approaches suffer from proven drawbacks such as poor generalisability, that is, they critically depend on being given the signature of the malware in advance. The idea for this project is to develop the attributes of the existing techniques by utilising machine learning algorithms for adding robustness to their performance on previously unseen malwares. The aim is to develop a mechanism for detecting features which are reasonably distinguishing and training a statistical classification model on them which allow the use of large amounts of available data. A relevant distance metric for the task is based on the amount of information content of the binaries in question, which would model their intrinsic similarity. Another similarity characteristic will be based on the distribution of sequences of instructions (formally termed 'ngrams') in the test files. This feature will be able to quantify the amount of similarity between binaries in question. The approach that has been chosen will consist of having different classifiers for different features,

	<p>followed by a final classifier that aggregates the results from the individual classifiers, hence making the model flexible. The anticipatory results include a model with high accuracy while classifying malware and benign binaries. The resultant model is expected to be able to "generalise" well on unseen samples, thereby providing an accurate and flexible classifier.</p>
Author	Katie Sheppard, University of Winchester
Title	Children's perceptions of how Emotional Literacy Support Assistants (ELSA) impact their learning
Abstract	<p>The Emotional Literacy Support Assistant (ELSA) programme is administered across schools in the UK, offering support to children with various emotional needs. The programme was founded by an Educational Psychologist and is usually delivered by specially trained teaching assistants. A lack of previous research surrounding the ELSA programme, especially when considering children's perceptions, encouraged the formulation of this study. The researchers main focus was to investigate children's perceptions of how the ELSA programme impacts their learning. Participants were aged 9-11 years, all of which attended one of two primary schools in the south of England. The nine participants were interviewed using a semi-structured interview guide. The participants were able to identify the positive affects the programme has had on their emotional well-being. A common topic among participants was an increase in concentration levels during lessons after partaking in the programme. Participants had the opportunity to explain the areas of the ELSA programme they would like to change, most of which were straightforward enough to be implemented. The study contributes to current research regarding the effectiveness of the ELSA programme and gives knowledge as to how the programme is improving academic learning. It also provides proposed changes that could improve the programme further and outlines how beneficial it is to the children that need it.</p>
Author	Elizabeth Sheppeck, University of Sheffield
Title	Black holes and gravitational lensing: imaging Sagittarius A* with the Event Horizon Telescope
Abstract	<p>The gravitational lensing of starlight is a key consequence of Einstein's theory of general relativity. Light rays are bent by the curvature of spacetime, which is generated by distributions of galaxies and matter. Thus, distant astronomical sources such as can quasars appear with multiple images and Einstein rings in our observations. The Event Horizon Telescope (EHT), a global array of radio telescopes, will seek to capture the first direct image of supermassive black holes, such as Sagittarius A* at the centre of our galaxy, and those that reside in the giant elliptical galaxy M87. High-resolution images formed by the EHT will allow astronomers to observe gravitational lensing phenomena associated with black holes. In particular, a key goal of the EHT is to take the first image of a black hole shadow. In this talk, I will describe how to use ray-tracing techniques to produce theoretical images, for comparison with anticipated images from the EHT. I will report on a method for studying strong-field gravitational lensing by a rotating black hole. By solving a system of transport equations along null geodesics of spacetime (i.e. light rays) I calculate the cross-sectional area and orientation of initially circular beams of light which are lensed by the black hole. I will present novel theoretical lensing images,</p>

	<p>which demonstrate how a distant star-field is distorted by the gravitational field of the rotating black hole. I will show that the distortion is strongest around the edge of the black hole's shadow itself.</p>
Author	Ivaylo Shirokanski, University of Warwick
Title	The Effect of the "Right to Buy" Government Policy on Household Income and Mental Health: Panel Data Approach
Abstract	<p>In 1980, the "Right to Buy" (RTB) scheme allowed eligible council and housing association tenants to purchase their houses at a significant discount, which resulted in nearly three million new homeowners. The "Right to Buy" policy affects a vulnerable group in our society—council housing tenants, a significant portion of which are from a disadvantaged background and have financial difficulties. The legislation is extremely popular—the policy is the largest source of public privatisation revenue in the UK and has been widely discussed in the media due to its embeddedness in the Conservative Party agenda. The RTB literature is mostly descriptive and focuses on the characteristics of the RTB owners. The consequences for the owners have been subject to little empirical analysis and the question of whether their income or mental health are affected remains unanswered. My paper will quantify the effect on household income and examine the impact on mental health that results from sitting tenants exercising the "Right to Buy" government policy. This paper uses panel data from the British Household Panel Survey, which tracks the same representative sample of individuals between 1991 and 2008. The explanatory/treatment variable is RTB, which is a binary variable. This paper leverages the panel data set by using fixed and random effects estimations and controls for the time-changing factors that affect everyone in the sample as well as individual-specific heterogeneity. To tackle the endogeneity and simultaneity bias of the RTB variable, this paper uses instrumental variable estimation.</p>
Author	Thabani Sibanda, University of Leeds
Title	The role of pelvic tilt in the risk of edge loading of artificial hips
Abstract	<p>Hip replacement surgery is one of the most successful and cost-effective operations available today (Liang, 1986). Despite the enormous success of the procedure, hip replacements can fail, causing significant pain. Consequently, revisions of the procedure are sometimes required (NHS(UK), n.d.). One of the reasons why artificial hips fail is a phenomenon called "edge loading". (De Haan, 2008) Edge loading is described as "the contact of the femoral head on the edge of the acetabular component" (Hua, 2016). Edge loading can cause wear and strain on artificial hip components and the particles from this frictional interaction have been known to cause loosening of the joint (Liu, 2015) (NHS(UK), n.d.). Research done concerning edge loading suggests that malpositioning of components during surgery is the major cause of edge loading (De Haan, 2008) (Tsuda, 2010). This malpositioning of components is closely linked to the orientation of the pelvis. Shon & Sharma (2014) suggest that pelvis orientation (pelvic tilt) affects acetabular cup orientations and resultantly the loading in the hip joint. The hypothesis is that the ever-changing orientation of the pelvis during regular daily activities might be a root cause of edge loading. This research will investigate the role of pelvic tilt and its impact on</p>

	edge loading. Aim To investigate the roles of static and dynamic pelvic tilt in the risk of edge contact in artificial hips Use of knowldge Ultimately, knowledge o pelvic tilt can help sports men to get hip replacement and be able to play.
Author	Soley Asta Sigvaldadottir, Coventry University
Title	Organisational Implications and Impact of EU-GDPR Regulations on Micro and Small Businesses Operating in the Events Industry
Abstract	In May 2018 the European Union (EU) enforced a regulation that has and will have a significant organisational implication, impacting on virtually every company working with – and operating inside – the union: the ‘General Data Protection Regulation’ (GDPR). The Wall Street Journal reports 60-85% of companies will fail to be compliant when the regulation is enforced (Schechner and Drozdiak 2018) with only 41% of event companies reporting their technology systems meet GDPR requirements (Eventsforce 2017). Non-compliance may result in a hefty fine of up to €20 million or 4% of worldwide turnover (Tikkinen-Piri, Rohunen and Markkula 2017), representing a key business concern, a challenge compounded by wider industry-level (operational and strategic) changes in respond to and compliance with GDPR. This paper focuses on micro and small enterprises (MSEs) at high risk of compliance failure, as they face a lack of time and organisational resources to comply with GDPR. Deductive in approach, utilising secondary data, this paper presents a triangulation of data, drawing on: [x], [y], [z] sources published between 20[xx] and 2019. A key finding of this paper is the need for MSEs to strengthen relationship marketing and networks to overcome the threat of non-compliance: a key managerial and policy implication of this paper. Research questions: 1. What are the ways GDPR impacted on the events industry? 2. How have MSEs operating in the events industry responded – or - have planned to respond to this new EU regulation? 3. Why is it significant for MSEs to respond to GDPR?
Author	Dominic Simpson, University of Leeds
Title	What about the REST? Transcriptional regulation in ageing and Alzheimer’s disease
Abstract	Repressor element 1-silencing transcription factor (REST) is involved in the remodelling of the epigenome in order to alter the expression of a set of genes regulated by a repressor element 1 (RE1). REST can contribute to maladaptive and pathological phenotypes in neurological disorders such as ischaemia, epilepsy and substance abuse by altering expression of genes essential for normal neuronal function. For example, in epilepsy REST augments the epileptic phenotype by repressing expression of genes involved in the generation of stable membrane potentials (e.g. calbindin and voltage-gated K ⁺ channel subunits). A neuroprotective role of REST has been identified in non-pathological ageing. REST expression levels are increased in the ageing pre-frontal cortex, whilst a loss of neuronal REST is seen in Alzheimer’s disease. Further, increased binding of REST, hence downregulation has been demonstrated in a number of genes that are involved in stress responses and Alzheimer’s disease pathology. One of these targets, p38 mitogen-activated protein kinase (MAPK) is responsible for tau phosphorylation, leading to formation of neurofibrillary tangles (NFTs). Further, p38 is involved cell death pathways in response to

	oxidative stress (fig. 1). This review characterises the role of REST in neurological pathophysiology and considers the evidence that REST as a neuroprotective epigenetic factor in non-pathological ageing. Further, the involvement of p38 MAPK in cellular responses to stress and pathological tau metabolism is considered and the potential regulation of p38 MAPK by REST is evaluated.
Author	Armaan Singh Chadha, University of Warwick
Title	World Exposition: What Makes a Successful Expo?
Abstract	<p>A vast array of countries have completed and are planning world expositions, selected by the Bureau International des Expositions (BIE), with Italy, Milan (2015) being the most recent and the UAE, Dubai (2020) upcoming. What was surprising is when we read into the data, for Western nations such as Italy, Germany, Hanover (2000) and Spain, Seville (1992) all slumped into a recession in the following year of their expo's. Comparatively, with Eastern nations such as Japan, Osaka (1992) and China, Shanghai (2010), both economies clearly went into a boom and benefited from high levels of increased economic growth of 4.7% and 9.5% of GDP respectively after the event. Some of the many factors which may have played a significant role include; the economic climate during the period prior to the exposition, the debt to GDP ratio considering the ability of the country to build infrastructure and importantly the level of foreign direct investment. The further research I plan to carry out would allow the Bureau of International des Expositions to possibly be able to critically evaluate results and findings based on this research. This would allow one to judge whether a country and city are truly fit for a World Expo and what may need to be analysed when considering whether to chose a nation or city. This analysis can be extended into data for the Olympics and World Cup for a broader perspective, comparing such events but also whether this correlation follows for other such events.</p>
Author	Ambika Sinha, University of Leeds
Title	A study to assess the students' perception of using 3D printed teeth instead of Frasco models as a caries removal learning method
Abstract	<p>The honing of a dentist's manual dexterity ability always begins during clinical skills teaching during university years. The universal method of advancing the students' skills is via 'plastic' Frasco model teeth. However the concept of distinguishing between the different layers within a tooth structure i.e. enamel, dentine and pulp tissue, cannot be adequately developed using these methods. Therefore the aim of this study is to assess and quantify the perceived effectiveness of 3D printed teeth as an alternative learning method for developing cognitive skills required for caries removal amongst undergraduate dental students. Qualitative data explores the students' preference of caries removal learning methods via questionnaire (i.e. previous experience of Frasco models vs the novel introduction of 3D printed teeth). Quantitative data examines variation in student operator skill (including tactile sensation, manual dexterity etc) in caries removal exercises on 3D printed teeth models - using volumetric and surface area mapping analysis. Utilising photoshop analysis the cavity</p>

	<p>preparations were quantified to gain average value area and perimeter measurements (validated by two investigators to uphold repeatability and reduce stochastic noise measurement error). This study will highlight whether large variations existing between the participants (3rd and 4th year dental undergraduates) represents clinical variation when caries removal is carried out on patients. This may indicate that more effective teaching tools should be employed beyond the current use of plastic teeth and tutor subjective analysis of that prep. The 3D printed teeth would allow quantitative feedback, more accurate assessment and higher standard of care to patients.</p>
Author	Julia Skrobol, Queen Mary University of London
Title	Adverbial modification with "knowingly" and "intentionally" in criminal legal cases.
Abstract	<p>The aim of my research is to investigate the adverbial modification with "knowingly" and "intentionally" in criminal legal cases. I'm interested in whether these adverbs give rise to grammatical ambiguity and de re/de dicto distinction (Quine, 1956). "Knowingly" and "intentionally" belong to the class of mens rea adverbs, i.e. adverbs which carry information about a person's state of mind ("Theories of Criminal Law (Stanford Encyclopedia of Philosophy)", 2018). Mens rea is used in law to determine whether a person is guilty of crime or not. In order to illustrate how mensrea adverbs work, let's consider the scenario from the Greek tragedy "Oedipus the King". In the tragedy, Oedipus, the King of Thebes, marries Jokasta who, unbeknownst to him, is his mother. Sentences 1a. and 1b. have the same meaning. 1a. Oedipus married Jokasta. 1b. Oedipus married his mother. With knowingly, their meanings come apart: 2a. Oedipus knowingly married Jokasta. 2b. Jokasta is Oedipus's mother. 2c. Therefore, Oedipus knowingly married his mother. Sentence 2c. does not logically follow from 2a. and 2b, but gives rise to two interpretations- de re ("about the thing") and de dicto ("about what is said"). The same pattern occurs with intentionally. Given examples raise a question whether Oedipus (i) knows that Jokasta is his mother; (ii) knowingly married Jokasta and (iii) knowingly married his mother. Answering similar questions in legal context can decide about a person's innocence or guilt. Therefore, it has socially significant consequences as it tells us how ambiguity in law could be avoided.</p>
Author	Dean Skutela, University of Warwick
Title	What is the proportion of brain injury amongst the homeless population of Coventry?
Abstract	<p>Over 300,000 people are considered homeless in the UK. Homelessness has a significant impact on a person's physical and mental health. Homeless individuals die on averaged aged 47 compared to 77 for the general population. A number of risk factors have been identified such as mental ill health, substance misuse and experience of violence or abuse. Brain injuries have not yet been identified as a risk factor. However, brain injuries result in problems with memory, reasoning and emotional control which may lead to unemployment and homelessness. The study aims to determine the proportion of brain injury amongst the homeless population and whether the injuries sustained were before or after a person become homeless. Participants completed a modified version of The Brain Injury Screening Index to determine history of an acquired brain injury and/or</p>

	<p>traumatic brain injury. Data was collected from the Harnall Lifehouse in Coventry and the Jesus Centre Coventry over a six week period. 53% of participants reported a traumatic brain injury, of which 79% stated their injury occurred prior to them becoming homeless. The majority of participants reported multiple head injuries. 69% of participants have no formal qualifications. 65% of respondents who reported a brain injury also reported suffering from serious mental health problems. Brain injury among the homeless is higher than the general population. It causes significant problems later in life that potentially increases the risk of homelessness. A fully resourced national cohort study is required to determine the national prevalence of brain injury in the homeless.</p>
Author	Lee Smith, Plymouth University
Title	Barriers to work life balance: women in the UK hospitality industry
Abstract	<p>Hospitality faces a complex and unique set of problems when it comes to the representation of women/gender. According to research carried out by the Castellproject, (2017) women only make up 26% of senior management in the hospitality industry, a figure that drops to 20% when HR roles are excluded. Work-life balance is one of the biggest challenges for all those working in hospitality. Korn Ferry Institute of qualitative research led by Colaianni, (2017) evaluates that interviewees talked about the fall in the numbers of senior female staff who leave the industry to start families, and that returning to work is often challenging due to long working hours. Having more gender diversity in a company is very positive and not just for the companies own benefit. In fact, according to Teow, et al., (2018) the author of the Women in Work Index informed that the UK could boost its gross domestic product by 9% if the female employment rates matched with Sweden. This study hopes to understand if any barriers exist for women in the hospitality industry regarding work-life balance. As the amount of literature and media increases on gender discrimination in the work place, this research hopes to discover some of the factors that are important to uncovering barriers that exist for women in the hospitality industry. In turn, the findings will accurately highlight and address the barriers that exist for women regarding work-life balance in the workplace.</p>
Author	Stephen Smith, Blackpool and the Fylde College
Title	A study of Electronic Visitor and Employee Booking System vs Traditional Methods
Abstract	<p>Managing employees and visitors is one of the major problems faced by a business. The safety and security of any employees, customers, visitors, contractors are classed as a risk and it is the responsibility of the business, both legally and morally to minimize this risk. This work has been modelled around a real business, (a haulage company with over one hundred employees on site) that use two antiquated methods to record which people are on site at any current time which largely rely on hand-written implementations. These methods can lead to inaccuracies and problems in the event of an emergency and have no reporting or automatic capabilities. The intention of the work is to develop a digital, multi-platform alternative of the paper systems. The software must conform to current requirements in legislation and be adaptable for future changes. It must also be easy for a wide range of current employees to use in varying departments and provide management and marshals' up-to-date, accurate data concerning which</p>

	<p>people are currently on site. The study will look at methods of storing and retrieving this information across various media and devices. This study will look to improve the user experience, usability and ubiquity of the system as the new method is implemented. This should be shown in the results of the study which will not only track the development, but also consider the opinions of staff regarding the current system, and those who participate in the study after the development has been implemented.</p>
Author	Connor Smith, University Centre Reaseheath
Title	A comparison of selective dry cow therapy against selective in lactation therapy as procedures for reducing antimicrobial resistance in dairy cows
Abstract	<p>Antimicrobial resistance, is a worldwide concern for public health and the livestock industry. Within the UK's livestock industry, the dairy sector has been discovered to be one of the largest users of antimicrobials with usage averaging 26 mg/kg. In recent years, the UK dairy sector has been implementing proactive methods to combat antimicrobial resistance in dairy cows. The current study compared two of these methods, selective dry cow therapy against selective in lactation therapy. These two methods are perceived to be relatively new concepts and have derived from the need to tackle antimicrobial resistance. The study investigated the use of both methods by the dairy industry highlighting the implementation process, benefits and drawbacks to milk performance and mastitis spread. Many studies have investigated both methods in a variety of dairy systems, allowing the current study to perform a comparison of these methods. In the UK, only some of the milk buyers are enforcing measures to tackle antimicrobial resistance, for dairy farmers on these milk contracts it is compulsory to comply with these measures. Many livestock producers are sceptical of both selective dry cow therapy and selective in lactation therapy, this is mainly due to the lack of informative material available surrounding both methods. This comparative study found some imperative justifications for implementing the methods on farm and highlighted the risks currently posed to many UK livestock farmers through not adapting such methods.</p>
Author	Danielle Smith, Staffordshire University
Title	Determining if common child abuse injuries are still visible on hard and soft tissues after burial
Abstract	<p>Physical abuse is one of the most prevalent types of abuse, accounting 28.3% of child abuse victims in the UK. Almost half (47.8%) of the physical abuse injuries involve burns to the skin. Fractures are also diagnosed in a third of infants and children which are investigated for physical abuse. The aim of this research project is to investigate common child abuse injuries on hard and soft tissues and determine if the injuries are still visible after burial. This will be evidentially valuable in cases of missing persons and child abuse, identifying whether or not the buried remains have previously been subject to abuse, and potentially give a cause of death. Burn injuries were inflicted on to 10cmx10cm porcine skin, using hair straighteners, an iron and a cigarette lighter. Oblique, transverse and greenstick fractures were also created using lamb rib bones. All injuries inflicted were chosen as a result of the preliminary studies and research showing they are commonly seen in cases of child abuse. The samples were buried in 45L bins, representing deep and shallow burials, outside, ensuring that all remains</p>

	are exposed to weathering conditions. They will be exhumed after 60 days. Whilst buried, humidity, precipitation, chance of rain and temperature will be recorded as this may influence the results. When excavated the results will show if there is any significant difference to the injuries after burial and if they are still visible. I intend to give a poster presentation, showing final results of the research.
Author	Christopher Smith, Blackpool and the fylde College
Title	Analysis of Ethically challenged Automated Games Software & the identification of recursive Artificial behaviour
Abstract	<p>Troubling trends have emerged in massively multiplayer online games, whilst historically being player caused, these trends are instead being driven by a new generation of Artificial Intelligence and Script driven behaviours. These behaviours have been identified as an issue for the games industry, due to the detrimental long-term issues associated with its impact. In addition to this, recursive learning behaviours, have begun to appear, adding a further layer of challenge to dealing with these programs. The objective of this research is to identify a common means of detecting, analysing and disrupting the operation of these 'Rogue' Artificial Intelligence programs, being used to undermine online gaming. To this end, the following research directive has been established; 'Can methods used by recursive external artificial intelligence, be identified reliably using only player-available resources in-game.' The examined programs are considered to be [UNCLASSIFIED] in software categories, in particular due to their 'ethically questionable', independently developed nature. The law is unclear on the legality/copyright status of these programs, especially when regarding their use in breaking End-User-Licence-Agreements. The research is intended to expand upon limited literature regarding 'Botting'. This limitation is due to the research being conducted independently by games companies, who choose not to share it in fear that the AI designers, would obtain the research and circumvent it. These experiments focused on utilising identified weakness in the analysis, to detect or disrupt a given "Bot". In addition to establishing a set of known parameters or symptoms, which would indicate or compromise offending programs.</p>
Author	Nea Sneddon-Jenkins, Keele University
Title	The future of disease-modifying therapy in multiple system atrophy.
Abstract	<p>Multiple system atrophy (MSA) is a progressive neurodegenerative disease that typically results in death 6-9 years post-diagnosis, and is characterised by loss of nerve cell function affecting both the autonomic nerve system and movement; the cause currently remains unknown. Whilst the treatment of some symptoms of MSA can be achieved with a combination of drugs, presently there are no available disease-modifying drugs, and there is no cure. Using a systematic search of the major databases, this research aims to provide an overview of the current research into the causes of MSA, and to explore how potential causes of MSA could be used as future therapeutic targets.</p>

Author	Ashlie Snelling, University of Greenwich
Title	"I'm not telling you." - disclosure issues and failings in rape and sexual assault cases
Abstract	<p>The criminal justice system in the UK relies on the prosecution process to be fair and even-handed (National Disclosure Improvement Plan, January 2018) This means that the burden of proof remains on the prosecution to prove guilt and not on the defendant to prove their innocence. In cases of rape and sexual assault however, it has become clear that this is not always what happens. Recently, there has been publicity concerning trials which have collapsed due to the non-disclosure of evidence, the most high profile being that of Liam Allan. The failure of the police and prosecution to identify electronic evidence which would have undermined the prosecution's case, led to the collapse of the trial. This is not the only example where the failure to disclose has risked an individual being wrongfully convicted. This predominantly doctrinal study has examined the legal rules pertaining to disclosure, analysed through case examples where these rules have failed, and discussed the consequences of the failure to disclose on the wrongfully accused, the criminal justice system and the confidence from the public in the ability of process which should be fair and even-handed. The findings will demonstrate that the current disclosure rules need to adapt to a changing society which extensively uses electronic data. The implications from a failure to disclose have been underestimated and need to be addressed as not to further undermine the quality of the criminal justice process.</p>
Author	Lydia Southgate, Cardiff Metropolitan University
Title	How do the stationery and greetings card industries represent masculinity, and do the stereotypes need updating for the millennial generation?
Abstract	<p>This research is driven by the lack of greetings cards and stationery appropriate for millennial men, and the consequent potential opportunities there are for brands to expand into this market. Analysis of current greetings cards has been undertaken using Beynon's (2002) writings on new lad masculinity to establish the stereotype that the majority of greetings cards portray. Using studies by Oliffe (2018) and DeVisser et al (2013) to determine how millennials differ from the new lad provides a masculine stereotype for the millennial generation, which displays how outdated the greetings cards are and how brands can improve. The relevance of stereotypes, as defined by Hall, is briefly brought into question, in conjunction with a Mintel (2017) study into what millennials want from stationery – displaying an increasing demand for genderless and non-stereotypical greetings cards. Analysis into brands such as Axe and Hims show how brands can adapt to millennials and how the masculine millennial market can be captured effectively. This research culminated in the design of stationery and greetings subscription box for millennial men to demonstrate how the market can evolve to target this underrepresented demographic without playing on harmful and outdated stereotypes.</p>

Author	Bo Speakman, Blackpool and the Fylde College
Title	Hidden Sugar - Hidden Dangers
Abstract	<p>Over 40 years ago it was recommended that less fat in our diets could prevent conditions such as heart disease, diabetes or stroke which saw the removal of saturated fats from many high fat beverages. However, upon doing this food was found to be unpalatable and therefore many manufactures began to add sugar to products to increase texture and taste. Currently, the WHO recognises that hidden refined sugars especially sugar sweetened beverages (SSB'S) are a major risk factor for obesity, diabetes and cardiovascular disease. Commonly consumed foods high in hidden sugars include cereals, cereal bars, processed food, fruit juices and speciality coffees. Globally consumption patterns of hidden sugar consumption ha sincreased at an alarming rate over the past 20 years which contributes to the overall density of our diets. The purpose of the study was to quantify knowledge levels around refined sugar in everyday foods through the implementation of a primary experimental design study. Participants were asked to evaluate a range of sugar laden foods, including an estimation of the sugar content of specific foods and recommended RDA's. A mixed method questionnaire will support the research through the collection of overall perceptions of sugar content The study sought to quantify knowledge levels around refined sugar in everyday foods as well as to ascertain whether age or educational level has an impact on nutritional knowledge.</p>
Author	Naomi Spivey, Coventry University
Title	Has ethical advertising changed? A review of West Midlands Fire Service (WMFS) current practice
Abstract	<p>Schlegelmilch and Oberseder (2010) believe acknowledgement of customers, stakeholders and employees can build positive corporate social responsibility (CSR); making it obvious that advertisements of the companies' values support clear communication. Similarly, Bowen (2013) emphasises that ethics are a guideline of principles that companies should follow whilst developing or creating advertisements. Drumwright and Murphy (2009) believe alongside clear communication and positive CSR, trust is built through transparency; reflecting fairness to customers and stakeholders. Brenner and Molander (1997) believed in 1997 studies had been carried out on ethical advertising however, consumer feelings had not been concluded. Supported by Antoine and Green (2009) who state studies should be carried out on consumers views. Especially when past violations of ethical advertising have included harmful products, false advertising and customer right violations (Alsmadi and Alnawas 2012). The research carried out will analysis West Midlands Fire Service's (WMFS) current advertisement towards diverse groups. The research will adopt a mixed method approach of qualitative and quantitative research. Approximately seventy questionnaires will be distributed among WMFS employees to gain knowledge of feelings towards current advertisement to diverse groups. Afterwards semi-structured interviews will be conducted to understand individual's feelings over current advertisement. The objectives/aims for research are: 1. To examine WMFS current advertising policies and procedures. 2. To understand the practical implications of ethical advertisement. 3. To provide evidence whether WMFS advertising to specific target groups has been successful. 4. To examine how Firefighters</p>

	and the general public feel about the advertisements that are currently being portrayed by WMFS.
Author	Kelly Spurlock, University of Bournemouth
Title	Associations between perceived levels of stress and adherence to the Mediterranean diet in women of childbearing age
Abstract	<p>Introduction- The dietary quality of women of childbearing age can not only affect their risk of disease, but also increase the likelihood of health problems in subsequent generations (Boersma et al. 2014). 50% of UK pregnancies are unplanned; unhealthy maternal diets may be predisposing future generations to obesity-related metabolic disease through epigenetic modulation in the hypothalamus during pregnancy (Barker 1997). It is essential to understand diet patterns and factors that may affect eating habits, when developing dietary interventions (Gluckman et al. 2011, Streppel et al. 2014). It has been suggested that the Mediterranean diet is protective against diseases common in the western world and suitable before and during pregnancy (Koutelidakis et al. 2017). Methods- In this study, the diet quality of women of childbearing age was assessed using the Mediterranean Diet Score (MDS) (Trichopoulou et al. 2003). Dietary data were collected via food frequency questionnaire, then Mediterranean diet adherence was calculated 77 UK females of childbearing age. Participant demography was self-reported, and levels of perceived stress were calculated using Cohen's Perceived Stress Scale (PSS). Results- 49.4% of participants (n=77) had a low adherence to the Mediterranean diet. Associations between PSS and MDS were found ($p < 0.042$) although directionality was unclear. Age and MDS were positively correlated ($p < 0.041$). PSS was associated with the consumption of sweets. Conclusions- This study found that younger women had a poorer diet quality. Thus, it is recommended that health interventions are targeted preferentially at younger women and consider factors that affect eating behaviours such as perceived stress.</p>
Author	Aparna Srinivasan, The University of Chicago
Title	Investigating the Role of XRN1 in Recovery from Heat Shock
Abstract	<p>The heat shock response has been found in almost every organism that has been investigated, triggered by a change in temperature outside the organism's optimal temperature range. This involves, among other things, transcriptional upregulation of a subset of proteins known as the Heat Shock Proteins (HSPs), leading to an mRNA fold change of up to 100-1000x higher than basal levels of certain HSPs. However, the process by which cells return to basal levels of HSP mRNA after heat shock has subsided is not well known. I aimed to investigate how quickly cells return to basal mRNA levels during recovery, and what might be the consequences on cellular fitness if this process is impeded. I observed that in <i>S. cerevisiae</i> cells that are heat shocked for 10 minutes, two heat shock proteins, SSA4 and HSP26 are induced to high levels within ten minutes, and recede to basal levels within about 90 minutes after heat stress has subsided. The data provide a reference timeframe to investigate whether a selective mechanism exists to degrade HSP transcripts after heat stress has passed, or whether cells rely only on non selective mRNA degradation</p>

	and cell division to return to basal transcript levels. A possible mechanism may be through XRN1, a cytosolic mRNA degradation enzyme that only degrades mRNA with 5' monophosphate. However, published data regarding the effects of XRN1 deletion on capping enzyme mutants complicates a model in which HSP mRNA has a modified cap for a preferential degradation pathway involving XRN1.
Author	Maddie Stanfield, University of Sheffield
Title	Flexitarian Diets: A Study to Show the Ethics, Exclusion and Practicalities Associated with the Conversion to a Plant-Based Diet
Abstract	This study divulges into the need for a reduction in our meat and poultry consumption. This stems from the exponential demand from our ever-growing population, which will require our dietary intakes to change within our lifetimes if we are to achieve food security for all. Whilst in moderation, fish, poultry and meat are all part of a balanced diet, it is apparent that in high-income countries like the UK, we have reached a level of societal dependence on meats which has produced a dominance of protein-intensive diets. This can be viewed negatively due to the health and environmental repercussions that eating a protein-rich diet can entail. Consumer unawareness shows that meats (particularly red) are associated with non-communicable diseases such as cardiovascular disease, type II diabetes, and obesity. The need for this study was surrounding the inefficient consumer awareness of health, but also the environmental implications of the current food production system. A flexitarian diet is one which instead of omitting meat entirely, seeks to reduce it in favour of plant-based ingredients. This study, whilst small-scale (12 people) aimed to determine the key motivators people had for reducing their meat intake, whilst also assessing their knowledge of the food production system, lifestyle habits and willingness to reduce their meat intake further. Semi-structured interviews were used to compare students, families and the elderly as well as male and females. This method of observation was used as it allowed a personable and detailed insight into their lives.
Author	Maria Stankiewicz, University of Leeds
Title	Iranian Christians in Leeds: Experiences of Church Membership
Abstract	Iranian Christians in Leeds: Experiences of Church Membership is an empirical research project undertaken in Leeds between June 2017 and August 2018 aiming to investigate ways in which Iranian migrants are currently supported in Christian setting. My purpose was to create an incunabula of a framework that would help Churches in the UK to provide appropriate assistance to this quickly growing group. This research investigated Iranians' reasons behind joining a particular Church: some are drawn towards Churches with an established Iranian minority, while others reported an opposite inclination, or entirely different rationale. Close attention was also paid to factors that had an effect on the perception of the Church experience as positive, however it does not shun from discussing challenges that both congregations and Iranian congregants experienced in their journey to become members of congregations, both due to legal questions that couldn't be ignored, and rapid diversification of the congregation, often with numerous new converts who didn't speak the majority language. All interviewed religious communities and groups

	<p>working with Iranian Christians in Christian setting came up with solutions to ensure a safe and welcoming space of worship and community-building, and this research wishes to acknowledge, discuss, and evaluate those approaches. These themes are complimented with transcribed passages from interviews in order to present a complete picture of the experiences of Iranian Christians in Leeds and ensure that voices of those who need to remain anonymous are heard.</p>
Author	Natalie Steer, University of Warwick
Title	Does Coping Efficacy mediate the relationship between Emotional Intelligence and Stress?
Abstract	<p>The relationship between emotional intelligence (EI) and stress has recently received widespread attention. Previous research suggests EI enables us to find better coping strategies to deal with stress, suggesting coping efficacy may mediate the EI-Stress relationship. This study investigated whether coping efficacy mediates the relationship between EI and stress, and how this differs in gender and year of study. A convenience sample (N =162) of university students completed three questionnaires on; emotional intelligence (predictor variable), coping efficacy (mediating variable), and perceived stress (outcome variable). Correlations and partial correlations were used to investigate whether coping efficacy mediates the relationship between EI and stress and whether this differed for gender (male, female) and year of study (Year: 1, 2, 3, 4, postgraduate). EI had a significant positive correlation with coping efficacy and significant negative correlation with perceived stress (PS). Coping efficacy also had a significant negative correlation with PS. The relationship between EI and PS was significantly diminished when controlling for coping efficacy. The partial correlation was significant for females, and participants in Year 1, Year 2, and postgraduate studies, but not significant for males and participants in Year 3 and 4. Findings confirm coping efficacy partially mediates the relationship between EI and PS, suggesting coping ability plays a critical role in the EI-Stress relationship. As findings suggest higher EI leads to better coping and consequently lower stress levels, students could benefit from interventions designed to improve EI and teach adaptive coping skills, to reduce stress and improve wellbeing in Higher Education.</p>
Author	Natasha Stevenson, University of Lincoln
Title	The effects of image degradation on scene perception
Abstract	<p>As the scenes we view in our day-to-day lives can often be distorted, it is necessary to understand the processes we employ to judge these scenes. With the rapid rise in the use of mobile devices, which often do not provide high-quality images, research into image degradation is vital to help us understand the cognitive processes we use in our day-to-day lives. Methods such as eye tracking provide us with an ongoing behaviour index of perceptual and cognitive processing. In this study, we aimed to identify what processes are employed when judging images and if these processes differ when the quality of the images decreased. Our initial hypothesis was that the introduction of natural images with affective meaning would provide further insight into these processes. Using a series of images sourced from the International Affective Picture System, participants were asked to give verbal judgements of valence and arousal, and provided records of gaze allocation. The analysis focuses on the difference in the gaze allocation in</p>

	<p>participants when viewing the varying images. Specifically, the data will be used to show whether low-quality images result in more localised gaze patterns and longer periods of focusing, compared to high-quality images. Preliminary data analysis suggests that lower quality images are more likely to gain low arousal ratings and are more likely to be judged as neutral, rather than positive or negative. This presentation will discuss the findings and will address the possible implications that these processes may have on our day-to-day lives.</p>
Author	Stefan Stoian, University of Sheffield
Title	Bladeless Quadcopter
Abstract	<p>Modern day drones are using electrical motor driven propeller to generate lift and ensure manoeuvring. This causes significant noise as well as turbulent downwash underneath. The conceptual design proposed here is replacing traditional propellers with a Dyson-Fan™ inspired propulsion system. Four fans will be in a quadcopter arrangement and one central modified turbine will provide the necessary airflow as well as create negative pressure on the top surface. In addition, frame wall-mounted speakers in pair with a closed loop feedback control will cancel the operating frequency of the four fans and turbine. This would ensure an almost completely silent operating condition. Because the centre of the propulsion mechanism is hollow, air can flow “through” it in an undisturbed, laminar fashion. An initial experimental phase will be conducted to determine the feasibility of the design. This includes but is not limited to selecting the optimum size, testing the maximum thrust force of such alternative propulsion methods, studying the impact of vertical and lateral airflow and how it affects thrust. Different fan configurations and swivelling systems will be experimented with, initially in a virtual environment and then in a prototype form. Finite element fluid analysis will be used to assess aerodynamic advantages over classic propellers. The University of Sheffield provides a well-equipped workshop for me to follow on my initial designs and assemble a working prototype within this academic year. The potential applications of such a product, if successfully built and patented are enormous, especially in reconnaissance and surveillance scenarios.</p>
Author	Vincent Straub, King's College London
Title	Bringing back agency: Lee Kuan Yew's mindset and educational policy in the Singapore developmental state
Abstract	<p>Developmental state scholarship emphasises structural factors in delineating industrial development. This neglects the role institutionally-situated leaders play in setting the policy agenda and establishing the institutional structures that characterise developmental states. This article goes beyond conventional institutional theory by examining the role of political leadership in shaping the emergence of a developmental state in Singapore. Through analysing the formative experiences of Singapore's most important policymaker, Lee Kuan Yew, and investigating his influence on Singapore's education policy, this article explores how developmental ideas themselves emerge in the political leadership, and, how this ensemble of ideas shapes developmental outcomes. Using original archival data and the method of political discourse analysis, this article finds that the developmental ideas of Lee Kuan Yew have their roots in his formative years and constituted a distinct mindset, one that prioritized economic</p>

	development and drove Lee to pursue this goal. In the case of education policy, Lee's mindset and agency meant he advanced an agenda that would equip students with the skills needed for industrial development. Findings suggest that unique mindset of development-oriented leaders helps explains why, next to structural factors, developmental states have not emerged in countries which have sought to adopt the same structural features.
Author	Heather Sunderland, University of Lincoln
Title	Self-esteem, appearance concerns and recognising one's own face
Abstract	Our own faces are instrumental in our sense of self and identity and have been linked to levels of self-esteem and ratings of attractiveness. Body dysmorphic disorder (BDD) is an extreme preoccupation with self-appearance and perceived flaws resulting in debilitating levels of appearance-concern related behaviours. With rising mental health concerns in young people and negative effects of social media use on body image and self-esteem, the impact of appearance concerns goes beyond those with a clinical diagnosis of BDD. Evidence suggests that BDD sufferers process faces by analysing faces in detail whilst typical healthy individuals analyse faces holistically, but perform poorly at estimating the size and positioning of their own facial features. In this study we explored the relationship between levels of self-esteem, appearance concerns and how well people were able to distinguish their own faces from an age-matched average, when the two were merged together across a continuum. Our initial hypothesis was that people with elevated appearance concerns would have a reduced tolerance for changes to their own appearance. Using a set of stimuli featuring the participants own face merged with an average, participants completed an own-face recognition yes/no task and a method of adjustment task. Self-esteem and appearance concerns were indexed by validated questionnaires. Results will show the relationship between own-face recognition, self-esteem and appearance concerns. Preliminary data shows that self-esteem may be an important factor in own-face recognition judgements. The presentation will discuss the findings and the implications for young adults.
Author	Nicholas Sundin, Newcastle University
Title	International actors in the Cyprus conflict - a civil society perspective
Abstract	Cyprus is a divided island - it has had a UN peacekeeping presence since 1964 after intercommunal violence, and a Turkish intervention in 1974 partitioned the island along the UN-patrolled buffer zone. The UK has also maintained a presence in the form of two Sovereign Base Areas since independence from Britain in 1960. Still divided, the Republic of Cyprus joined the EU in 2004 after a failed UN plan to reunify the island, but EU law is suspended in the Turkish-occupied north (Bryant, 2006). Despite this level of international involvement, a gap exists in current research on how local peacebuilders view international presences in Cyprus. Drawing on the work of Costas Constantinou and Oliver Richmond, this project examined the complex international dimensions of the problem, in conjunction with civil society, to establish whether top-down or bottom-up peacebuilding is better received by Cypriots. This project interviewed ten civil society organisations, NGOs, and political representatives on both sides of the divide, with a focus on how the international actors are perceived to be

	<p>influencing peacebuilding efforts. Results were mixed, showing a desire for the international actors to play a more assertive part in the formal peace negotiations facilitated by the UN, but wanting them equally to recognise the importance of bottom-up peacebuilding carried out by civil society. Meanwhile the British military bases were viewed negatively, but civil society was resigned to their presence. This study highlights the importance of an empowered and engaged civil society in peacebuilding processes, beyond the Cyprus example.</p>
Author	Michael Swambo, University of South Wales
Title	The Silent Socialite: Alone but not Lonely
Abstract	<p>There has been a significant rise in solo-travel and a comparable rise in the number of people living <i>alone</i>. Moreover, there is an increasing trend of <i>aloneness</i> at ages more conventionally associated with being partnered and raising children. Further burdening this issue, as levels of <i>aloneness</i> are growing, so levels of loneliness in the general population are increasing, with suicide now the biggest single killer of men under 50 in the UK. Despite the growing numbers of those <i>alone</i>, there is little literature focus on this minority group. Therefore, this research undertook a qualitative thematic exploration of fifty subjective accounts of the private and public, digital and real-world lives of solo-travelling guests visiting an Airbnb. This sociological study of the group's collective accounts and social media use addressed themes of aloneness, loneliness and its amelioration, connectivity, structure and agency. The findings were related in discussion form to preserve anonymity and illuminated a significant and developing lifestyle and culture that is uniquely <i>individual</i>. It will be argued that; the rise of socialising <i>alone</i> is an <i>individual</i> but <i>collective</i> reflexive response to increasing levels of structural social isolation in the UK and further, the evidence from this study suggests that for some, a substantial level of socialisation and social intimacy can now be achieved without a <i>significant other</i>, or fewer, less <i>significant others</i>. Specifically, it can be achieved <i>alone</i>.</p>
Author	Anthony Sweeting, Newcastle University
Title	Relativistic corrections to Schrödinger's equation based on the Zeroth Order Regular Approximation
Abstract	<p>Most problems in modern physics are solved using one of two fundamental theories, quantum mechanics or Einstein's theory of relativity. Quantum mechanics describes the physics of the very small, and Einstein's special relativity describes the physics of the extremely fast (close to the speed of light). When we come to consider very heavy atoms, however, their electrons are travelling close to the speed of light, so to accurately describe their motion, we must combine the equations of quantum mechanics with those of special relativity. A promising way to achieve this is to use the 'zeroth order regular approximation' (ZORA) if its two main drawbacks can be ameliorated, namely gauge invariance and poor description of core electrons. This project demonstrates the power of the ZORA method in atomic (specifically hydrogen-like) calculations, and proposes a method for alleviating the gauge invariance deficiency of ZORA through the 'telescopic'</p>

	expansion of the potential in Gaussian functions. If this proposed method can be demonstrated to be effective, this should lead to a hitherto unprecedented balance between accuracy and efficiency.
Author	Hussain Syed, Queen Mary University of London
Title	Is there public interest for Section 33 of the Criminal Justice and Courts Act 2015 to incorporate a subsection which takes into consideration the religious values and community of victims of image-based abuse?
Abstract	Cases of revenge porn have become increasingly prevalent with the rise of social media. Section 33 of the Criminal Justice and Courts Act 2015 declared that disclosing private sexual images without consent was a criminal offence. While this addresses a major problem, the provision could be improved. For example, the Act could provide greater protection for Muslim women who encounter unique difficulties due to their religious obligations and community. If a picture of a Muslim woman without her hijab/niqab was circulated, this may cause her equal distress to a sexual image, but this scenario is not considered by the legislation. I wish to carry out an online survey across universities in the United Kingdom which will give a voice particularly to Muslim women wearing hijab or niqab on the issue of image-based abuse. The survey will first aim to understand the participant's social context: their gender, religion, university and whether they practice wearing the hijab/ niqab. Secondly, it will ask two binary questions: whether the participant has been a victim of image-based abuse and whether section 33 CJCA 2015 should account for religious values. Finally, I will ask them to choose a suggested law reform proposal or propose their own solution. Preliminary data suggests that there is public interest, especially by Muslim women, to reform this law to include a provision which takes into consideration the religious values and religious community of victims, particularly in cases involving Muslim women.
Author	Anna Szamely, University of Sussex
Title	What have EU funds done to economies in Eastern European EU member countries - evidence from Hungary
Abstract	The EU budget is being planned for the period of 2021-2027 this year, in 2018 which generates many debates over the how much and in what ways should member states receive EU funds. EU funds are large contributors to the Hungarian economy so any change in the allocation system would likely affect Hungary. The research on the effects and effectiveness of EU funds therefore is timely. Hungary is currently the largest net recipient of EU funds in proportion to GDP (European Commission). Research, development, and innovation are priorities of the Hungarian government. Yet, Hungary is falling behind in international and European rankings. Between 2010-2017 Hungary has experienced declining competitiveness (Trading Economics 2018), has fallen on corruption rankings (Transparency International, 2018), the quality of education has decreased (PISA, 2015), and the country also has fallen on the ranking measuring innovation (European Commission, 2018). The main reasons for this decline relate to an overly-centralized reallocation system in Hungary, too much focus on short term economic development, too large additional pool of public resources, overly formalistic compliance, too much spending on projects where public discretion is high (Fazekas and King, 2017), and administrative

	<p>inconsistency. As Hungary's economy is currently growing at roughly the same pace as other CEE member states' economies (Thomas, 2018), when exploring errors in the Hungarian distribution system, we are likely to explore errors in other CEE countries' distribution systems as well, making the research relevant for Europe. The research involved analysing literature and data, as well as interviewing experts.</p>
Author	Szimana Szórádová, University of South Wales
Title	Acute exposure to normobaric hypoxia as a model of COPD in healthy humans; exploring the link between free radical accumulation and activation of blood coagulation
Abstract	<p>By estimation, over 1.2 million people (2% of the population) have been diagnosed with COPD, Chronic obstructive pulmonary disease, a type of lung disease presenting with long-term breathing problems and poor airflow provoked by smoking and air pollution (Snell et al., 2016, 'S32 Epidemiology of chronic obstructive pulmonary disease (COPD) in the uk: findings from the british lung foundation's 'respiratory health of the nation' project'). Prevalence has increased by 27% in the last decade, therefore, my study strives to recognise and outline the effects of COPD on blood coagulation in order to understand the high number of clotting-induced deaths in patients with COPD. By defining the significance of this process, better therapeutic choices may be implemented to ensure superior patient care.</p>
Author	Iman Taghaddosinejad, Queen Mary, University of London
Title	The evolution of firm-level markups and intangible capital
Abstract	<p>Market concentration across many sectors in the U.S. economy and other industrialized countries have been rising since the 1980s. At the same time, it appears that labor share has been declining and most of this decline, primarily in the U.S., is associated with the reallocation of sales towards large and high-productive firms. Findings in the recent literature allude to a rise in market power by firms in product markets, more so in the U.S. than in Europe, that may account for such secular trends. I explore the evolution of markups in relation to market dynamics using firm-level data for the U.S. economy over the last 69 years. In particular, this paper considers how markups, defined as the wedge between the price level and the marginal cost of production, related to the change in intangible capital intensity both at the sector and industry-level. The bulk of the literature surrounding the approach to measuring markups relies on the so-called production approach which stems from the famous paper of Robert Hall (1988). This minimalistic approach is desirable as it only requires the existence of at least one variable input of production. Results show that average aggregate markup has risen by up to 57% across the U.S. economy over the last three decades, suggesting a fall in product market competition.</p>
Author	Winnie Tam, University of Exeter
Title	Ah! My tummy! – is AXR still effective to diagnose pathologies causing non-traumatic abdominal pain in emergencies?
Abstract	<p>Introduction: Abdomen x-rays (AXR) are a commonly requested radiographic examination for non-specific acute abdominal pain. However,</p>

	<p>recent evidence indicates one in three patients are discharged from A&E without a diagnosis for their abdominal pain, questioning the role of abdomen x-ray in this clinical pathway. Method: A literature review of 52 studies and guidelines, dated from 1964 to 2018, looking at abdominal x-rays effectiveness. Findings: CT and ultrasound advancements have not led to a dramatic decline in AXR referrals despite the documented ineffectiveness of AXR for supporting a definitive diagnosis or leading to a correct treatment alternation. A lot of patients who had negative AXR results are sent to CT or ultrasound, and nearly $\frac{3}{4}$ of them have an abnormality; potentially suggests that AXR alone does not provide enough evidence to the referring physician, and hence, further imaging was ordered. Likewise, only 32% of AXR requests adhered to the Royal College of Radiologists guidelines, which may contribute to the high rate of further imaging. Some argued that AXR still has its function, as a discharge tool, as to boost the referrer confidence and to avoid high-dose further imaging. The conflicting evidence base reflects the complexity of the use of AXR, and the issues around related guidelines and departmental culture of AXR usage.</p>
Author	Tanko Tanev, University of Leeds
Title	Nature-inspired Solution for Riemann Hypothesis?" rather than "Riemann zeta zeros and Sachev-Ye-Kitaev Hamiltonia
Abstract	<p>Riemann Hypothesis remains as one of the most challenging open problems in mathematics. It states that non-trivial complex solutions (zeros) of the Riemann zeta function, i.e. when $\zeta(s) = 0$ is true, has a form $s = \frac{1}{2} + it$. In other words, all the imaginary part t must lie on the "critical line", meaning the real part is always $\frac{1}{2}$. The proof will have a great importance for understanding seemingly random spacing of prime numbers. We are interested in Hilbert-Polya Conjecture (HPC) as a promising approach to solve Riemann Hypothesis, by attempting to connect physics with mathematics. The conjecture reads that there is a physical system with Hamiltonian whose eigenvalue distribution is equivalent to distribution of imaginary part of non-trivial Riemann zeros. In this project, we propose a Hamiltonian for Sachev-Ye-Kitaev (SYK) model describing a system of strongly interacting Majorana fermions, as a possible candidate for HPC. To verify it, we firstly investigate whether the SYK Hamiltonian satisfies the following criteria, suggested by Berry and Keating: (1) It obeys correspondence principle, (2) Its classical counterpart is chaotic, (3) It has maximally broken time-reversal symmetry, and (4) Its eigenvalue distribution does not converge. Secondly, we analyse whether the eigenvalue distribution function of SYK Hamiltonian is Gaussian Unitary Ensemble (GUE), since Riemann zeros correspond closely with GUE. The stated methodology would help us conclude if eigenvalue distribution of SYK Hamiltonian resembles Riemann zero distribution closer than other GUEs, such as Random Matrix eigenvalue distribution.</p>
Author	Zhen Yang Tang, London School of Economics and Political Science
Title	Obstacles to Japanese post-war reconciliation in light of the German experience
Abstract	<p>State apologies are seen to be essential for inter-state reconciliation—Japan's lukewarm relationship with her neighbours has been attributed to</p>

apologies that are “too little, too late” (Lind 2009). Germany, many argue, is the diametric opposite—publicly repentant and apologetic—that Japan should aspire towards in order to achieve reconciliation. Recognising the validity of this inter-state comparison, this paper explains lacklustre apologies and the domestic backlash as factors for unsuccessful reconciliation. This is explained as a manifestation of Japan’s collective memory of her role in World War Two, shaped by American reconstruction policies. This paper however abstains from the common assumption of a direct correlation between public apologies and reconciliation. A more nuanced and accurate perspective that this paper aims at considers threat risks, territorial disputes, and the difficulties of constructing common historical narratives as contributory factors for unsatisfactory reconciliation. None of these policies can be considered in isolation, and certainly bear some impact on Japan’s inability to publicly apologise, but they nonetheless warrant individual inspection. These explanations are strengthened with a broad take on the various circumstances that led to Germany’s successful reconciliation. Cognisant that reconciliation is a two-way process dependent on China and South Korea’s reception, this paper is nevertheless limited to issues that explain and affect Japanese policy. Whether Japan should apologise or not is a normative question this paper will not answer. What this paper however achieves is a systematic overview of the factors for Japan’s unsuccessful reconciliation beyond merely the perceived insincere apologies.

Author	Rubie Targema-Takema, University of Portsmouth
Title	Improving life-opportunities for people in disadvantaged communities using low-cost technology
Abstract	Statista journal stated that only 53.5% of Africa’s population have access to the internet, the remaining 46.5% of the population are left without access to the needed information and knowledge that improves lives. This disadvantage leaves individuals in less developed parts of Africa without access to information that could potentially save lives, and thus widens the already existing digital divide that grows daily. My research focuses on two main countries in Africa; Nigeria and South Africa and Nepal in South Asia. The aim of my research is to investigate whether the use of low-cost technology, in this case a Raspberry pi (a small programmable device) provides people in these less-developed communities access to information and improves their life opportunities. I am working with an existing charity called FRISberry to achieve this by developing a website that hosts relevant information about issues faced by women and school children in these communities. The website will be inputted as one of the resources on the raspberry pi and placed across different local communities and can be easily accessed by anyone in the community in possession of a phone, the same way we connect to wifi. This website will provide women and school children knowledge on breast cancer, rape culture and entrepreneurship for the women and revision skills and career options for school children. This research will contribute to managing and reducing the growing digital divide in these countries and also inform the population in those areas who are ignorant on these issues.

Author	Hannah Thomas, The University of Winchester
Title	Applying adaptation theory to A Very Potter Musical (2009)
Abstract	<p>When adapting works, there will always be an intertextual link to the source text. This piece studies intertextuality in StarKid's 'A Very Potter Musical' (AVPM) (2009). Robert Stam argues notions of fidelity produce thoughts that "some adaptations are ...better than others", implying that adaptations must remain true to their source texts in order to be 'good' or 'relevant'. However, as this piece will discuss, remaining true to the source of Harry Potter has become difficult as the original source text, the books, have since been adapted into films, online worlds, real-world theme parks, studio tours, and many other products which all add to the ever-growing franchise. How can StarKid remain true to its source of Harry Potter when the books are no longer the singular defining story? Instead, this discussion suggests that a faithful adaptation must simply reflect its source accurately enough to be recognisable. Whilst StarKid utilise familiar characters and dialogue from the Harry Potter books and films, making AVPM a recognisable Harry Potter adaptation, they also re-work the familiar into a new and original work. This does not make their work any less relevant or successful, it simply adds another narrative to the ever-expanding fan base of fan-made 'Harry Potter' works. Furthermore, adapting a book for the stage required a changed mode of engagement. To read a book engages an audience differently to watching a film or experiencing a play. The mechanics of placing this 'book world' to a 'stage world' are also discussed in this piece.</p>
Author	Luke Tillman, University of Exeter
Title	Manganese toxicity and effects on polarised hepatocytes
Abstract	<p>Manganese (Mn) is an essential nutrient involved in enzyme function, urea production and carbohydrate metabolism. Mn is abundant in the diet in products such as nuts, whole grains and leafy greens, making deficiency rare. If not processed by the body properly, however, excess Mn can accumulate in the brain causing a Parkinsonian-like syndrome known as manganism. In occupational settings (e.g. welding, mining and battery manufacture) workers inhale Mn over extensive periods leading to build-up in the brain. Accumulation of Mn in the Globus Pallidus (the brain structure involved in voluntary movement) has been reported in patients with liver failure, genetic pre-dispositions and substance abuse problems. Understanding liver-Mn interactions is an important aim of our study. Using a liver cell line, WIF-B, we investigated body Mn homeostasis. Cell viability decreased with excess Mn but regressed to control at higher concentrations. ZIP14, the primary cellular Mn importer, was downregulated at both the protein and RNA level. We hypothesise this to be a liver regulated process designed to reduce Mn toxicity. Intracellular Mn is stored in the trans compartment of the Golgi; we elected to investigate Mn-Golgi interactions. During exposure, the trans-Golgi marker TGN38 was degraded in a dose-dependent manner while the cis-Golgi GM130 was maintained. Lysosomal inhibitor Bafilomycin A1 blocked Mn-induced TGN38 degradation and increased association with the late endosomal marker M6PR. TGN38 function is currently unknown; we hypothesise its degradation is involved in reducing Mn toxicity. Understanding Mn-induced changes to Golgi architecture is a key goal of our research.</p>

Author	Pascal Tohouri, University of Warwick
Title	Red Tape and Revenues: Examining the Performance of the British East India Company, 1755-1834.
Abstract	<p>How does governance-regulation affect firm performance? In monopoly markets, welfare is distributed to consumers as consumer surplus, and to the monopolist as profits. Regulatory constraints can offset the distribution of surplus which naturally prevails, they may augment or diminish the profit-making potential of the firm. The behaviour of the regulatory body is, therefore, of serious consequence to the monopolist. Thoroughly probed are the common forms of regulation; Price-caps, rate-of-return, and cost-of-service regulation feature often in the literature. Governance regulation does not. This study examines intermediary approaches, between state-control and laissez faire. Its aims are to elucidate how constraints on management affect firm performance. The British East India Company (EIC) is an apt case-study. Headquartered in England and operating in Asia, the Company was a forerunner of modern transnational commerce. Its history serves as an early example of governance-regulation in operation. Between 1773-1833 British parliament passed 5 acts to curtail the practices of its Anglo-Asian trade monopoly. This study turns to account historical data and OLS methods to delineate structural breaks. I aim to investigate whether the EICs revenues responded to the State's 5 legislative acts, and if so, how? If the application of regulation led the state to successfully influence the EICs performance, its success may strengthen the broad rationale for governance regulation. If the State failed in its pursuits, its failure may weaken that rationale. The results of this study may, therefore, influence the ongoing debate which contrasts private monopoly governance with state-led control.</p>
Author	Charles Tolkien-Gillett, King's College London
Title	Finding Gavin Bone
Abstract	<p>In 1942, Anglo-Saxon scholar and poet Gavin Bone passed away at the age of 34. In the following years, his unfinished papers were edited and published as <i>Anglo-Saxon Poetry</i> (1943) and <i>Beowulf</i> (1945). In producing translations which are wilful and creative, he strove to prepare <i>Beowulf</i> for a popular twentieth-century reception. No single dedicated secondary writing exists on Bone and so the primary motivation of this paper is to bring clarity to Gavin Bone's life and works amid his limited afterlife in passing references and brief interludes. I will render a summary of his poetic corpus and essays on translation to comment on how he in a liminal position as an artist-scholar crafted works which fly in the face of the Anglo-Saxonist traditions of his historical and cultural moment. This includes working with Bone's uncatalogued and largely unseen personal papers held in the archives of his alma mater St. John's College, Oxford. Additionally, I aim to provide a critical intervention into contemporaries' varied yet nonetheless tempered reception of his works in light of his early death and address the layers of transmission which affect our reception of Bone today.</p>

Author	Shi Tu, University of Southwales
Title	Mechatronic docking method of a dual quadcopter system
Abstract	<p>This research work investigate the development and operational safety analysis of a dual drone system via modelling and simulation study. In particular this work aim to generate a method for allowing a smooth docking of a slave drone to mother ship (master drone/quadcopter), this should allow for suitable disconnect during flight and live docking. The dual drone system can be used in many applications, ranging from lifting load to saving life. Importantly, when lives are under risk and rapid rescue operations are needed this system operation is vital. Real-time implementations of duel drone system is analysed with reference to the developed system models. Firstly, mathematical models of a master and slave drones are obtained. Considering the two models, a mechanical arm model is incorporated in the small drone (slave) model. The resulting work allows to study the flight stability of the whole system. The docking can be made by connecting the arm to the master drone (quadcopter), and at the initial stage it can behaves like an underslung load. The underslung load works are transferable in a dual master and slave drone system, where master drone transports a smaller slave drone by a tether (mechanical arm), which can act as an underslung load. The arm that can be detached and reattached automatically through the drone controller system. Therefore, for a smooth operation and control of the whole system, an advanced robust controller should be designed. In this study, simple but effective control design methods are considered. Key words: Controllers, drones</p>
Author	Weronika Tupaj, University of Leeds
Title	The end of Utopia? An emergence of modernism in an ideal city - the Swedish Block (1956) in Nowa Huta
Abstract	<p>My project investigates the reasons of rapid changes in the architecture of Nowa Huta after 1956: the year of official rejection of the cult of Stalin and a thaw in Polish politics. The research is a case study of the modernist style of a so-called 'Swedish House' erected in Nowa Huta, a city built from scratch in socrealist style on the orders of the USSR Communist government. The city was supposed to be an embodiment of a Communist utopia: a carefully planned, monumental, well-organised environment for the next generation of working class. This image was maintained by the official propaganda depicting Nowa Huta as an 'ideal city' where the dreams of labourers can be fulfilled. However, after only nine years from the beginning of works, in the construction of Swedish House historical eclecticism was replaced by modernism. Through the analysis of everyday press of that period I found out what led to radical rejection of the style previously described by propaganda as the culmination of development of culture. My research showed that the reason was a general disappointment with discrepancy between the imagery of an ideal city and its everyday reality. Those concerns of local people were supported by national cultural policy which tried to erase the mistakes of Stalinist period by recalling the ideals of an early Socialism represented by the mid-war modernist avant-garde. The two levels of changes in the architecture of Nowa Huta of the mid 50s indicate the connection between art, politics and everyday life.</p>

Author	Kristee Turner, Blackpool & the Fylde College
Title	Investigation and development of an efficient energy source from waste system for implementation into a college building
Abstract	<p>This paper investigates the use of Refuse Derived Fuels (RDF) and how they are extracted from waste disposal systems as a source of renewable energy. The problem that requires investigation is how to extract more embedded energy from Municipal Solid Waste (MSW) from Blackpool & Fylde College (case study) and transfer this into electrical/thermal energy to feed back into the College as a sustainable energy source. Commercial and industrial waste was estimated (2014) at 40.0 million tonnes in the UK. 80% of this waste was generated from England at 31.7 million tonnes. (UK Public Service 2018). The calorific value for RDF is estimated at 4000Kcal/kg. Although there are existing Waste-to-Energy Systems in place, there can be room for efficiency improvements. There is a high global concern regarding methane emissions into the atmosphere. Hence, the incineration process within waste to energy systems is studied and analysed as it is proven to have the least impact on climate. The amount of waste Blackpool & the Fylde College (B&FC) produces and its energy consumption are investigated. Research and design of a viable waste-to-energy system is undertaken to meet the energy requirements. In addition, methods to store any surplus energy are identified and implemented. The opportunity to create local district heating and power system onto the College's grounds is investigated in detail. This allows for local employment and training opportunities, as well as for a sustainable, energy-savvy campus. Furthermore, it offsets carbon production through reduction of travel and transportation of the College's waste.</p>
Author	Clara-Mae Turrall, Bournemouth University
Title	'Musification of DNA and heritage: a proposed method for electroacoustic composition.'
Abstract	<p>My project researches the use of DNA and family trees as a system for music composition. With this, I will reflect upon research questions which falls under my overall notion, including 'How can my family tree be represented through music?', 'How the ethnicities in my DNA will inform the structure of my piece?', and "How can the composer realise meaningful mappings between DNA heritage and musical parameters?'. In my research, I have found that this representation of heritage has never been undertaken and therefore will be an original experience for my listeners. I first approached this by taking a DNA test which informed me what percentages of ethnicities make up my DNA, which I intend to use as a structure for my piece, using the percentages within my piece to create sections reflecting that ethnicity. Also using the ideas of data sonification, the lifespan of members in my family tree will be reflected by a note, therefore creating a piece where the listener will go on a figurative journey of my family's history. The answers to my research questions will be investigated within an electroacoustic piece which I will compose. I also intend to use other underlying features to reflect my heritage, such as using the key of A Major due to my blood type being A Positive, spectral panning which will reflect a DNA double helix and voice recordings of my immediate family which will act as a recurring theme.</p>

Author	Radiyah Uddin, Newcastle College University Centre
Title	An exploration students understanding of assessment criteria and how it affects the learning process, overall performance, and attainment.
Abstract	The research project I have proposed to undertake explores the area of assessment criteria used on courses by practitioners to measure a student's success. Although educators are often trained on the benefits of assessment criteria, students are less likely to be familiar with its significance and potential in positively influencing both the learning process and overall performance and attainment. It is my belief that having an informed and clear understanding of the assessment criteria when completing course tasks and assignments can significantly improve students' marks by ensuring students have an awareness of the expectations between grade boundaries. The project will initially start by focusing on level 4 students as the general numbers of retention and progression at this level are relatively low. It is my goal to explore the difficulties students at level 4 may encounter when completing course assignments and to also look at how familiar they are with the assessment criteria for their respective courses. Data collected from this project will then be used to map out some intervention strategies to tackle and overcome such barriers and essentially aid students to use assessment criteria to raise attainment and ensure success while building confidence in progressing onto level 5 and beyond.
Author	Kayra Uguz, University of Leeds
Title	And yet another mask: early modern images of the Ottoman Empire
Abstract	My research will question the extent to which Early Modern images of Sultan Mehmed II hinge upon ethnographic optics. I will interrogate the representation of the Ottoman through images that negotiate categories of ethnography and propagation. My research will bring into question classical and medieval imagery of Islam and the extent to which this corpus of cultural material remained extant in late fourteenth and early fifteenth century fabrications of the Ottoman Dynasty. In effect, I will approach Mehmedian imagery as a historical instances for the recalling or remaking of an Eastern Other. My thesis will query internal ethnographic representation and external propagative imagery, and the friction between these at the point of confrontation. My research will draw upon the circulation, dialogue and exchange of imagery within 'contact zones' and the generation of ethnographic and autoethnographic masks alike. I am interested in the adoption of particular masks of the Mehmedian Other and the Mehmedian Self over others. Why were particular narratives, structures, images adopted over others, and what 'masks' of the Self and Other were produced as a result? By what means, and to what ends were these internal and external masks fabricated?
Author	Thomas Vale, Middlesex University
Title	A statistical model of Hydrogen bonding
Abstract	An analytical study of hydrogen bonding was carried out in the work described below. The motivation for this work was to understand the physics behind the phenomenon of hydrogen bonding in polymer-static systems with equilibrium conditions. Hydrogen bonding is ubiquitous in

nature, from holding individual molecules of water to one another, to holding the helices of DNA together, and between the molecules that form polymers such as polyacrylamide. The association model approach was used to model hydrogen bonding, taking the free energy of hydrogen bonding and calculating through to the association constant(s). Two systems were under consideration. The first system contains self-associating molecules of type A with a single hydrogen bonding “donor” site and a single “acceptor” site and a different molecule of type B with only a “donor” site. The second system contains two different molecules of type A and B, neither of which are self-associating, but both of which had two hydrogen bonding sites that could form hydrogen bonds with either of the two hydrogen bonding sites on a molecule of a different type (A with B and B with A, but not two like-molecules). The “xi parameters” were set up by first drawing the possible arrangements of molecules of finite-length, and then calculated as a combinatoric problem for chains of any length, this was then put in the form of the free energy of hydrogen bonding and minimised for the number of each type of bond, and finally put into the form of associativity constants.

Author Desi van Roon, Utrecht University

Title Hyaluronic hydrogels for sustained ocular drug delivery

Abstract Posterior segment eye diseases can disturb the retina and potentially lead to blindness. These diseases are currently treated by intravitreal injections of anti-vascular endothelial growth factors or corticosteroids, since topical and oral formulations do not effectively reach the posterior segment of the eye. These injections are invasive and the drugs have a high clearance, resulting in frequent injections. In situ forming hydrogels were investigated to create an injectable sustained release material for these drugs, with hyaluronic acid (HA) as main material of the formulation as this polymer is naturally present in the vitreous of the eye. HA was functionalised with furfurylamine (FU) and crosslinked with a 4-armed star polyethylene glycol (PEG) with maleimide groups (4 APM). Between FU and maleimide a Diels-Alder reaction takes place, which is a safe and effective reaction that can take place under physiological conditions, leading to a chemically crosslinked hydrogel. Stable hydrogels were obtained after 10 minutes by mixing liquid solutions of HA-FU and 4 APM of 20% v/v. Therefore the gel can be injected as liquid formulation and then form a transparent gel within the vitreous. This resulted in a gel that was stable for over a month. Considering these very promising properties of gelation and stability of these particular hydrogels, these hydrogels are potentially suitable for sustained drug delivery to the eye. Future studies on drug release and cell toxicity are currently performed.

Author Charu Vijayvargiya, Nottingham Trent University

Title Lateral Flow Diagnostic Strips Using Nanofibres

Abstract This research aimed to develop and study diagnostic strips made of nanofibers. There are a wide range of applications of nanofibers including drug delivery, tissue engineering, physical and chemical sensors and so on. The polymer solutions to prepare nanofibers were made of 10% PAN (Polyacrylonitrile) in DMF (Dimethylformamide) solution with different concentrations of PAA (Polyacrylic Acid). These solutions were then used to prepare nanofibres using Electrospinning. Different tests were performed

	<p>on the prepared samples such as Contact Angle Measurement to study the hydrophobic and hydrophilic nature of different samples, and Wicking Test to measure the wicking speed of water on different samples. Other studies such as taking SEM (Scanning Electron Microscope) Images to observe the properties of fibres and OCT (Optical Coherent Tomography) Images to measure the thickness of the samples were also done. These studies helped observe the rheological characteristics of the samples. These results were then used to briefly compare the nanofibers to the most common material used to prepare a diagnostic strip, i.e., Nitrocellulose Membrane. It was found that compared to nitrocellulose membranes, nanofibrous membranes have broader functionalities due to their nano-scaled size, consistent flow on a suspended membrane, extremely specific surface area and molecular orientation which can be monitored and controlled down to the fibre diameter, surface chemistry and their internal structure. Going forward with this research, the aim is to develop diagnostic strips to test if a person is likely to develop Type 2 Diabetes.</p>
Author	Timothée Villain-Amirat, Southampton Solent University
Title	Design of a 54 ft offshore offshore racing sailing yacht
Abstract	<p>Ocean racing is for most sailors the pinnacle of the sport. It provides the most exciting playground for both them and the designers of the vessels. The Ocean Race (ex-Volvo Ocean race, ex-Whitbread) remains in the mind of enthusiasts of the sport the toughest sporting event to be involve with. Indeed, the 2017-18 edition took the teams 45,000 nautical miles around the world, across four oceans, for nine months. And sailing is a mechanical sport that is tough on the crew and hard on the boat. A lot is at stake when a race organiser sends a group of people on floating shells in the most hostile conditions and where sometimes the International Space Station is closer than land. Therefore, one might say security is priority, however, on any structural design, to one extent stronger is also heavier. If it is not, then it must be a lot more expensive. And in most case the extra weigh penalised the speed. But this is a race so the whole point is to be fast. The solution proposed to solve this equation between cost, performance and safety is to design a smaller vessel than existing solutions, because cost is directly proportional to the mass which is proportional to the length cubed. It is believed that with new technologies booming now in the industry as well as assessment under the latest international structural standard (ISO 12215-5;2018) the current performance can be matched whilst decreasing the cost and making no compromise on safety.</p>
Author	Adam Hudson, Ksenia Nowicka and Maeliss, London School of Economics and Political Science
Title	The morality of Trump's border wall
Abstract	<p>The Trump administration's proposed border wall between the United States and Mexico has attained a near ubiquity in contemporary political discussions. In spite of this, it has received little attention from philosophers. One possible explanation for this discrepancy is that though many people regard the wall as an inefficient, costly and distasteful way of policing the US-Mexico border, they do not regard its morality as questionable: given that states have a right to place some limits on immigration, and that the wall would serve to enforce these morally justifiable limits, the wall must be morally justifiable by extension. In this</p>

	<p>article, we will challenge two assumptions in this line of reasoning and conclude that Trump's border wall is not morally justifiable. The first assumption that we will challenge is that states have a right to impose any limits on immigration. We will contest this assumption by advancing two arguments in favour of open borders. Firstly, complete freedom of movement is the appropriate response to the economic inequalities that currently exist between countries. Secondly, no country adhering to democratic principles can have a unilateral right to control its borders. The second assumption we will challenge is that Trump's wall is morally justifiable simply by virtue of the fact immigration limits as a whole are justifiable. Casting aside our previous arguments, even if we assume that some limits on immigration are just, it is unclear that Trump's wall satisfies questions of procedural justice.</p>
Author	Aysha Wahid, University of Sheffield
Title	Effect of removing Patched receptors on muscle regeneration
Abstract	<p>The emerging cancer stem cell theory hypothesises that a sub-population of cancerous cells, sharing common features with stem cells, including the ability to self-renew, proliferate and differentiate, are responsible for causing Gorlin's syndrome. Gorlin's syndrome encompasses various cancers, including Rhabdomyosarcoma, a tumour of skeletal muscles. Rhabdomyosarcomas account for 5-8% of all childhood malignant soft tissue cancers. Satellite cells are adult skeletal muscle stem cells, that lie quiescent. Upon injury, these become activated, forming muscle progenitor cells, which proliferate and form new fibres. Satellite cells could potentially become cancer stem cells, due to over-activation of the Hedgehog pathway. The Hedgehog pathway, a key signalling pathway in most organisms, is activated via the Patched receptor. Previous research has shown that absence of Patched can lead to Gorlin's syndrome. Therefore, this project aimed to uncover the cause of Rhabdomyosarcomas using conditional knockout mice for Patched in satellite cells. Cardiotoxin injections were used to repeatedly injure the tibialis anterior muscle of these mice. Findings showed that mutant mice compared to the control displayed decreased self-renewal, and were less effective at repairing the damage, as mutants had more scar tissue depositions. Mutants also showed a higher number of regenerating fibres, however the fibres were much smaller compared to controls. These results suggest that perturbation of the hedgehog pathway greatly affects muscle regeneration. Though it is unclear how this may contribute to mechanisms that define Rhabdomyosarcomas, these findings are essential for future studies, which aim to identify therapeutic targets, to treat this rapidly progressing cancer.</p>
Author	Rebecca Waite, Blackpool and the Fylde College
Title	Securing Success through Cultural Awareness
Abstract	<p>Today's global business environment is constantly changing, so understanding culture is critical to those organisations that operate in international markets and/or employ individuals from various cultures. There is extensive academic literature surrounding the importance of managing cultural differences within project management due to the detrimental effects cultural mismanagement can cause (Yitmen, 2014). However, there is limited research available around the importance of ensuring an organisation understands and acknowledges the impacts managing culture can have on project success, and thus is an area that will</p>

benefit from further research. Various frameworks and models have been derived over time to explain national culture and its impact on projects e.g. Parsons (1951) and Hofstede (1984). However, although these are useful to an extent, globalisation has resulted in increasing numbers of organisations now opting to carry out business within the Middle East, and so further research will need to be carried out into their applicability and usefulness for those projects conducted outside traditional Western 'home markets' where cultural characteristics differ strongly (Baumann, 2013). A qualitatively dominated mixed method approach will be undertaken on a judgement sample of six senior managers within a large aerospace organisation's Middle East offshoot, with thematic analysis being utilised to establish themes and patterns that are present throughout semi-structured interviews as to what impacts cultural differences currently have on project success. From this, recommendations will be developed as to how the organisation could tailor the approaches in which they manage these impacts to try and improve their effectiveness and efficiency.

Author	Leonie Walker-Panse, University Centre Reaseheath
Title	Does bedding material type influence the growth of bacterial populations?
Abstract	Bedding choice influences the prevalence of airway disorders and bacterial infections in stabled animals. Straw bedding contains high levels of bacteria and generates more respirable dust than shavings. This study investigated the growth of bacteria in straw (ST) and shavings (SH), compared to an alternative material - wood fibre (WF) - in stabled horses. Separate stables were allocated for each bedding and samples (5g) were collected from 5 areas of a stable on 3 different days. Maximum recovery diluent (MRD) was added to each 25g of bedding and serial dilutions 10 ⁻⁵ were made and incubated at 35OC for 48 hours on plate count agar (PCA) plates. Gram staining differentiated the cultured bacteria. Friedman's and Kruskal-Wallis tests analysed the data via SPSS v24.0. Post hoc analysis indicated that total bacterial levels significantly increased in all bedding materials from day one to three (p<0.001). Post hoc multiple comparisons identified significant differences between ST and WF on day 1 and 3 (p=0.022). ST had the highest abundance of bacteria and WF the least. Pale circular colonies were Gram-positive bacteria and identified as either Staphylococcus or Bacillus species. Yellow colonies were Gram-negative bacteria and identified as Escherichia coli, with the exception of Helicobacter in SH and both Staphylococcus and Escherichia coli in WF on day three. Exceedingly high levels of bacteria indicate potentially disease-causing pathogens. Bedding management practices should be reconsidered and WF material utilised in future. However, more research is required to determine the relevance of WF to the equine and farming industry.
Author	Georgina Waller, Solent University
Title	Does caffeine affect maximal torque and time to failure in females during isometric leg extension?
Abstract	Caffeine is a regularly consumed ergogenic aid, however evidence is conflicting in regards to improvements in maximal strength and muscular endurance. Furthermore, most research has investigated high concentrations of caffeine (>5mg/kg) upon performance outcomes in conditioned male populations. Lower doses of caffeine reduce risks of side effects such as sleep deficit, addiction and depression and might still

present positive acute responses such as increased muscular strength and endurance. With the above in mind the present study compared low caffeine dosage (between 1.1-1.8mg/kg²) against a placebo for maximal voluntary isometric torque (MVIT) and muscular endurance at both heavier- and lighter-loads (70% and 30% MVIT, respectively). Fourteen healthy (BMI = 18.5-25kg/m²) female participants were recruited from a University environment (M= 22.5 ±4.5 years). Following a familiarisation session, all participants attended the laboratory for 4 testing sessions (heavier- and lighter-load exercise conditions following both caffeine and placebo consumption). Following a standardised warm-up, participants were tested for MVIT at 45° knee extension, following which they were assessed for muscular endurance by performing a knee extension task producing either 70% or 30% of their MVIT for as long as possible. At cessation of the task perceptual ratings of effort and discomfort were recorded from each participant. Data collection will be completed, and all data analysed based on within-participant, between condition (caffeine and placebo, and heavier- and lighter-loads). Data will be available for presentation at BCUR.

Author Imaan Waqar, Keele University

Title The effect of lavender oil and Olbas Oil as olfactory stimulants on EEG rhythms

Abstract The effect of different olfactory odorants on EEG rhythms have been previously studied, and lavender and Olbas oil were studied in this experiment. It was hypothesised that both lavender and Olbas oil would be relaxants and increase alpha activity in the brain. However, while the lavender increased alpha activity, the Olbas oil was a stimulant, and decreased alpha activity. The lavender increased alpha power from 19.687pV² to 36.953pV² whilst the Olbas oil decreased alpha power from 26.883pV² to 22.399pV². These results point to the benefits of using lavender for relaxation, whether that be clinically for patients with anxiety, for home use to feel calmer or for use in massage therapy.

Author Heather Warburton, University of Staffordshire

Title An investigation into decomposition rates of soft tissue in different aquatic environments

Abstract This area of research compares decomposition rates of soft tissue in three types of water, salt, distilled and spring water. This research is important, as it aids in forensic and criminal investigations, in time of death, location of death (river, lake sea etc) and if the corpse was already deceased when found. The project was more of an observational one than one that relied on mass analysis. Testing is to be done for the Ph balance of all nine samples, this will reveal the acidity levels in the water, and each will be compared against one another, to see if this affected the rate of decomposition. Photographs will also be taken throughout the project. Variables used were light artificial, natural and no light, and temperature, - four, eight and 19 degrees. Each sample will be repeated three times. The only implications the project would come across, is if the sample didn't have adequate time to decompose, therefore not having significant results to go by.

Author	Victoria Ward, Plymouth University
Title	Environmental impact of tourism: marine litter at St Austell Bay, Cornwall; a business and environmental organisation perspective
Abstract	<p>Marine litter is a problem inflicting coastlines globally; through growing interest and media exposure this rising issue threatening marine life, seas and coastlines is gaining momentum with research (Maes et al., 2018), investigating possible solutions to counteract the negative impacts. This boundary-less threat effects everyone (Krelling et al., 2017), consequently, it is everyone's responsibility to investigate and implement solutions. The tourism industry is one of the largest contributors to world economies (Schubert, Brida and Risso, 2011), however, the downside is an increased negative impact on marine litter levels. The research aims to discover potential links between tourism and levels of marine litter on beaches surrounding St Austell Bay, Cornwall and the impacts. The findings will assess how stakeholders perceive the issue, highlight any flaws with current practice to manage the situation effectively whilst engaging, involving and educating all stakeholders into ensuring as much is being done to tackle the negative impacts of marine litter upon the environment and wildlife in a sustainable manner. Coastal areas around the world have commonality to St Austell Bay, due to marine litter indiscriminately being left or washing up along shorelines regardless of locality. Most marine litter is lightweight and therefore travels globally with ease, (Ryan et al., 2009), consequently, the findings within this research could easily be about any vicinity and the endeavours could assist stakeholders worldwide to understand further the impact tourism has upon the global issue of marine litter.</p>
Author	Daniel Ware, Blackpool and the Fylde College
Title	Once bitten, twice shy: do personal financial behaviours and the associated heuristics of project managers have an impact of decision making in projects?
Abstract	<p>The financial behaviours of individuals at a personal level have been extensively studied in academia. Many studies have explored why people have a propensity to spend or save their money, with factors such as heuristics, financial education and financial literacy commonly cited. The field of heuristics has itself been thoroughly studied in many subject fields, with the consensus that past experience influences future decision making regardless of the context at the time that heuristic was formed. As such, it follows that personal financial heuristics may have an influence on financial behaviours in the workplace. However, limited research has been carried out to investigate whether there is a link between the personal financial behaviours and associated heuristics of project managers and their financial behaviours in a project environment. Given that project managers are often tasked with making decisions that can have profound financial implications for projects and organisations, this exploratory research will investigate whether there is any commonality between the personal financial behaviours of project managers and their financial behaviours in the workplace. The study will use a scenario-based questionnaire distributed to project managers in a large aerospace company (N=1200, n=120) to analyse personal and workplace behaviours, followed by face-to-face interviews with a small number of respondents to seek the underlying themes. If a link can found between personal and workplace behaviour and</p>

	the results are replicated in a larger study, such a finding could prove significant for human resource management and recruitment practices in the field of project management.
Author	James Waterworth, Doncaster College University Centre
Title	Ageing well in communities: community efforts to reduce the social isolation of older people
Abstract	<p>This research presents the efforts of those involved in a local voluntary scheme to reduce social isolation and feelings of loneliness in older people in the community. With research connecting social isolation and loneliness to a number of negative health outcomes, such as a higher risk of mortality (Holt-Lunstad et al., 2015), depression (Alpass and Neville, 2003), psychological distress (Paul et al., 2006), dementia (Holwerda et al. 2014) and hypertension (Momtaz et al. 2012), loneliness and social isolation now present major public health problems (Mental Health Foundation, 2017). Qualitative interviews were undertaken with seven members of this community scheme – both volunteers and isolated older people – exploring motivations for membership, meanings attached to this membership and how these efforts reduce the social isolation of older people. Previous research in this area (Findlay, 2003; Cattán et al. 2005) is located within quantitative methodologies, measuring how effective these interventions are based on a number of outcomes, such as health, but far less has been done to understand the meanings created by individuals who are part of these programs and how these actors are collectively transforming their local environments. Contrasted with be-friending interventions, which are valuable in their own right and provide positive outcomes for those who are socially isolated (Andrews et al. 2003), this community scheme presents a sustainable, long-term solution to the isolation of older people by naturalistically increasing their connections to the community, empowering them to form new social relationships and remain independent.</p>
Author	Stacey White, Staffordshire University
Title	The Tertiary Transfer and Persistence of Biological Evidence in Child Sexual Offence Cases.
Abstract	<p>In child sexual offence cases the detection of semen is vital, particularly in relation to delayed disclosure and materials. The detection of semen evidence can lead to the identification of the perpetrator via DNA analysis. The aim of this research is the determination of semen transfer to tertiary material in relation to child sexual offence cases. Presumptive and confirmatory testing (Ultra Violet (UV) light, Acid Phosphate (AP), Prostate-Specific Antigen (PSA), light microscopy via Haemotoxylin and Eosin Staining (H&E Staining) and DNA profiling using NGM SElect™) was applied to clothing exhibits. Presumptive testing resulted in unsuccessful semen detection using UV light on secondary transfer involving jeans and tights and all tertiary material layers. AP testing resulted in positive results for all material layers. Confirmatory light microscopy and PSA testing detected seminal fluid on all tertiary materials, with a one repeat exception. DNA profiling of tertiary materials resulted in allelic matches of > 50% for 61% of trials with 28% of these resulting in a 100% allelic match. This</p>

	suggests that it is possible to detect biological evidence transfer on tertiary material layers in relation to child sexual offence cases.
Author	Joshua Wilkinson, Lancaster University
Title	Do they know you don't know that they don't know? A study into how Emotional Intelligence could help define customer requirements within Project Management.
Abstract	A study conducted by the World Bank (1996) found 65% of projects fail due to poor project management within the 'front-end' phase. Whilst the critical front-end activities have received little exposure in the literature, this is particularly true concerning the gathering of customer requirements. Making links to emotional intelligence (EI) literature suggests EI could positively impact the success factors around defining customer requirements (such as problem solving, stakeholder engagement and options analysis). This study will utilise a population of project professionals working within the aerospace industry (N=1300) of which a sample (n=12) will undergo semi-structured interviews. Through thematic analysis of the data, the perceptions of the participants will be examined to provide a picture of both past experience of EI use within defining customer requirements and possible barriers/enablers of its use within this front-end activity.
Author	Danielle Wilson, University of Portsmouth
Title	The use of model drawings to aid deception detection in investigative interviews.
Abstract	The current research aims to examine whether drawings can be used to assist in investigative interviews and to explore if they can strengthen our skills in detecting deception. Previous research has indicated that drawings can be used as a strategic tool in investigations because they are inexpensive and can aid with language barriers when interviewing. Additionally, they elicit and magnify important differences between truth-tellers and liars (e.g. truth-tellers provide more detail in their drawings than liars). Furthermore, research has shown that the use of model statements, a detailed verbal account of an unrelated event provided in an interview can distinguish between truth-tellers and liars. When a truth-teller provides information in an interview using the 'model statement' they provide significantly more details than those that deceive. The aim was to investigate whether the use of model drawings could also enhance the difference between truth-tellers and liars in terms of the amount of detail provided. Half the participants lied about a mock crime, whereas the other half told the truth about an event. Subsequently, during an interview, half of the truth-tellers and half of the liars were shown model drawings whereas the other halves were not. During the interview participants were instructed to draw their whereabouts at the time of the crime. These drawings are now being coded for details and using multivariate statistical analyses it is expected that truth-tellers will provide more details than liars especially in the model drawing condition. This has implications for investigative interviews and deception detection.

Author	Colin Wise, Open University
Title	'Calon wrth galon': the Bristol Cambrian Society: a window on Welsh migrant identity: 1869 to 1935
Abstract	<p>Identity is an elusive and nebulous concept, both variable and mutable. It is difficult to comprehend the term 'Welsh identity' by considering the Welsh, or the Welsh diaspora, as a whole. A useful approach is to restrict the scope by focusing on groups of like-minded individual such as the many Welsh societies that existed nationally and internationally from the eighteenth century. This research seeks to understand the Welshness of one such group, the Bristol Cambrian Society. Though émigrés, they saw themselves as part of a Welsh nation for a period of nearly seventy years, spanning the last third of the nineteenth century and the first third of the twentieth. The work addresses questions of how successfully the Society preserved a Welsh identity, and in what form. Evidence of the activities of the Society can be garnered from newspaper articles and original records of proceedings, and supplemented by biographical information from census records and civil registration. Together, these allow a reasonable picture of the aims, membership and activities of the Society to be constructed. From this evidence it is argued that whilst the Society maintained a publicly visible Welshness for an extended period, bonded in charity towards needy Welsh migrants, the members adopted a pragmatic Welsh identity, part of their cultural, national, ideological, racial and social identity mix. The Society was more an agent of integration than of national separatism, a badge of distinction rather than difference and ultimately a demonstration of the Welsh contribution to the city and wider nation.</p>
Author	Anton Witchell-Chibber, University of Leeds
Title	The Stateless State: An assessment of the 2011 NATO intervention in Libya and its aftermath
Abstract	<p>As conflict continues to engulf parts of the Middle East and North Africa, the discourse relating to Libya has often been overshadowed by events in Syria and Iraq. Yet, since 2011, the country has remained fraught by violence. For policymakers to push Libya's warring factions towards national reconciliation, it is vitally important to understand how Libya descended into civil war. Equally, it is crucial that the consequences of NATO's intervention in Libya in 2011 serve as a cautionary tale in the cost of liberal interventionism. My research asks two questions: to what extent was the initial intervention in Libya a 'success', and why in its aftermath did Libya develop into a failed state? Using reports by human rights organisations such as Amnesty International and Human Rights Watch, alongside news bulletins, my research considers the failures of intelligence by the pro-interventionist powers in the threat level to the population of Benghazi, which formed the crux of the humanitarian argument to intervene. It explores the political alternatives to military intervention, which were ignored by the international community in favour of regime change. Finally, the research focuses on the struggles of post-Gaddafi Libya, questioning if Libya's political collapse was foreseeable or if the pro-interventionists are guilty of inadequate post-war planning. It will be concluded that the lack of a centralised security apparatus gave rise to the proliferation of Qadhafi's weapons stockpiles and left justice and political policy in the hands of the militias, who were co-opted into the establishment.</p>

Author	Karolina Wojtczak, Maynooth University, National University of Ireland
Title	Green Synthesis of a Novel Triazole-linked Anti-fungal Anti-adhesion Compound
Abstract	<p>Anti-microbial resistance is a growing concern in the healthcare sector on a global scale. In order to successfully treat and prevent infectious diseases in the future, we must develop alternative treatment strategies that do not involve the killing of pathogens. Anti-adhesion compounds have been identified as one such alternative, especially in the treatment of fungal infections by <i>C. albicans</i>. The aims of this project were: -To synthesise a novel organic compound, structurally related to a previously identified lead compound from the Velasco-Torrijos research group which showed extremely promising results as an anti-fungal agent in biological testing. - To employ the concept of multivalence by mounting several moieties of the compound on a larger scaffold in hopes of improving its activity further. In this case calixarenes were the intended scaffold. -To use "Green chemistry" as much as possible and utilise "Click" chemistry during the synthesis to produce triazole linkages between the various components as developed in the Heaney group. These aims were achieved partially. The proposed anti-adhesion compound, and the calixarene scaffolds were successfully synthesised by the intended "green" methods and characterised, however due to time constraints it was not possible to mount the compound on the scaffolds and compare its activity to a single free moiety. This can be explored in a follow-up project and there is a PhD project proposal based on this research currently under assessment. The poster which represents the research here described was the co-winner of the Undergraduate Research Symposium 2018 at Maynooth University.</p>
Author	Kyle Wong, King's College London
Title	"Functional" Biomarkers for Cancer
Abstract	<p>Cancer remains to be one of the most common deadly diseases in the world, with an estimated 14.1 million new cases yearly. As cancer is a heterogeneous disease, patients with similar oncological diagnoses may experience different outcomes, despite receiving the same treatment. Cancer imaging biomarkers are clinical indicators used for detection, prediction, prognostication and response assessment and are crucial for the optimisation of patient care. Intratumoral perfusion, the passage of fluid within a tumour, shows potential as a valuable biomarker for cancer, as it correlates with tumour invasiveness, progression, and resistance to radiotherapy. Dynamic contrast-enhanced magnetic resonance imaging, where images are taken after the admission of a contrast agent, can indirectly measure intratumoral perfusion state. However, there is significant misalignment between the acquired images due to respiratory motion and peristalsis during the acquisition time. A novel semi-automatic registration algorithm is presented to improve the robustness of the perfusion biomarker. The preliminary results suggest that the proposed method yields promising results in correcting the misalignment in dynamic contrast-enhanced magnetic resonance imaging data of patients with</p>

	colorectal cancer. With further development, this algorithm sees potential in overcoming the technical challenge that is preventing clinical translation and further refine image acquisition and processing techniques to enable quantitative imaging for cancer.
Author	Daisy-Louise Woodall, Bournemouth University
Title	Internal political efficacy as a motive for mobile millennials to attend people's vote and the independents' march for the future
Abstract	<p>Although recent research has established the effects of self-efficacy on millennials, the role of internal political efficacy is not well known; this is likely due to both millennials being the youngest and stereotypically politically-disengaged generation and Brexit an ongoing issue at the time of writing. The study identifies and evaluates requirements needed to nurture internal political efficacy as a motive for millennials concerned for their mobility within the EU to attend the political campaign People's Vote March for the Future. From this, a marketing mix is presented to satisfy the requirements and foster political engagement through event attendance. The topic is of interest given its relevance to the current UK political climate, with division fostering higher political involvement from millennials, including their significant rise in voting at the recent EU referendum and general election. A literature review surrounding Albert Bandura's Self-Efficacy theory and its' relation to internal political efficacy was conducted in conjunction with recent studies and news articles on Brexit and millennials. Self-efficacy requirements were outlined and adapted to their political-specific construct and applied to the segment. Internal political efficacy was found to be the strongest predictor of political participation in millennials; they respond most favourably to political campaigns and messages that are endorsed by celebrities and figures with whom they strongly identify, and when directed through interactive social media instead of televised 'hard' news, which causes a negative response. Social modelling of political activity was shown to influence higher internal political efficacy and political involvement.</p>
Author	Jessica Woodman, Staffordshire University
Title	Can the partial drying of blood drops aid the reconstruction of a crime?
Abstract	<p>The reconstruction of a crime, and particularly the sequence of events, is an important aspect of every criminal investigation. Bloodstain Pattern Analysis (BPA) can be used to assist in this, however, a method that provides objective results with the support of statistical analysis has yet to be seen. This project aims to utilise the partial drying of blood drops in order to achieve this on a variety of floor surfaces and will be done by photographing two drip patterns, one left drying for 30 minutes, and one for 60 minutes. The ratio between the wet and dry portions of the drops will be calculated and examined. It will also be carried out on three surfaces; white tiles, laminate wood flooring, and vinyl flooring. Preliminary results have shown that an increase in blood drop volume also increases the time taken for the drops to completely dry. This allowed for the optimum volume and times to be calculated. A clear divide between the wet and dry portions of the blood drop was also visualised. Experimental work on the white tiles has been carried out and further floor surfaces will be examined. This research will provide a simple, yet effective, method for determining the</p>

	sequence of events at a crime and provides a more objective interpretation that is supported by both calculations and statistical testing.
Author	Tara Wyse, University of Sussex
Title	Exploring contact influence between Caribbean and West African Creoles: a typological study of verb serialisation in Jamaican Creole and Cameroon Pidgin English
Abstract	This research is in the form of a poster. My research explores contact influence between Jamaican Creole and Cameroon Pidgin English through verb serialisation (the instance of 2+ lexical verbs in the same clause to describe a single event) in order to shed light of the dispersion of pidgin and creole language features. I determine the level of contact influence by comparing the use of serial verb constructions in Jamaican Creole, Cameroon Pidgin English, Duala (an indigineous Cameroonian language), and Fante-Akan, a Ghanaian Kwa language. Previous literature suggests that Akan influenced Jamaican Creole through slaves and Jamaican Creole went on to influence Cameroon Pidgin English via missionaries. I found evidence to suggest that the types and features of serial verb constructions in Fante-Akan tend to be found in Jamaican Creole and Cameroon Pidgin English, indicating contact influence.
Author	Omnia Yehia, American University in Cairo
Title	Nepotism and the Egyptian culture
Abstract	Two forms of favouritism working against a fair business environment are nepotism and cronyism. These are salient features in many sectors of today's business world. A growing body of research has systematically examined the effect of different forms of favouritism in the workplace and has suggested that favouritism also has a profound effect on the culture of a country. One aspect of the problems associated with nepotism that has not been fully investigated is the empowering effect of the national culture on workplace favouritism. With this in mind, the aim of this paper is examining nepotism in the Egyptian workplace, a context that is ideal for this topic given that the Egyptian national culture is rife with favouritism. Further, the research seeks to unpack the potential consequences of putting in place a strictly unified recruitment system that cannot be manipulated. Through in-depth interviews with people working in human resource management and employees across a range of organisations, this work highlights that the Egyptian business environment is in dire need of a transparent system in order to reform human resource management practices.
Author	Thomas Young, University of Leeds
Title	An Investigation into the Oligomerisation of the Human ER Stress Sensor Inositol Requiring Enzyme 1
Abstract	Human Ire1 α is an important transmembrane signalling molecule located in the endoplasmic reticulum (ER), that is important in the unfolded protein response (UPR). The UPR has been implicated in a number of important

	<p>human diseases, acting to reduce the formation of misfolded proteins and as a system hijacked by viruses upon infection. Previous studies have revealed that the luminal domain of hIre1α is critical in the activation cascade that leads to activation, triggered by the accumulation of unfolded proteins in the ER. This study aimed to identify the specific intrinsically disordered region/regions of the luminal domain, that have been suggested to regulate oligomerisation. Three different Ire1α luminal domain constructs were created using site directed mutagenesis to introduce stop codons at three different sites, truncating the linker region. These constructs were then expressed and separated into soluble/insoluble fractions and analysed by SDS PAGE. Our results show that the 406-421 region is unlikely to be involved in regulating oligomerisation. Studies into hIre1α could be used to inform future drug design, providing specific sites that control activation (via oligomerisation) which could be targeted for therapy.</p>
Author	Chloe Young, Blackpool and the Fylde College
Title	Learning from the best: how can Project Management meet the societal obligations of a profession?
Abstract	<p>Since the concept of a 'profession' was developed, vast amounts of research has been conducted to decipher what it means to be a profession in a gambit to gain the inevitable benefits that come along with such status (Parsons, 1949). Project Management has followed a similar route, using 'trait theory' as a building block of research, comparing the state of the profession against the required characteristics that trait theory promotes (Morris, Crawford, Hodgson, Shepherd, Thomas, 2006); Formal entry requirements; Autonomy; Code of Ethics; A commitment to service ideals; Monopoly over a body of knowledge. However, such research has predominantly focused on critiquing and analysing project management associations, the body of knowledge published to date, as well as training standards (Hodgson & Cicmil, 2006; Stretton, 2006). Surprisingly, the amount of research conducted surrounding ethics and social obligations is very little, this is despite various authors across the years, having noted that the relationship with the community, providing social benefits and being for the common good is an integral part of what it means to be a profession (Greenwood, 1957; Barber 1963). Therefore a pragmatic research approach will be undertaken, initially utilising a systematic literature review in the specific area of social obligation, in order to further understand if Project Management can indeed fulfil a pledge to society, by encapsulating two aspects; how do other professions meet their social obligations? And, furthermore, can and should this be replicated for the field of Project Management?</p>
Author	Nurkaiyisah Zaal Anuar, University of Sheffield
Title	Investigating the role of beta1 integrin in extracellular matrix endocytosis
Abstract	<p>The extracellular matrix (ECM) is composed of various secreted macromolecules and proteins that are involved in cell growth and homeostasis. The most abundant of these proteins are collagens, which recognises subtypes of the integrin family of ECM receptors depending on the cell type (e.g. alpha2beta1 for epithelial cells). Integrins are involved in regulating numerous signalling pathways, including cell survival, proliferation and migration. Matrigel is another type of the ECM, mainly</p>

composed of laminins and collagen IV. Unlike collagen I (a fibrous protein), matrigel is a gelatinous protein mixture derived from mouse tumours and is often the choice substrate to keep cells in an undifferentiated state. Experiments conducted previously in our lab showed that ECM internalisation is upregulated in invasive breast cancer cells (PyMT) compared to normal mammary epithelial cells (NMuMG), suggesting that ECM endocytosis might represent a novel regulator of breast cancer cell function. The aim of this work was to investigate the role of $\alpha 2 \beta 1$ -integrin as a potential regulator of ECM internalisation using a pharmacological inhibitor (BTT-3033) specific to this isoform of $\beta 1$ -integrin. The first set of experiments, visualised using confocal microscopy, confirmed previous data, showing an increase in ECM internalisation in PyMT cells compared to NMuMG in both matrigel and collagen I. Additionally, the $\alpha 2 \beta 1$ inhibitor showed a significant reduction in matrigel uptake for both cell lines, but not collagen I. Therefore, these findings suggest a possible role of $\alpha 2 \beta 1$ -integrin as a novel regulator of matrigel internalisation, although further experiments are required to confirm this.

Author Yasser Zaffar, Queen Mary, University of London

Title Energy harvesting using conjugated polymers

Abstract It is estimated that 63% of global energy consumption is wasted as heat. My project involves synthesising Organic Semiconductor Polymers (OSC) as Thermoelectric Generators (TEG), which can reconvert wasted heat energy back into electricity. An OSC can weakly conduct charge carriers (electrons) though its conjugated backbone when an external electric field is applied. Conductivity can be increased through oxidation, forming cationic electron holes along their conjugated backbone; allowing for conduction through a charge hopping mechanism. To oxidize the polymers, we expose them to p-type dopants, which remove an electron from the Highest Occupied Molecular Orbital (HOMO) of the conjugated backbone, forming a radical cation termed polaron. Typically, charge carriers move faster in highly crystalline regions of polymers, due to greater interaction of the π - π stacked chains. However, due to their natural semi-crystalline structure, charge carriers are limited by non-crystalline (amorphous) regions. Instead, we use co-polymers, of varying monomeric ratios, to form local aggregates of amorphous regions of π - π stacked chains, allowing good charge transport across the polymer. I am synthesising Thiophene based co-polymers, of 3-hexylthiophene and thiophene (P3HT:T), in varying monomeric ratios', via Grignard Metathesis (GRIM) Polymerisation reaction. To analyse the charge mobility, the polymers can be spin coated as thin films on an Organic Field Effect Transistor (OFET). As the monomeric ratio of Thiophene in P3HT:T increases, I expect red shift when analysed under UV-Vis - indicative of an increase in amorphous aggregation. Furthermore, I expect higher OFET performance of these co-polymers, showing greater amorphous structure and charge mobility.

Author Sophia Zaller, University of Chicago

Title A comparative analysis of sovereign aid to Puerto Rico and the British Virgin Islands before, during and after the Atlantic hurricanes of 2017 (Specific Focus on Public Utilities)

Abstract	My research is a comparative analysis of the United States' and United Kingdom's humanitarian relief efforts to their respective territories, Puerto Rico and the British Virgin Islands, in the wake of Hurricane Maria and Hurricane Irma, the most powerful Atlantic storms ever recorded. Through this research, I seek to understand how nations balance the allocation of scarce resources (including financial assistance, military personnel, and emergency supplies) between domestic needs and those of remote sovereign territories in the aftermath of a natural disaster. For the purpose of this project, I focused on evaluating the government aid distributed to public power and water entities. There is limited data available regarding success metrics for the relief effort after Maria and Irma, and no comparison of the proactive and reactive measures taken by the USA and UK regarding public utilities. I spent part of summer 2018 on the ground in PR and BVI, observing infrastructure and conducting interviews with community leaders and administrators of public water and power entities. Ultimately, I found that the USA failed to take crucial preventative and immediate response measures that the UK did successfully due to a fundamental difference in political priorities. Furthermore, Puerto Rican utilities took on far greater amounts of debt at reduced eligibility standards, hampering their ability to respond to the disaster. I see my findings adding value to the discussion on disaster response, which will only increase in relevancy as environmental experts predict that climate change will cause increased hurricane activity in the coming years.
Author	Dingyu Zhang, City University of Hong Kong
Title	Sexual harassment in higher education behind the #metoo movement in China
Abstract	While sexual harassment, especially sexual harassment in education has been becoming a main social concern in many societies, and a series of policies towards this came out, it seems that sexual harassment has low social awareness and the policies towards it are ambiguous in China. Besides, it is also typical that the victims in Chinese universities tend to keep silence. To understand the reasons behind from a victim standpoint, this paper aims to illustrate the findings through interviews and document analysis. By conducting in-depth interviews as well as related document analysis about the victims of sexual harassment in the higher education of China, victims' perspectives of sexual harassment in higher education, the #metoo movement, the universities' reaction after reporting a sexual harassment as well as why the dominant culture do not consider sexual harassment in higher education as a problem will be studied.
Author	Yihan Zhu, London School of Economics and Political Science
Title	Analysing a citizen-candidate model with d'Hondt method and a within-country variation of electoral systems: evidence from Turkey
Abstract	The citizen-candidate model has been widely used to examine the equilibrium number of candidates entering elections and the dispersion of their policy positions under various electoral systems. However, while Osborne and Slivinski (1996) analyse plurality and run-off systems, a model of the d'Hondt method with sincere voting has yet to be developed. Thus, we determine the equilibrium number of candidates that enter a race with the d'Hondt method electoral rule and further examine the impact of

	<p>mandatory ‘electoral thresholds’ on entry. We then test predictions from the citizen-candidate model using electoral data in Turkey, a political system that has a within-country variation of electoral systems at distinct levels of government – presidential (two-round run-off), general (d’Hondt, with 10% electoral threshold), and local (first-past-the-post) elections. Finally, we use hierarchical linear modelling to examine the nested structure of general and local elections in Turkey, to comprehend the impact that national elections have on determining local electoral outcomes.</p>
Author	Chen Zifeng, Newcastle University
Title	Design of Fault System for Detection of Wireless Bearing
Abstract	<p>In the use of bearings, it is inevitably affected by mechanical stress and mechanical wear, resulting in bearing failure. The bearings of the 300,000 kW genset coupling system of the US (31-2) pressurized water reactor nuclear power plant were disconnected, causing almost all components in the reaction zone to burn and many radioactive elements to leak. The accident caused unpredictable damage to the environment. Therefore, bearing fault detection is very much in need of attention. The design uses the SCM principle of the core part of the system and the corresponding pin function and the combination of the wireless alarm circuit and the signal acquisition circuit to make the bearing detection system. In addition, the system is divided into two parts: the transmission part includes ADXL345 signal acquisition circuit, IAPC51 microcontroller and ZigBee wireless transmission equipment. The receiving part includes a ZigBee wireless receiving device, an IAPC51 microcontroller and an alarm circuit. The ADXL345 sensor is a key component of the bearing fault detection system. The sensor can detect the corresponding vibration signal, adopt the ZIGBee wireless transmission signal measured by IAPC51, and calculate the calculation result of the vibration signal by using the single chip microcomputer. . If a bearing fault is detected in the system, the SCM will activate the buzzer and LED warning signals and the digital tube display to malfunction. In other words, this bearing fault detection system effectively avoids serious problems caused by bearing faults.</p>
Author	Othman Zuhir, University of Leeds
Title	Medical practitioners’ awareness of medication-related osteonecrosis of the jaw
Abstract	<p>Medication-related osteonecrosis of the jaw (MRONJ) is a severe but rare complication affecting patients on anti-resorptive and anti-angiogenic medications. This study aimed to evaluate medical practitioners’ awareness of MRONJ, the current practices of pre-treatment dental advice and referrals as well as the barriers of implementing these. Methods: A cross-sectional descriptive study was conducted between October and December 2018 using a self-administered online questionnaire. It was distributed to medical practitioners working in certain specialities within England. ANOVA, t-test and Chi-Square test were used to analyse the data. Results: A total of 131 valid responses were collected. 55% of the practitioners (n=72) prescribed at least one type of anti-resorptive and anti-angiogenic medications in a year. 66.7% of these (n=48) discussed oral health advice prior to prescribing the medications while 56.9% (n=41) recommended pre-treatment dental referrals routinely. 93.1% of practitioners (n=122) reported as being aware of MRONJ. Out of these, however, only 16.4% (n=20) were</p>

able to identify all risk factors and clinical signs correctly. There was no significant difference between the years of clinical experience and the level of MRONJ awareness. Nonetheless, the difference between the specialties and their level of knowledge on MRONJ was statistically significant ($p < 0.01$). Conclusions: Effective educational strategies are necessary to further increase medical practitioners' knowledge on MRONJ as this is essential in detecting the condition early. A clear pre-treatment dental advice or referral guideline must also be established to improve the multidisciplinary collaboration between medical and dental practitioners in managing these patients appropriately.

Author Muhammad Zulkifli, University of Leeds

Title Rethinking universal jurisdiction over crimes against humanity: an established basis for states?

Abstract In jurisdiction lexicon, there is a view suggesting Universal Jurisdiction has been accepted to be a recognised basis for States to try suspects of 'crimes against humanity' even if the crime is not conducted in its territory. A view which this author ought to challenge. On that note, the objective of this research is to prove that Universal Jurisdiction is not a recognised jurisdictional basis for States in regards to crimes against humanity. This research is organised in two parts, Part I and Part II. Part I will introduce the research subjects; the meaning and operation of Universal Jurisdiction and the definition of 'crimes against humanity'. While Part II will present the author's analysis consisting of four points as follows. Firstly, (1) there has been a retrogressive trend of case law which weaken the view. Secondly, (2) the practice of States practice is indeed inconclusive, having taking into account the mix reaction of the Western support, the African retraction and the Asian reticence. The author will then continue to discuss about (3) the abundance of official drafts and academics documents on Universal Jurisdiction which had entrapped commentators towards a delusional conclusion on the significance of this jurisdiction. Finally, it will be argued that there is (4) no treaty practice affirming pure Universal Jurisdiction over crimes against humanity. Everything considered, this research has given an account and reasons for us to rethink whether Universal Jurisdiction over crimes against humanity has been truly accepted and practised by States.