Session 5C | Generations and Family

Nicola Andrzejowska, Biological Sciences
Inhibition of microglial cells in the treatment of Alzheimer's disease

Alzheimer's disease is a debilitating neurodegenerative disorder characterised by a build-up of amyloid plaques and a progressive reduction in cognitive function. It is ultimately fatal and there is currently no cure. Build-up of amyloid stimulates the activation of microglia (the immune cells of the brain) in an attempt to remove the plaques. While this is thought to be initially beneficial, the prolonged, chronic activation of microglia may contribute to disease progression. Recent research suggests that inhibiting microglial activation could provide therapeutic benefit in Alzheimer's disease. We have previously shown that inhibitors of Histone Deacetylase (HDAC) enzymes reduce microglia activation, although widespread effects make them unsuitable as a therapy. If we could identify the cellular pathways that these inhibitors target to reduce activation in the microglia, it would lead us to specific targets for new drugs. The aim of my project is to identify the mechanism by which HDAC inhibition reduces microglial activation and the pathways that are directly affected by them. Microglial cells will be activated with amyloid beta and protein acetylation will be characterised in response to activation and subsequent inhibition by HDAC inhibitors using Western blots. Activation of microglia will be monitored using Quantitative Polymerase Chain Reaction (PCR) and the role of specific cellular pathways will be determined using inhibitors that block individual enzymes. Ultimately, if we can determine the molecular mechanisms regulating microglial activity then we can identify novel therapeutic targets and pursue new avenues in the search for an effective treatment for Alzheimer's disease.

Fiona Powell, Education Social Sciences and Law
A place of our own: examining the lived experiences of 18-24 year olds in Leeds negotiating access to housing and the impact of vulnerability upon housing precarity?

Arguably one of the biggest challenges facing young people today is finding safe affordable housing. This piece of research focusses on the lived experiences of students but have experienced diverse housing pathways and have vulnerabilities not recognised by policy eg familial poverty and/or mental health issues. Policy addresses only those perceived as the most vulnerable such as care leavers or those with significant disabilities, students who are not defined by these groups are not seen as vulnerable to housing precarity. The research was approached by firstly undertaking a literature review of existing research, followed by a mixed methods approach. 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. 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.
Gellar Day, Education Social Sciences and Law
Probing the Family: a critical discourse analysis of the family in alien horror movies.

Movies and what they represent are not politically neutral. At a time of rising far-right sentiment threatening the safety of marginalized groups, the cultural messages they disseminate need to be properly understood. Little research has grappled with explaining the decline of the nuclear family in practice alongside its continued idealization which is capitalised on by far-right movements. This study looks to understand the discursive constructions of families within (re)presentations in alien horror movies chosen for their aptness in observing these messages such as Fourth Kind (2009) and Dark Skies (2013). Specifically, it looks to understand the ways these movies perpetuate such idealizations or challenge them. Utilising queer theory and low theory it is concerned with destabilising beliefs in ‘proper’ or ‘correct’ ways of living and elevating popular media’s messages alongside hitherto idolized examples of high art. Together, these move beyond research of horror movies limited by a small group of texts researched (Frankenstein, Dracula, etc.) and reliance on psychoanalysis to understand them. Briefly, this study found the nuclear family ideal is perpetuated within these movies but significant flaws are exposed that produce a salient critique. Thus, it concludes that whilst such movies need a queer outlook, these texts can become a destabilizing force regarding the nuclear family ideal in highlighting forms of violence it enables. Therefore, this research aids contemporary rights efforts by countering narratives of propriety that demonize the family practices of LGBTQ+, working class, and ethnic minority communities.

Session 5G | The Role of Schools

Reuben Johnson, Education Social Sciences and Law
Employability and Confidence: Strategies for Students

Despite a growing number of young people entering higher education in the UK upon completion of their degree, many of these students feel inadequately equipped to enter the graduate market. Higher Education Institutions (HEI) often have a number of strategies and facilities that aim to mitigate these feelings of inadequacy through increasing ‘student confidence. Despite the available means, the student body often fails to engage with resources provided and it is not fully understood as to why this disengagement is so prevalent; in part, this research aims to explore why.

Student confidence is a multifaceted factor and is explored as a barrier to the graduate market, as well as how it intersects and interacts with other barriers. Thus, the research also aims to develop a further understanding of factors that affect confidence, as their exploration will further aid in understanding student disengagement.

Using a mixed, though largely qualitative, methodology, my research aims to gain insight into student perceptions of proposed curriculum interventions universities offer. This will then be explored and compared against similar research within a South African institution. A comparative analysis will act to explore the effectiveness of HEI in promoting student confidence, specifically in relation to entering the graduate market, by highlighting student’s perceptions of shortcomings. Moreover, it also acts to examine how cultural differences may affect ideas of student confidence, as well as whether or not there are relevant policy implementations that can be borrowed from other countries by UK institutions.
Jaide Brearton and Kay Sidebottom, Lifelong Learning Centre
Should I stay or should I go? Exploring factors that may lead teachers to stay in, or leave the profession.

This paper explores issues experienced by teachers which may lead to them leaving the profession. It focuses on factors such as workload, work/life balance, family conflict, and senior leadership support, alongside intrinsic motivators that may lead to individuals choosing to remain part of the teacher workforce. The study situates itself within an increasingly neo-liberalised education system that emphasises competitive and individualising work practices (Ball, 2017). The research method utilised was an online survey conducted via Twitter; approximately 600 participants consisting of teachers past and present shared their views and experiences.

Key findings suggest, perhaps unsurprisingly, a strong correlation between rises in workload (planning and assessment) and teacher’s dissatisfaction. Interestingly however, effective leadership and management also emerge as significant factors regarding motivation and retention. This study explores the themes further, bringing in the often overlooked voices of teachers at the centre of the debate. In a spirit of reflection it also examines the use of social media practices in data gathering and the exciting affordances (and limitations) of platforms such as Twitter for research.

Session 6C | Social Inclusion & Engagement

Katie Whyatt, Arts, Humanities and Cultures
The language of FA Crisis: a corpus study into the attribution and evasion of blame in the Mark Sampson and Eniola Aluko scandal.

In 2017, the England women's football striker Eniola Aluko accused the then-England manager, Mark Sampson, of making racist remarks towards her. Two enquiries had cleared Sampson, but it later emerged that Sampson's employers, the Football Association - the governing body for the sport in England - had orchestrated a sham investigation to protect Sampson and obscure the truth. There was a parliamentary hearing into the scandal involving Aluko and four FA representatives.

A corpus consisting of 1,267 texts from seven national English news sources, as well as statements, testimonies and a transcript of the parliamentary enquiry, were subjected to qualitative and quantitative analysis using methods from multiple strands of linguistics. The findings highlight the disparity between UK law and the media in their application of terms like racist; how discourses of white privilege and victim-blaming are encoded in the news coverage of the scandal; that individuals and organisations negotiate linguistically the relationship between organisational policy and individual action in order to assert or deny the existence of institutional racism. This study interrogates the British media's representation of people with and without organisational privilege, essential as we understand inequality in an increasingly multicultural and globalised world.

This is the only detailed linguistic study into a scandal that continues to set new precedents for sports governance and grievance processes in England, at a time when athlete welfare and institutional practices in sport are under unprecedented scrutiny across the world.
Yolande Sumbele, Medicine and Health
The Experience of Black Bicultural Students in a Predominantly White University: An Interpretative Phenomenological Analysis

Along with the normal social and developmental challenges all young adults are believed to face during University, Black students are believed to encounter further unique stressors due to their minority status. Whilst bicultural identities have been proposed to promote better psychological and sociocultural wellbeing; this has been argued to be very context dependent. Statistics demonstrate that high non-continuation rates for Black students in particular remain an issue for many UK Higher Education Institutions; however, there is a paucity of research examining these students’ experiences within UK universities. The present study therefore aims to explore Black students’ experiences of being bicultural at a predominantly White University and its impact on their sense of wellbeing. Semi-structured interviews and interpretative phenomenological analysis were employed generating the core category: ‘Challenges to a sense of belonging’ and three superordinate themes: ‘Defining in-groups and safe spaces’, ‘Experiencing marginalisation’, and ‘Pressures to assimilate’. The five participants interviewed appeared to make sense of their experiences in light of how their various interactions impacted their sense of belonging. Findings reveal that settings that allow participants to truly be themselves were most beneficial for both their wellbeing and validation of their identities. The analysis is discussed in relation to current literature highlighting supporting findings of the themes generated and the extension of previous literature. Implications for future research are also proposed. This present study therefore contributes to the understanding of Black students’ experiences in predominantly White Universities

Session 6F │ Environment

Cara Wheeldon, Biological Sciences
Root restriction and its effects on plant growth

Plants are sensitive to the availability of a range of resources but the effects of root restriction and high density sowing are understudied. Most plant science research involves the growth of plants in a pot, and in the field, crops are often densely sown. Understanding the effect of root volume on the accumulation of biomass, branch production and yield is limited. Further to this, as high amounts of fertiliser are used in agriculture, it is not understood whether this is able to prevent any negative effects of high density sowing and root restriction. To assess the effects of root restriction on plant growth, oilseed rape, wheat, barley and the model plant species Arabidopsis thaliana were grown in a range of pot sizes with two fertiliser conditions. Crowding (high density sowing) and root restriction in A. thaliana grown in different pot sizes with different sowing densities was also assessed. A range of measurements were taken for all species including biomass, branch number and yield. Root restriction and high density sowing was seen to negatively impact the accumulation of biomass, branch production and yield in all species assessed, to which fertiliser was unable to prevent this outcome. This research highlights the need for the refinement of field sowing rates. Sowing crops further apart is a suggestion to improve yield on a world-wide scale in order to help overcome the global food crisis.
Key words: Root restriction, high density sowing, Arabidopsis thaliana, wheat, barley, oilseed rape
My research project is studying the magma source and its movement towards the surface in three volcanos in Chile: Osorno, Calbuco and La Viguéria. These volcanos are part of the Southern Volcanic Zone which is located over a subduction zone where the Nazca plate is subducting underneath the South American continent. 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 Viguéria, since it creates an easier path for the magma to go through. Furthermore, it is believed that some of the neighbouring volcanos 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 from the Nazca plate and crustal material. Using the isotope ratios the hypothesis for the same source in the volcano can be tested. The findings of the study will be used in the modelling the magmatic time scales of these volcanos which will improve our understanding of these volcanic processes and help make better predictions for future eruptions.

Isaac Tan, Environment
The Relationship between Rainfall Characteristics and the Atmospheric Conditions over Singapore

Singapore experiences a significant amount of severe rainfall from intense thunderstorms that can result in flash floods over low-lying areas, causing disruption and risk to life. Rainfall patterns over Singapore from 1980-2011 were analysed by studying the interaction between large-scale atmospheric conditions and fifteen constructed “weather regimes” to better understand the precursors of severe weather, and to improve short-term rainfall forecasts over Singapore. The “weather regimes” were firstly separated into cases where wind direction was from the north or south, and then clustered using a non-hierarchical statistical method known as k-means clustering. Each regime has unique rainfall characteristics that are largely influenced by local-scale conditions (local winds, relative humidity, and temperatures). These conditions were recorded by Upper Air Observation (UOA) soundings at various altitudes. Rainfall maps were then produced for specific combinations of atmospheric conditions to analyse the mean daily rainfall intensity (mm/day) over different parts of Singapore, the daily risk of heavy rain (≥50mm/hr) occurrences, and the probability of rainfall (≥1mm) over 3-hourly intervals each day. Individual "weather regimes" were also distinguished based on continuous quantitative thresholds from UOA data, along with existing maps of regional-scale conditions such as wind and humidity patterns at different pressure levels. Ultimately, the aim is to provide detailed guidance for rainfall forecasts over different parts of Singapore, by holistically considering the large-scale atmospheric conditions and “weather regimes” on a daily basis.
Moustafa Abdelwahab, Engineering  
Improving the design efficiency of connections found in reticulated structures through Structural Topology Optimisation and Additive Manufacturing technologies.

This research aims at exploiting the benefits of using Structural Topology Optimisation (STO) and Additive Manufacturing (AM) in the design and fabrication of the irregular node connections found in reticulated structures to achieve constructible connection with optimal structural efficiency.  
STO is a prevalent optimisation technique used in numerous manufacturing sectors including automotive and aerospace to obtain highly complex and efficient designs (weight-to-stiffness ratio) unachievable through traditional manufacturing technologies (e.g., machining and casting). AM (also known as 3D printing) is a fairly recent manufacturing technology which overcomes many of the manufacturing limitations through a layer-based fabrication process.  
The current design and manufacturing methods of the connections of Reticulated Structures have not seen much development throughout the years with either traditional casting or welding fabrication commonly used. Thus, it was deemed necessary to undertake a design-based experimental research through optimising a specific type of connections to explore and identify the optimal structural efficiency levels which could be reached using STO. Furthermore, additively manufacturing these optimised connection designs would provide a proof of the applicability of the process as a more advanced fabrication alternative.  
Studying the optimum optimisation levels of these connections could provide a more suitable approach for the application of STO in the current design methodologies to improve the structural efficiency of the output designs. Furthermore, the additively manufactured connections could be structurally tested and compared to the optimised models. This would provide valuable data to attain a clearer understanding of the relationship between actual AM output and theoretical STO output.

Rachel Coneys, Biological Sciences  
Modulation of microglia activation in Alzheimer's Disease

Neuroinflammation as a result of excessive microglia activation is implicated in various neurodegenerative diseases. Elevated levels of histone deacetylases (HDAC) are associated with cognitive deficits and inflammation in Alzheimer’s disease. Inhibitors of HDAC (HDACi) prevent microglia activation in vitro and in vivo. The mechanisms underlying this attenuation are unclear, although recent data implicates HDAC2 as an important HDAC and a non-histone protein(s) as the target. Identifying how HDAC2 modulates this pathway is key to effective therapies. The present study investigated whether HDAC2 acts within the nucleus to exert inflammatory effects. BV-2 murine microglia were activated with lipopolysaccharide (LPS) and levels of cytokine expression were determined by RT-PCR. Transfection of recombinant HDAC2 in LPS stimulated BV-2 cells enhanced Interleukin 6 (IL-6) and inducible nitric oxide synthase (iNOS) expression. Removal of HDAC2’s nuclear localization signal (NLS), restricting HDAC2 to the cytoplasm, did not reduce this ability of HDAC2 to enhance microglia activation; IL-6 and iNOS levels increased to 208 ± 54%, n=6 and 149 ± 49%, n=5 respectively. Treatment with HDACi Suberoylanilide hydroxamic acid (SAHA) attenuated the HDAC2 (wild type or mutant) mediated increase in cytokine expression. Our data suggests HDAC2 activity in the nucleus or cytoplasm is equally effective in mediating microglia activation. Thus a protein that shuttles between the nucleus and cytoplasm is a likely target of HDAC2 within this inflammatory cascade. Identifying the protein/s would allow for the development of more selective therapies with reduced side effects for the treatment of neuroinflammation in neurodegenerative diseases.
Sophia Winter, Maths and Physical Sciences
Novel Morphological Analyses for Elucidation of Nanoparticle-Biomembrane Interactions

Nanomaterial properties contrast significantly from familiar chemistry, but despite excitement surrounding their potential, their suitability as non-toxic therapeutic agents are yet to be conclusive. Fundamental toxicological investigations of nanoparticles can be approached with an idiosyncratic and highly innovative methodology; by integrating HISENTS’ unique technology – a real-time electrochemical screening platform - in conjunction with chemical techniques to investigate the physical responses of lipid behaviour, we begin to build a comprehensive understanding of how nanoparticles affect such key properties as cell membrane fluidity and self-repair which are contingent to standard biological function.

Fluorescent dyes were enclosed in vesicles and incubated with gold nanospheres over a range of concentrations and diameters before dye leakage was monitored and recorded. These occurred in parallel with measurements to compare spherical and rod-like nanoparticles. Imaging was conducted using electron microscopy alongside other approaches. We have found that increased nanoparticle concentration induces a greater disruption of lipid ordering and its self-repairing capacity, and that the time durations for both of these increased as well.

We will also be using other microscopy techniques to analyse the surface interaction of gold vesicles with larger vesicles formed by an electric current, and anticipate visual evidence for disruption of the lipid membrane.

These strategies begin to address the questions of how nanoparticles interact with biological membranes, a crucial component of the unit cell of living organisms, to evaluate the efficacy of nanoparticle healthcare treatments as well as current safety hazard assessments.

Session 7E │ TBD

Heidi Powell-Biney, Arts Humanities and Cultures
Does the origin of a verb (Germanic or Latin) affect the grammatical acceptance of The Double Object Construction? A grammatical judgement task.

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 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 indeed used as productive constructions in British English.

(1) He gave me it
(2) He gave it me
(3) He gave it to me

Madeleine Steeds, Medicine and Health
The Use of Novel Virtual Environments to Improve Memory in Older Adults

The present study investigated whether virtual reality could improve episodic memory in older adults. With age, deficits occur in many aspects of living, and many adults experience cognitive decline. This is commonly seen in memory. An aspect of memory often negatively affected by age is episodic memory. This occurs because dopamine production which helps the formation of long-term episodic memories in the hippocampus decreases with age. Prior studies have found dopamine administered to older adults improved the persistence of episodic memories, which were assessed using a recognition-based, remember-know paradigm. The present study aims to replicate this study using novel stimuli to produce dopamine. Novel stimuli were presented in the form of a Virtual Reality environment which participants explored for 10 minutes. Participants attended 2 sessions, 1 week apart. In the first session all participants explored a novel virtual environment and were then shown 60 photographs. The following day they were shown pictures and asked if it was a picture they had seen before and, if yes, did they remember it, just know they had seen it before or guess. This was repeated in the second week, however half the participants explored a novel environment while the others explored the same environment as before. The data was analysed using a 2x2 (condition x time) ANCOVA, with ACE-iii and age as covariates. No significant results were found. The implications of this and how it relates to previous studies are discussed. The directions future research in this area could explore are considered.

Jack Casey, Leeds University Business School
The Death of The American Dream? How Donald Trump's Presidency is impacting international student’s employment prospects and intentions for permanent immigration

Despite being a thoroughly researched academic area, labour migration has long neglected the influence student migration has had on labour migration movements. The increasing prominence of the world’s students to pursue international study as part of a strategy to gain permanent residence in a country has expressed demand for an investigation into what factors are impacting these students migration behaviours. In recent years, it has become increasingly
clear that countries tightening ‘immigration policies’ have started to cause international student concern for their permanent immigration hopes. This has been no more evident than in present day America, where since Donald Trump’s election, international student’s futures in the country have been called into question following his anti-immigration policies and rhetoric during his first Presidential year. In turn, this research involved semi-structured interviews with 20 international students from 14 different nationalities, who have been studying in the US under Trump’s Presidency, which were conducted to gain a greater understanding of whether this Presidency has impacted their desire to permanently migrate to the US. Resultantly, this study found that students were overwhelmingly concerned that their ‘employment prospects’ in the US were decreasing under Trump, which in turn was making their hopes for permanent emigration and their ‘American Dream’ more and more unlikely. Despite this, their intentions to continue pursuing permanent residence was still largely mixed, where the student’s country of origin and their intended career path were the key factors dictating their migration behaviours.

Session 8A | Women, Work and Culture

Melisa Tehrani, Arts Humanities and Cultures
The depiction of Oversees Development Aid as a colonial legacy and its impact on adolescent girlhood in Tsitsi Dangarembga’s The Book of Not (2006) and NoViolet Bulawayo’s We Need New Names (2013)

This project depicts Overseas Development Aid (ODA), also known as International Aid, as a colonial legacy in post-independent Zimbabwe. Through the novels, The Book of Not (2006) by Tsitsi Dangarembga’s and We need new names (2013) by NoViolet Bulawayo, it will demonstrate the devastating impact Western ODA inflicts on adolescent girlhood and the self-image of the native. This is done by analysing the current ODA model alongside existing postcolonial discourse, such as the binary constructions of identity outlined by Edward Said’s Orientalism. This Imperialist concoction distanced the European human experience from the native’s and named the latter inferior and dependant on the former. In the novels, ODA re-produces this colonial myth of opposing identities as it measures the native against European standards of development with little regard for cultural differences. In doing so it replicates colonial oppressions, Othering and culturally dominating the adolescent native girl. Indeed, both authors amplify their protagonist’s vulnerability to a colonised mentality by placing them in the most marginalised strata of society, what Gayatri Spivak calls, ‘the subaltern’. Our protagonists fall into the category of the subaltern as both young women are poor and natives of a patriarchal, colonised society. They’re socio-politically outside the hegemonic power structure that rules them and consequently have the perfect aesthetic profile and need for ODA. While this essay focuses on international aid, it also acknowledges that ODA’s overwhelming domination of the subaltern native would not be possible were it not for the oppressive foundations of colonial and nationalist regimes already established in her country.

Clea Southall, Medicine and Health
Teaching Children About Their Brains: Evaluating the Role of Undergraduates in Primary School Education
The provision of hands-on activities, coupled with an ability to capture innate curiosity, is critical for stimulating scientific interest in primary school children. The brain is a topic which frequently engages pupils, although it is not included in the national curriculum. Where teachers feel apprehensive about teaching neuroscience topics, undergraduates can deliver engaging sessions and supplement teacher knowledge. The aim of this project was to deliver an interactive, fifty-minute session on the brain to primary school pupils.

The session was delivered by an undergraduate student to 570 key stage 2 pupils across five schools in Leeds. Four hands-on activities were devised in a top-down manner, beginning with learning about the brain as an entity, before focusing on individual neurones. Additionally, children explored how the nervous system may be altered in different medical scenarios - notably, following anaesthesia and in neurodegenerative diseases. Surveys and classwork were used to evaluate each session.

Older pupils demonstrated an increased background knowledge of brain structure, labelling a mean of 1.5 (± 1.0) regions compared to 0.8 (± 0.96) for younger pupils (p=0.002) on a ‘brain map’. The majority of pupils (95%) felt the session increased their knowledge of the brain, rating hands-on activities as most popular. Additionally, 95% of teachers felt they would have more confidence in delivering a neuroscience session. Thus, partnerships with an undergraduate can simultaneously enhance pupil and teacher knowledge on extra-curricular topics. Such partnerships provide opportunities to increase the scope of the curriculum which could stimulate scientific interest within primary schools.

Session 8B | Experiences of Women

Megan Houston, Arts Humanities and Cultures
Women in the Early Islamic Conquests

This project aims to create a bottom-up approach to examining the role of women during the early Islamic conquests, looking at the period between 622 and 750 stretching from modern day Spain to China. It aims to combat the erasure of the role of women in Islamic history and to prevent the narrative of exceptionalism from dominating recent analysis. A focus on this early period helps to draw a direct contrast between the lives of women pre and post establishment of Islam as well as recognising the ways that women contributed to the formation of the Islamic world. Resistant reading will be employed to counter source material overwhelmingly produced by men, and to combat the lack of parity between law and common practice, alongside a focus on unearthing primary and secondary sources produced by women, utilising some use of translation from original texts. A current lack of research in early Islamic women, alongside limited work produced with a bottom-up approach means that this project is vital to accurately contextualise contemporary gender studies across the Middle East as well as to understand the social and political contributions of women to a region that dominates modern discourse.

Session 9A | Business Technology

Mehar Chhabra, Leeds University Business School
Exploring Consumer Perceptions: Impact of Culture and Economic Development
This research investigates the concept of consumer perceptions in relation to marketing communications and their exposure towards various forms of stimulus present in consumer environments. With the proliferation of MNCs, international marketers are to produce marketing strategies acceptable by consumers from multi-cultural environments to achieve economies of scale in expenditures. This requires an understanding of different forms of stimulus and their influential powers to get intentional customer responses. Correspondingly, this research tries to comprehend the impact of culture on consumer perceptions towards advertisements. Precisely, it identifies the differences and similarities in consumer perceptions towards fashion advertisements among ‘individualistic’ and ‘collectivistic’ cultural societies. Additionally, it distinguishes the influence of these characteristics amid industrialised and emerging markets. Through conducting focus groups with participants representing five regions – Southern Africa; China; Hong Kong; UK and Greece categorized under Collectivistic & Individualistic cultures further subjugated under developed and developing economies. Valuable insights were gained about how consumers from diverse environments perceive and get influenced by advertisements. The empirical findings show that culture has a direct impact on consumer perceptions, whereas economic development holds an indirect impact on the same. It was also found that there are crucial differences in persuasive appeals that are favoured among collectivistic and individualistic societies. However, the effect of these differences is moderated with the level of economic development of the country. Such findings provide useful insights for international marketers, organisations and other practitioners by accentuating the critical importance of acquiring an understanding of such connexions and adapting their features in the information transferred through their marketing communication platforms.

Session 9B │ Systems of the Future

Bethany Holyoak, Environment

The effect of climate change on the long term viability of the Scottish ski industry

Anthropogenic climate change is expected to decrease snow cover extent in the Northern Hemisphere as increasing temperatures have been found to diminish the persistence, amount and depth of snow cover. The ski industry is indisputably sensitive to the impact of climate change, as it is reliant on snowy mountainous terrains. The Scottish ski industry is small and lies at low altitudes, meaning the Scottish ski industry is likely to be one of the first to experience the effects of climate change due to the effect of altitude on both temperature and precipitation. There is a lack of recent academic studies researching into the effects of climate change on Scottish ski resorts. Therefore, Nevis Range, Glencoe and Glenshee ski resorts in Scotland were investigated to assess the impact of climate change on their future life expectancies and economic viability. Economic viability was assessed using the 100-day rule. Life expectancy was assessed using the relationship between temperature and the following variables; days of snow lying and ski resort statistics. SkiSim2.0, a ski season simulation model, was used to evaluate the effect of climate change on future ski season length and snowmaking requirements. SkiSim2.0 failed calibration due to errors and uncertainties that existed within Scottish climate data, the process of data collection and the model itself. Glencoe, Glenshee and Nevis Range ski resorts are expected to be economically viable until 2027, 2031 and 2020 respectively. The best-case scenario for the life expectancies
Alex St John, Biological Sciences
Exploring computationally based rational methods to increase the stability of the artificial antibody scaffold Adhiron

Protein engineering is a new and exciting discipline, estimated to reach a market value of USD 3.09 billion by 2025. Traditionally proteins are engineered by using directed evolution, which simulates natural evolution in the laboratory by selecting for protein mutations from a random library, to obtain a protein with desirable properties. Thanks to advancements in computational power during the last few decades, rational approaches are beginning to be developed in order to identify mutations in a more targeted and efficient approach. This project explores such methods to find stabilising mutations in the artificial antibody scaffold Adhiron in order to improve its shelf life, expression yield, and performance in vivo. We took the evolutionary data of proteins related to Adhiron in order to determine which mutations evolution tends to select for. We found that there is a correlation between the stabilising contribution of each amino acid and the frequency at which it is observed in nature, implying that our method can be used as a quick and easy way to engineer proteins that will perform better and last longer.

Session 10A │ Understanding Cultures & International Development

Olivia Powell, Arts Humanities and Cultures

It is widely known that during the Twentieth Century the Soviet Union was a strong Communist superpower, supposedly founded upon egalitarian values. However, were these ethics adhered to, or did the Bolshevik Government perpetuate the same imperialist policies they had overthrown? Current literature only partially answers these questions by examining either the Russian or Chinese perspective in isolation, restricting our understanding of early Far Eastern relations. This research collated and built upon the existing arguments by utilising contemporary documents to provide a fuller, more balanced, examination of Russo-Chinese relations, which has the potential to develop our understanding of current international relations.

This investigation utilised primary source material, such as the memoirs of key figures, foreign policy documents, and political manifestos, to ascertain that the Soviets interest in China had imperial foundations. These documents revealed intimate details about the roles of Soviet diplomats, and the incompatibility of China with Communism despite the Bolsheviks public rhetoric.

Secondary source material was also consulted to examine the pervasiveness of Soviet imperialism in the Far East, specifically regarding Outer Mongolia, Manchuria, and Japan. This revealed greater details about the Soviets differing levels of respect for both Far Eastern nations, and the differing nationalist elements within China.

This research found that the Soviet Union’s aims in the Far East were the consolidation of their power and protection of national interests, contrary to their public rhetoric of the need to stimulate international revolution. These findings will be expanded upon in the future through a close examination of China’s Communist journey under Mao, and the development of
Communism in Vietnam.

**Eartha Heptinstall, Education Social Sciences and Law**

**The British Criminal Justice System: an investigation in to the absence of race Whiteness and White privilege in training programmes for lawyers**

How adequate are lawyer training programmes in preparing White solicitors and barristers to successfully understand, engage with and represent their Black, Asian and ethnic minority (BAME) clients? This question was in response to the Lammy Review (2017) which highlighted the persistent and disproportionately negative outcomes experienced by BAME individuals within the criminal justice system (CJS).

The project was framed by reviewing literature on race Whiteness and White privilege examining statistics that reported racial disparities at each stage of the CJS, looking at diversity reports for the lawyering profession, and by reviewing the course content of the Legal Practice Course and the Bar Professional Training Course.

Through semi-structured interviews, participants displayed a disengaged awareness of their racialized identity; they relayed that their training was absent of any discussion on race Whiteness White privilege, and the development of personable skills such as empathy; and that in situations that required any knowledge of this kind, it was their (White) life experience that informed their actions.

In light of the above, a curriculum that incorporated discussions on race, Whiteness, and White privilege, and the development of personable skills such as empathy, would have (at least) three identifiable benefits. It has the potential to increase awareness of the status and power the White racialised identity holds in our racialized society; to de-centre the White perspective in the lawyer-client relationship; and, in line with the Lammy Review (2017) that shaped this work, to work towards more positive outcomes for BAME individuals in the CJS.