

## **MEDIA AND COMMUNICATIONS**

**Name:** Brodie Edmead  
**Communication**

**Faculty:** Media and

### **The Windrush Scandal: causes and concerns**

The Windrush scandal made news headlines, due to people being denied legal rights, threatened with deportation, and, in some cases wrongly deported from the UK. The origin of this scandal goes back to the period between 1940 to 1971, when thousands of people from the Commonwealth were urged to migrate to Britain and help rebuild the country in the aftermath of the Second World War. Many were of Caribbean origin, and crucially, statutory protections were afforded upon arrival to the UK, providing them with indefinite leave to remain. They were not required to obtain documentation to confirm this.

The introduction of the 'hostile environment' policy in 2014, included measures to limit access to work, housing, health care, finances and more and is characterized by a system of citizen on citizen immigration checks. As a result, many commonwealth citizens were targeted and labelled as illegal immigrants. This meant that those who had lived in the UK for decades were made jobless, homeless and denied access to health care.

The paper will examine the potential rights breached during the Windrush Scandal, with a particular focus on articles 5 (the right to liberty), 6 (the right to a fair trial), 8 (right to privacy and family life) and 14 (the right not to be discriminated against) of the Human Rights Act 1998. This examination is significant, as not only were there breaches of human rights throughout the duration of this scandal, but there is additionally the possibility of scandals such as this re-occurring.

**Liam RICHARDS**

**Faculty: Media and Communication**

### **Ableism's Final Straw**

This research paper will use a summative content analysis to explore the media coverage of the plastic straw debate with a focus on the implications for the disabled. The Telegraph and The Guardian were the chosen media outlets to offer an in-depth look at each of the 43 articles analysed, with both sources representing both sides of the political spectrum.

The disabled are an often-overlooked group in society due to the way they are portrayed in the media as objects of charity or pity. Plastic straws have been portrayed as the enemy since a viral video of a turtle having one removed from its nostril and the increasing number of plastics in the ocean. The plastic straw is a necessary tool for many of the disabled and the alternatives are not fit for every person or situation due to the different needs and risks associated with the variety of straws.

The analysis found that The Guardian presented disability using personal experiences whilst The Telegraph used a medical or news perspective. The overall debate developed from both sources being supportive of bans to a more critical view at the flaws in the bans of shifting their focus to other issues like unnecessary plastics, the businesses or critiquing ban culture.

This paper aimed to compare the two sides of the media and while it had a limited scope, it was able to compare the differences in coverage of themes in a quantitative level and explore the discussions within each article.

**Name:** Rebecca Prow  
Communication

Faculty: Media and

### **Professional processes to develop and pitch film ideas. What are development materials and how can they be used?**

This project aims to critically research the professional use of development materials and generate six different types to identify their creative use to help develop and articulate early film concepts. The six different types of documents I will be critically analysing are Treatments, Pitch Decks, Scriptments, Visual Pitch Package, Screen Breakdown and Lookbook. These could all be considered as visual and written methods used to communicate film ideas.

For me it is easy coming up with new ideas for fictional stories, whether that's for film, TV or books. The difficulty comes when searching for relevant forms to enable you to communicate those ideas visually and textually. I've also witnessed this difficulty with other future graduates. "Treatments also act as a writer's entrée into the world of motion picture and television. One of the first steps through the door of this highly competitive business may be the sale of a well-developed story." (M. Halperin, 2002, p.xvi)

During one of my modules in second year I used a treatment to plan how I would adapt a novel into a possible film. And I found the process very useful to organize and develop the plot of the story. Through my research I have found that there are other development and pitching materials that could help develop various aspects of film, relevant for early career filmmakers.

These materials are primarily used to express ideas to others, so that you can find investors and collaborators to help develop it into a commissionable project. I wish to investigate the different ways film professionals articulate and develop early stages of film ideas, and create my own version of each document to identify which ones are useful for new graduates to develop and clearly articulate the different aspects of their film idea: plot, characters, style, theme and visual. This project aims to provide a useful process for recent graduates to progress from concept to professional pitch.

**Peter MAGNUSSON**

### **The New Populism: Populism in The Guardian**

Populism has become omnipresent in contemporary political discourse, and populist framing of politics has been adopted by politicians and political parties on all sides of the political spectrum. A vast amount of research has been done on populist rhetoric (Blassnig et al., 2018. Bos, 2014, Busby et al. 2019); this study, however, examines discourse about populism in the news media. Using the Guardian's New Populism series - a comprehensive series of reporting and writing about populism by journalists and academics - as an example, this analysis critiques the rhetoric used by The Guardian in their coverage of populism.

The primary finding of this analysis was that some of the rhetoric tools used in the Guardian's reporting were, at times, similar to rhetoric typically used by populists.

Some examples of this are:

- The use of symbolic language and metaphors to describe populism - such as describing the rise of populism as a natural disaster, which bears similarity to a common populist trope of describing immigrants.
- The categorisation of populist voters as a homogenous group of people guided by emotions.
- The use of the pronouns 'us' and 'them' to frame the populists as an 'other' whose values threaten the more 'pure' European values.

The tendency to use populist rhetoric to report on and describe populism could provide an interesting perspective to view, e.g. the paradigms within media systems that might contribute to this tendency, how anti-populism relates to populism, and audience response to populist rhetoric in the news media.

**Name:** Manuella Nagiel **Email:**

**Faculty:** FMC

### **Application of computer modelling in Palaeoart for educational purposes: A potential learning strategy?**

#### **Abstract**

Dinosaurs appeared 250 million years ago and disappeared 55 million years ago, but we can bring these creatures back to life through Palaeoart. Scientific insights gained through palaeontology allow the recreation of extinct animals, plants and the landscapes they populated not only in illustrations but 3D media. Palaeoart is mainly used as a tool for scientific and educational purposes, but has also entered commercial domains, like films, where the focus is on storytelling rather than learning.

Using technology for educational purposes in palaeontology, we can learn and interact with virtual dinosaurs within virtual worlds that can be used for research and entertainment purposes. Beyond the visual, sound can provide an augmented experience that enhances knowledge in a more attractive, dynamic and immersive way. With computer modelling, palaeontology can offer learning by experience, which is considered more efficient than studying.

This project comprises a novel visual reconstruction of the Baryonyx (earliest theropod discovered in England), in prehistoric surroundings set in a natural environment from the early Cretaceous period. The project aims to implement a detailed visual experience based on palaeontological data, created in collaboration with Matthew Dempsey (PhD candidate in Dinosaur Musculoskeletal Biomechanics at the University of Liverpool), a paleontological illustrator.

The result is presented in a 3D diorama with a semi-realistic aesthetic that will share with both children and adults the connection between the past and the present, visualizing the natural and physical processes that have shaped our world since its beginning.

**Name:** Cameron Robson  
Communication

**Faculty:** Faculty of Media and

### **The Role of Film in a Postmodern Society – a Comparison of Soviet and Fascist Cinema.**

The purpose of this research, for my graduate project, is to expand upon the contemporary understanding of the role film has played within society during a political and cultural shift. To facilitate this research aim, I have chosen to examine the influence, place and impact of Russian film

and filmmakers within the nascent Soviet Union of the 1920's.

In addition, to compare and contrast this research subject, I have also undertaken an independent project to explore the relationship between the Italian neorealist films of the 1940's and working-class Italians.

The formative years of the Soviet Union and post-war Italy are examples of societies undergoing unprecedented socio-political change during the 'modern' film era. With one careering into communism following a revolution, and the other recovering from World War 2 and the fall of Mussolini's Fascist regime, they both offer the chance for an enlightening examination of the importance of film to society. These historical periods both provide suitable examples of socio-political change in which to explore the implications of filmmaking and the associated development of film theory, when utilised as a propaganda tool.

I hope to reveal the significant power filmmaking has had when used to influence mass audiences to

a political viewpoint. Consequently, I also hope to gain a deeper understanding of the risks and benefits of filmmaking in our contemporary society, which is itself under-going remarkable social change. Furthermore, by extrapolating this research, we may gain an insight of how future society will be influenced by modern mediums.

**Name: Hannah Conway**

**Faculty: FMC**

### **An analysis of Beryl's sustainability focused strategies and their impact on consumers' affective and normative commitment.**

#### **Abstract**

Relationship marketing (RM) is considered a key discipline within the marketing field, which underpins organisations' ability to identify, establish, maintain and enhance relationships with their consumers (Grönroos 1994 p.9). RM centres around the potential of longevity through exchanges to provide positive outcomes for both parties.

This paper explores the key concepts of shared values and gratitude in relation to sustainability as drivers of consumers' commitment. Drawing on Allen and Meyer's (1990) Three-Component Model of Commitment, affective and normative commitment will be unpacked in conjunction with the proposed case study. A conceptual framework will also be presented to argue that sustainability focused strategies aid the marketing relationship between the organisation and consumers, predicting customer retention and positive word of mouth as outcomes.

An analysis of Beryl's bicycle rental service, also known as Beryl Bikes, as an organisation will be carried out in relation to the framework. During the fight against climate change Beryl have made it their mission to get more people in cities on bikes (Beryl 2018). Through identifying Beryl's sustainable strategies and its relationship with the UN's Sustainable Development Goals, an overall discussion of the impact will be sparked on attracting current and potential consumers level of commitment.

Finally, a recommendation will be offered based on the findings to advise Beryl on how to further leverage its sustainability-based initiative to increase consumers' affective and normative commitment, through communication that creates a sense of community.

**Name: Sam Berriman**  
Communications

**Faculty: Media and**

### **Data Subjects' Rights in relation to Machine Learning Algorithms: An Effective and Sustainable Framework or a Fallacy?**

In today's informational environment, everything we do emits unending volumes of personal data. Companies capitalise on this by collecting these emissions and exploiting our personal data, using it as the fuel for their machine learning algorithms which have consequently proliferated. The General Data Protection Regulation provides a body of rights which attempt to enable innovation whilst protecting individuals whose data is re-purposed. These rights are framed as claim rights. The individuals have this body of rights which the data controller has a correlative duty to respect. This framework is designed to retain individual control within the informational eco-system.

This dissertation considers three such rights – one conceived before the proliferation of machine learning, one formed during the proliferation and one which may be present but this is debated. Questions as to their effectiveness are addressed in light of the increasing commercial use of machine learning algorithms which accentuate the cracks in this framework. Analysis of these questions highlights that the informational eco-system may be too dynamic and volatile for any right (old or new) to adequately provide control in the traditional sense. It is, therefore, argued that the rights-based framework of control is no longer sustainable.

Also considered is whether control can be achieved by realigning our interests, away from regulating how personal data is used and instead focusing on the informational eco-system itself. Suggestions are made/evaluated as to whether deeper regulation at the data collection and technological development stages can facilitate control or whether this goal has ultimately become idealistic.

**Name: Joseph McMullen**

**Faculty: Media and Communication**

### **The Erosion of Caveat Emptor: The Impact of Protectionist Legislative and Judicial Developments in Favour of Legal Certainty and the Subsequent Effects on Freedom of Contract'**

The historically endorsed principle of *caveat emptor* is argued to have been substantially eroded by the implied terms of the Sale of Goods Act 1979 and judicial attitudes toward freedom of contract and party autonomy. This paper explores the approach of modern law in respect of legal certainty and the extent to which the codification of the law of sale fulfils the expectations of buyers and sellers. Furthermore, the deviation from a *laissez faire* attitude in favour of one of judicial and legislative intervention is examined in light of the requirements imposed by the key implied conditions of satisfactory quality and fitness for purpose. The article also considers the impact of the determination of the status of terms, concluding that the law in this area is unduly complex and technical. This extraneous intricacy supports a much needed and welcomed consolidation of this area of law recently introduced by the enactment of the Consumer Rights Act 2015 in the context of consumer sales.

**Name: Jay-Marie Lovelock**  
**Media**

**Faculty:**

### **What role has social media played in recent protest action and what efforts were made to limit its effects?**

Climate change has become a vastly growing issue throughout the 21<sup>st</sup> century. "Climate change is a long-term shift in global or regional climate patterns. Often climate change refers specifically to the rise in global temperatures from the mid 20th century to present" (National Geographic, 2019). It is a problem that has been occurring for years, however, hasn't been spoken about in

depth until now. “Global climate change is a major societal issue that many citizens do not understand, do not take seriously, or do not consider to be a major public policy concern.” (DiMento, 2014) As stated, climate change is “not understood...not take seriously”, therefore this is why I believe that in modern society social media has made a huge impact on the development of knowledge towards climate change and the protests that occur. Recently, the United Kingdom saw what was claimed to be one of the largest climate change protests, “Organisers said it was the biggest-ever environmental protest the UK had seen, with 300,000-350,000 taking part” (Guardian, 2019). I believe that social media had a large part to play in the uprising of concern for the planet and how climate change is a growing problem which must be tackled immediately. Social media in the 21<sup>st</sup> century is used daily by people of all ages and is the fastest way to communicate globally. Therefore, can be seen as one of the easiest & most effective platforms for spreading awareness and gaining followers for upcoming protests.

**Name:** Jeremy Miller  
Communication

**Faculty:** Media and

### **Comparing media coverage between Fox News and Al Jazeera on the conflict between Israel and Palestine.**

Abstract (max 250 words): Today is an age of mistrust in professional journalism, one of the many reasons for the rise in this mistrust is an ever-growing diversity of news media that covers the same stories but from a wide range of political standpoints. In this age the concept of objectivity in news journalism has been thrown into question. So, in order to explore the idea of whether objectivity still exists in this medium, I have explored the coverage of opposing news broadcasters: Fox News and Al Jazeera, in the conflict between Israel and Palestine. To see how the coverage of these events may differ between them and explore if either of these fairly new establishments (both being founded in late 1996 as a response to mainstream media,) can be described as objective. I chose this conflict in particular as my knowledge of the events before undergoing research was extremely limited, in the hope that this would enable me to maintain objectivity as I analysed both sources. I undertook both academic research into the subject area and analysis of the actual events and opposing coverage of them. As well as looking at a varied range of alternative news coverage such as reporting by the BBC to gain a comprehensive understanding of these events. Ultimately, I concluded that obtaining an objective viewpoint has become the responsibility of the viewer, and that the only way to achieve this is to actively watch coverage from opposing viewpoints whilst considering the potential bias behind them.

**Charlie Bayley.**  
Communication

**Faculty:** Media and

### **Remaking Media: Adaptation of the Novel & the future of Broadcast Television**

This paper presents an in-depth exploration of adaptation in regards to the young adult science-fiction literary works of Patrick Ness, namely *The Knife of Never Letting Go* (2008). The presentation opens with a proposed treatment for an adaption of this acclaimed novel, followed by critical discussion. The series is set on a dystopian planet, post-apocalypse whereby, Humans have left Earth and colonised on what is referred to by protagonist Todd Hewitt, as “New World.” I then suggest that the novel series would be best served by a long-form television drama - the reasons for this are given as the unsuccessful attempt at a never-released feature-length version.

The diegesis is epic, and so I argue that the film format cannot do this justice. This leads into discussion about the viability of the long-form drama, as television's future; we now reside in a 'post-network era' saturated by streaming services and a culture of 'everything at once'. With traditional broadcast television declining, networks such as HBO are influential pioneers; they define what the contemporary audience considers 'quality' TV. In addition, I critique 'fidelity' approaches, which assume that the source text is canonical and authoritative - therefore establishing a concordance with the novel and attempting to translate content from one form to another faithfully. The paper will argue, that adapting the vast content of a diegesis such as this, is most achievable episodically. Although, it is *desirable* to attempt the fully faithful adaptation, successful adaptation will come from the openness to a narrative influenced by ever-changing texts. As well as, a constant dialogue between the adaptation and its source text, in order to maintain a degree of fidelity, yet not to a slavish degree.

**Name: Bettina Dorffer  
Humanities and Law**

**Faculty: Faculty of**

### **Ecological Citizenship**

I will use the UN sustainable goals as a case study. Through a discussion of the UN sustainable goals I will argue how the obligations from the deep ecology thinkers can be institutionalized through the goals. Research questions: What reasons are there for promoting and implementing ecological citizenship? In what ways are ecological citizenship possible in practice? What factors hinder the promotion and implementation of ecological citizenship? I will use the texts mentioned above by Arne Naess, Rachel Carson, Aldo Leopold and Peter Singer for my discussion and arguing of the reasons for promoting and implementing ecological citizenship. For my second research question I will analyse the UN 17 sustainable goals in relation to the theories of deep ecology, looking at how deep ecology can be institutionalized. For the third and final research question I will look at the factors hindering the ecological citizenship which will include A) the notions of 'us' versus 'them' mentality, B) the problems of effective promotion of the new expanded narrative of the 17 goals now including the theories of deep ecology, and C) the problems that face all new narratives in the way that it may be too late for actual and effective implementation before 2030. Although, I will argue that despite late inclusion of deep ecology and therefore the late submission to any effectful implementation in our lifetime, it might still prove effectful as a new narrative and new basis for the future life and generations upon this planet.

**Rebecca Spring et al**

### **The Problems With The Laws Definition of Rape**

It can be considered whether unjustifiable and double standards reinforce problematic gender stereotyping involving male and female sexuality.

Our research question asks 'Is Rape a gendered crime?', because, under current UK legislation, only a male can commit and be convicted of the criminal offence of Rape.

The Sexual Offences Act (2003) utilizes gender-neutral wording when referring to the victims of rape. But the Penile Penetration Condition (or PPC) requires that rape can only be charged with a penis involved.

For example, instances, where a victim is unconscious, is unable to consent due to disability, or is too drunk to consent - are caught by the scope of section 74 of the Act.

However, when a woman forces a male to penetrate her, this action is not covered. The current definition of rape, may, therefore, result from the view of sex as something Males do, to females.

Our talk suggests that consent is commonly perceived as something only women give to men; in other words, it is possible as Gardner argues that 'our cultural preoccupation with sexual consent, is a preoccupation with women, as those whose consent is called for, and men as those to whom the consent is to be given. As thus imagined, sex is something in respect of which men are active and women are passive'<sup>1</sup>, and not the other way about.

We suggest that the law should be reformed, and men whose consent is not given, despite penile penetration has taken place, may also be victims of Rape.

**Name: Elise Jones**

**Faculty: Media and Communication**

### **AI: The unknown voice**

"She's not a person": Artificial Intelligence and the uncanny in the postmodern gothic. Freud's concept of the uncanny is prominent within the postmodern gothic. Whilst most of his notions focus on the feeling of close to but not human, such as waxworks or dolls, within my presentation I will be discussing the concept of the disembodied voice and how this translates to terror in the twenty-first century. The anxiety around the disembodied voice fits with the not quite human voices of artificial intelligence. The examples I will discuss include the Amazon home assistant system 'Alexa', and the speech ability given to the 'Ashley Too' robot within the *Black Mirror* episode "Rachel, Jack and Ashley too" (Netflix, 2019). Both AI systems have an eerily human voice, lending themselves to the uncanny as they are pre-recorded female voices, but their phrases are computer generated. Kozminski University roboticist Aleksandra Przegalinska stated in interview that rather than the creepily realistic robotic form, the unsettling feature is "often in the voice, the way it speaks" (Przegalinska, 2019). Traditionally, within the gothic the disembodied voice tends to appear from a supernatural entity, be that a spirit, ghost or likewise. Fred Botting in *Gothic*, notes that "the uncanny disturbances, spectres and ghosts that once were limited as effects of gothic fictions extend, via other media, into the fabric and shadowy formation of modern life, a kind of 'phantomodernity'." (Botting 2013, p.149). During my presentation I will discuss how the artificiality of computer-generated voices is uncanny and terrifying in the postmodern gothic genre.

**Name: Salima – Joy Kamara**

**Faculty: FMC**

### **Influenced by the idea of Balázs and Carter, how can documentary practice help to explore complex issues based on Biblical Principles?**

The Turn Around (2020) is a short documentary exploring the attitudinal transformation of the subject, Joshua Fabiyi. It forms part of my assessment in the BA Film, Level-5 unit termed, 'Directing'. I decided to tell the story of Joshua in documentary style rather than in drama-genre or written piece, as this offers Fabiyi prompt power to personally convey his truths to the audience. This approach builds understanding and empathy on complex issues (Balázs and Carter, 2010: 102).

The film follows the story of Fabiyi, a well brought up teenager pressured into friendships plagued by violence, drugs and negativity. Witnessing and being involved in the portrayal of

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Fabiyi's transformation awakens, in me, self-reflective thoughts on unturned areas in my character, and inspires me to tackle personal weaknesses and amplify my strengths. This also fuels me to create 'COVERED', a platform helping troubled youths through arts. 'COVERED' is inspired by the Biblical principle derived from the death and resurrection of Jesus: "In him we have redemption through his blood, the forgiveness of sins, in accordance with the riches of God's grace" (Ephesians 1:7, King James Version).

Moreover, the ideas of Balázs and Carter anchored my approach to filmmaking as this allowed my subject, Fabiyi, to become transparent in the telling of his story, shifting my perspective when it came to issues such as gang violence and homelessness. From my new understanding of the following issues, I believe that by applying the same approach to future films under 'COVERED' will continue to educate the audience, specifically from a Biblical perspective.

**Name:** Olivia Ford

**Faculty:** FMC + FM

### **An exploration of the nature and implications of promises made by Higher Education Institutions**

Promises have been an integral part of relationships for centuries, yet they still remain relatively underexplored by marketing scholars in the study of commercial relationships. When promises are broken, it can be detrimental for a relationship – be it personal relationships or commercial. Universities create promises which are determined by their own primary aspirations and sense of 'added value' (Furey et al. 2014). These promises often appear in prospectuses, online or through student-institution agreements such as student charters (Bournemouth University 2020). This study is relevant as recent press has highlighted a separation between the promises a university makes and what a student perceives that they receive (Polianskaya 2018). The purpose of this presentation is to explore the nature and implications of the promises made by Higher Education Institutions to prospective and new students, and how these promises affect student experience whilst at university. Promises' role in this is explored by a review of relevant literature and qualitative interviews with final year students and marketing departments from universities.

**Megan Bryant**

### **Theatre vs Television: Is one more intimate than the other? Looking at Direct Address in *Fleabag* the stage play (2013) and *Fleabag* the television series (2016-2019).**

The purpose of this research is to argue that television has the potential to surpass theatre in its ability to provide an intimate experience for its audience. There is already much debate over how intimacy is defined in both theatre and television individually, therefore, the aim of this research is to compare them directly against each other.

In the first chapter, I outline and compare four different definitions of intimacy in theatre and television and end the chapter with a case study of The Old Vic theatre in London to argue the unequal experiences that theatre audiences receive. In the second chapter, I analyse direct address and its contrasting impact in theatre and television, and the false intimacy it encourages, especially when compared to intimacy between people in real life. Finally, in Chapter 3, I textually analyse the case studies *Fleabag* the stage play (2013) and the television series adapted from it, *Fleabag* (2016-2019). Then, I apply the definitions and concepts outlined in Chapter 1 and Chapter 2 to both case studies to see whether they support my argument that television is more intimate.

The conclusion made by this research is that, in the specific case of *Fleabag*, television is able to create a more intimate relationship with its audience than theatre. Television's use of close-ups

and direct address bring the audience closer to the protagonist rather than alienating them, as argued in theatre. Additionally, the home is argued to be the most intimate environment, therefore, where they are watching encourages the audience to development more intimacy towards the television series of *Fleabag* than the theatre play.

**Name: Daniela Rozental-Devis  
Communication**

**Faculty: Faculty of Media and**

This paper investigates Pixar's use of emotional storytelling techniques to elicit emotions in their adult audiences. It does so in order to understand if Pixar's success is directly related to the techniques and traditions that they follow. It begins by reviewing different approaches to storytelling; as well as theories of emotional responses to films; in order to allow the reader to gain an understanding of the themes underpinning this project. Following this, a textual analysis of Pixar films is undertaken, based on Smith's (2003) detailed approach to analysing filmic emotions when carrying out a humanities dissertation where there is no access to audience responses. The techniques are divided into two main strands. The first strand looks into animation techniques, specifically the use of animation as a tool for contemplating adult fears. The second strand focuses on narrative techniques such as flashbacks and montages as emotive devices. Findings suggest that Pixar has a method that it follows that establishes brand consistency and quality control, ensuring that the emotional beats of each film are relayed appropriately and effectively in order to elicit emotions in adult audiences. Notably, it also reveals that without the collective minds of the Braintrust (a Pixar tradition involving meetings of select creatives who assess each movie's emotional trajectory), the storytelling techniques would not be as effective (Catmull 2014). Therefore, in order to elicit emotions through storytelling, the techniques need to emerge from the relatable human experience, not a fixed formula.

## **SCIENCE AND TECHNOLOGY**

**Name: Lucy Dalley**

**Cyber Security Management**

Social engineering attacks are increasing with new techniques constantly evolving and humans remaining as the weakest factor within cyber security. The project problem (for my dissertation) to be analysed is social engineering threats to Small-Medium Enterprises (SMEs). The project is to develop a Social Engineering Threat Assessment and Remediation Framework for SMEs to illustrate the need for this framework and how it will benefit the target audience in the ever-evolving world of cybercrime. To complete this, I will conduct background research to understand the current threat landscape and shortcomings of social engineering to SMEs, develop a requirement specification for the framework, as well as to design, implement, test and evaluate the framework on participants (employees of a local SME) to receive feedback. The project is significant to the cyber security field as it will help SMEs to understand which security controls to put in place that mitigate their existing threats against social engineering attacks. My presentation will discuss the project problem, the approach I will take to conduct research and the artefact to be created to benefit SMEs.

**Name: John Piesing  
and Technology**

**Faculty: Faculty of Science**

**Cyber Threat Information Portal (CTIP) for the Power Smart Grid Ecosystem.**

Critical National Infrastructure (CNI), such as water, healthcare and finance are fundamental to our existence, and each of these are driven by the Power Smart Grid Ecosystem (PSGE). A cyber-attack on the PSGE will therefore have ripple effects to wider society such as the case in August 2019 where one million people were affected by a power related CNI incident. The impact of a cyber-attack on the PSGE could include; nationwide loss of energy, impacts to business, and other financial impacts such as fines will be issued to organisations who suffered data breaches, thus increasing the importance for PSGE stakeholders to secure themselves appropriately. Therefore, there is a need for early detection and a response that is geared towards effective incident management. Fundamental to this is an evolving information feed regarding threats. Current solutions use high-level language and are often in-house solutions and so this project will produce an easily digestible information portal for stakeholders of the PSGE to allow for informed decisions regarding their security posture by offering relevant, actionable recommendations on how to protect themselves. Information will be gathered from multiple sources, to then be collated into one web-system where a dashboard will be created to display this information. The project will first analyse current Cyber Threat Information Portals to identify present industry gaps, and a requirements specification will be built from this and by engaging with a focus group. The project will then be designed, implemented, and the artefact will undergo functionality testing and usability testing.

**Name: Brekna Said**

**Faculty: Science and Technology**

### **'Differences in males and females with Autism Spectrum Disorder and its relationship with Social Anxiety Disorder and Social Motivation'**

This project is investigating individuals with autism spectrum disorder (ASD) and how other conditions alongside ASD such as Social Anxiety Disorder (SAD) may differ between males and females; and their relationship to motivation towards social interactions (social motivation). Evidence suggests a link between ASD and SAD, and between emotional dysregulation and social motivation which significantly predicted SAD (Swain, Scarpa, White, & Laugeson, 2015). There is research looking at males with ASD and the prevalence rate of SAD traits in this population (Spain et al., 2016). However, there is limited evidence focusing on these traits in females with ASD. Understanding the prevalence of these traits can help reduce misdiagnosis and ensure that the correct treatment and support are provided. A quantitative approach using a survey was used, consisting of; The Autism-Spectrum Quotient, the Social Reward Questionnaire, and the Liebowitz Social Anxiety Scale. The ASD group data was obtained by a collaborator, 100 participants had a self-declared formal diagnosis of ASD. The neurotypical control group consisted of 100 psychology undergraduates who participated in exchange for course credits. It is predicted that females will have higher rate of SAD traits than males, resulting in lower social motivation scores. This difference will be more predominant in the ASD group of participants. These findings aim to highlight the existence of ASD gender differences within these traits. Additionally, there may be applications within school environments where those who are struggling, and their needs, are identified more accurately so support is best adapted to the individual.

**Name: Heidi Brown**

**Faculty: Science and Technology**

### **Individual Differences in Holistic Face Processing and Composite Construction Using a Feature-based System.**

Faces are thought to be both perceived and recognised holistically rather than in parts/features. Much research shows that an individual's holistic processing skills underpin their position on the face recognition continuum; those with poor holistic skills commonly reside at the bottom of the continuum (prosopagnosics), while those demonstrating exceptional skills reside at the top (super-recognisers). However, very little research investigates whether holistic processing skills impact a forensically-relevant form of face recognition, namely, facial composite construction. Composite construction is a method where individuals build a computerised visual likeness of an unfamiliar target face from memory, a process which necessitates recognition. A two-stage procedure will be employed. In stage one, participants will view an unfamiliar target for thirty seconds, describe the face during a cognitive interview, and create a composite using the PRO-fit feature-based composite system. Next, participants will complete the Models Memory Test (MMT) to measure holistic face processing ability. In stage two, a unique group of participants will rate the composites in terms of their likeness to the target identities they were constructed to resemble. A by-items regression analysis will assess whether a participant's holistic processing ability predicts the quality of the composite they produce. If findings suggest a correlation between holistic face recognition ability and composite construction using a feature-based system, it could have implications for forensic staff, who conduct this process with witnesses and/or victims to release the most reliable composite to the public.

**Name: Celyn Jones**  
**Technology**

**Faculty: Science and**

### **The Effects (or non-effects) of Caffeine**

Caffeine is the most commonly consumed drug in the world. Students are frequent caffeine users, with 70-90% of all students consuming caffeine as a study aid to improve wakefulness, attention, memory, and mood (Raj, Devi, & Priya, 2018). Previous research examining cognition and mood found that both improved upon consumption of caffeine (Glade, 2010). However, James & Rogers (2005) argue these effects could be caused by a reversal of caffeine withdrawal in regular caffeine consumers. The aim of this study is to determine whether the improvements of cognition are a result of caffeine consumption, or from a reversal of caffeine withdrawal. To test this, we designed a double-blind, placebo-controlled study in a population of university students that utilizes refrain and non-refrain conditions to test whether caffeine enhances cognition and emotion, or whether these enhancer effects are caused by a reversal of a withdrawal effect. In this experiment, two groups of moderate caffeine users are tested, each in two sessions. Group 1 refrains from caffeine intake for 12 hours, and Group 2 for 2 hours prior to each experimental session. Participants will receive 200mg of caffeine in one session and placebo in the other session. Participants will complete a verbal fluency task, a colour-word interference task, the Rey-complex figure task, and Profile of Mood States (POMS). Potential implications include demonstrating the potential cognitive enhancement and mood effects of caffeine or determining if caffeine effects on cognition and mood are only a reversal of the withdrawal effect. Results will be discussed.

### **Olwen Belgrove**

Agricultural landscapes which dominate 40-50% of global land use are home to a variety of British wildlife. It's well known that in these landscapes, hedgerows are a valuable resource for providing food, shelter and connectivity. In light of this it's important that they're managed in a

way which best sustains them. This study examined the difference in invertebrate taxa between hedges which had been managed through regular cutting, compared to those which are laid. Insects are of particular interest because they're a common food source, meaning they can act as an indicator of the overall value of the hedge to wildlife. 3 surveys were done, once in June, July and August, of 14 hedges, 7 of each treatment. The results were analysed using a paired T-test which showed no significant difference in invertebrate abundance between hedges (T test,  $t=0.267$ ,  $d.f=27$ ,  $p=0.791$ ). In addition, there was no significant difference between treatments in regard to pollinator abundance (T test,  $t=0.367$ ,  $d.f=10$ ,  $p=0.721$ ). The Simpson's index was used to determine insect diversity. Once again both treatments were very similar, with cut hedges having a score of 0.14, and laid hedges scoring 0.15. These low diversity scores for both treatments are indicative of the insect biodiversity crisis. Despite the results illustrated above, this study still observes hedge laying to be a better management choice than cutting, since it promotes rejuvenation and allows the hedgerow to last hundreds of years.

**Name: Katie Seal**

**Faculty: Science and Technology**

### **Thonis-Heracleion and East Canopus: does the archaeology support the theories?**

Thonis-Heracleion and East Canopus are two Egyptian (Alexandria) cities which were lost to the sea around the 7<sup>th</sup> c. AD – but have you heard of them? The purpose of this research is to establish whether the archaeological records from both Thonis-Heracleion and East Canopus support the scientific theories on whether both cities perished together.

Starting with initial research, then studied literature published by the archaeologists involved with the sites. Two catalogues of recorded finds from both Thonis-Heracleion and East Canopus were formed, the finds were then separated into different periods, material type and their context, e.g. coins, ritual use. Credible theories associated with both sites were addressed and whether the archaeological record supported the scientific data.

Published fauna data suggests that subsistence occurred earlier at Thonis-Heracleion than at East Canopus, this is supported by the archaeological record. The artefacts suggest that East Canopus outlived Thonis-Heracleion up until the 7<sup>th</sup> c. AD. The nature of the artefacts found at Thonis-Heracleion could have been deposited after the loss of the city, for religious/ ceremonial purposes, whereas East Canopus has a much richer finds catalogue at that period.

The research demonstrates the need to weigh up scientific methods and cross-examine the data with the artefact collection. This research establishes a timeline for both sites, but it also raises awareness and highlights the importance of maritime archaeology. The reality is, if these sites were on land – they would have been destroyed and looted. Therefore, their preservation is incredibly valuable.

**Name: Rebecca Legg**  
Technology

**Faculty: Science and**

### **Estimating Ages of Faces Seen in Isolation and Groups**

Multiple faces simultaneously interfere with our ability to judge attractiveness and emotional expression (Haberman & Whitney, 2009) by a process known as 'hierarchical encoding' - a process of computing average representation of faces (Walker & Vul, 2014). The present study investigated if this effect also provides a source of bias in the age estimation of faces. A within-subjects design whereby observers rated the ages of faces seen alone or alongside one (Experiment 1; N=40) or two (Experiment 2; N=30) distractor faces was used. The distractor faces

were either of the same (congruent) or difference (incongruent) age category to the target. Mean error in age judgements, calculated by subtracting actual age from estimated age, was used in the analysis. Incongruent paired faces resulted in a bias of age estimation in the direction of the distractor face age e.g. younger faces were perceived as older when paired with an older face ( $M_{\text{bias}} = +6$  years) compared to a younger pairing ( $M_{\text{bias}} = +4$  years) or alone ( $M_{\text{bias}} = +3$  years). Viewing multiple faces can therefore provide a source of error in age estimation of the target faces however this interference was reduced in the presence of two distractor faces in Experiment 2. Further research is needed to investigate how increasing the crowd surrounding the target could affect error in age judgements. Findings have implications for forensic/police investigations, specifically accuracy of eye-witnesses identifying suspects by viewing multiple photos simultaneously, and age verification of individuals in age restricted sales.

**Name:** Layla Johnson

**Faculty:** Science & Technology

### **THR Expert or Novice?: A Review of Participant Recruitment for Surgical Training Simulators**

Total hip replacement (THR) is the surgical replacement of the hip's ball-and-socket joint with a prosthetic. It is the prevalent form of treatment for advanced osteoarthritis most common amongst an ageing demographic. The UK is projected to need 140,000 THRs per annum in 2020. The growing rate of the THR burden, however, exceeds the growth of the ageing population. One key reason is that, if not performed correctly, many complications can arise requiring the patient to undergo revision surgery. To reduce revision surgery and patient wait times (currently >100 days) the UK needs more expert surgeons. New training technologies such as virtual reality (VR) and other extended reality (XR) simulators could be the solution. However, if they are to replace traditional training techniques, simulators must undergo thorough and sound validation, and so it is important to understand the criteria used for recruitment, e.g. how is an expert surgeon defined?

A literature review was conducted to examine the recruitment criteria of participants during the evaluation of THR simulators. The findings show a dearth of simulator research in THR, no uniformity or objective criteria differentiating experts/novices and that criteria from other surgical procedures cannot simply be transferred to THR recruitment. This highlights the need for a standardised process for validation and we recommend a case-based rather than time-based approach. We recognise it is not always possible to follow such routes due to lack of availability of surgical expertise in general, and in such cases recommend researchers state and justify their recruitment approach.

**Name:** Oliver Nock

**Faculty:** Science and Technology

### **Designing and Implementing a federated IoT Cyber Range**

With large-scale breaches featuring regularly in the news in recent years, cyber security is becoming an ever-more important field of research and there is a growing demand for, and

subsequent shortage of, trained IT security professionals across the world. Simultaneously, levels of cyber security awareness amongst the public remain at hazardous levels.

To help mitigate this issue, my work explores developing and commissioning an IoT cyber range; i.e. a testbed that provides a platform for training people and the evaluation and research of security solutions for IoT networks and systems in a safe environment. This cyber range will be federated with other European cyber ranges such that its services are available to remote clients overseas. This will be achieved via the ECHO Network; an EU funded research project that aims to develop and increase the cybersecurity and competence across Europe.

My methodology will consist of initially a state-of-the-art review in order to identify key properties and functionalities of a cyber ranges and how these aspects can be tailored towards IoT networks and systems. As well as this, I will also be exploring cyber range best practices for security with observations from Enisa's (European Union Agency for Cyber Security) and the UK Government's guidelines. The KPIs that these guidelines set allow for the evaluation of the cyber range against these guidelines. Further evaluation can be conducted via the running of key cybersecurity scenarios.

**Name:** Chris Wilmoth

**Faculty:** Science and Technology

### **Sharing Economy Strategies And Their Ability To Enable Remote Manufacturing Through Information Technologies**

The purpose of the research is to determine whether it is possible to decentralise manufacture and supply chains to the extent that engineers can work remotely from anywhere in the world. This is explored using sharing economy strategies, blockchain technologies, Internet of Things (IoT), Artificial Intelligence (AI) and the general advancement of Information Technologies (IT). This is important as it will remove the need for long haul transport which in turn will reduce global emissions, whilst exponentially increasing innovation and talent creation within local economies. This would be comparable with The Renaissance and The Enlightenment and could return heavy industries to households, giving life to mining, fishing and tourist towns which have few opportunities within Science, Technology, Engineering and Maths (STEM). The approach taken has been that of a major literature review and discussion of holistic configurations and solutions. It was found that there are very few examples of true sharing economy businesses/platforms and that this is due to the high capital needed to create them. This cost however is falling rapidly with the abundance of IT. This in combination with the abundance of self-replicating tooling (3D printing), AI, the IOT and blockchain, makes it feasible that within the next 50 years, anyone could start a fab lab within their bedroom. This research is significant as very few have made the connection between these technologies and have explained the magnitude of its effect on society at a holistic level.

**Name:** Bryony Fernandez

**Faculty:** Science and Technology

### **Maternal and paternal helicopter parenting and the development of narcissistic traits**

Parenting style is a contributory factor in the development of narcissistic personality traits in children, and pre and post - adolescents. Research has identified parental warmth and control (either in isolation or combined) as the most predictive parenting styles over the expression of narcissistic personalities. Recent research into helicopter parenting (a parenting style characterised by benevolent psychological control), indicates its potential significance in

predicting adolescent outcomes related to narcissism, yet it hasn't been investigated in context of a direct relation to narcissistic traits per se. Additionally there are conflicting findings regarding whether paternal or maternal parenting is more influential on adolescent outcomes (related to narcissism or not), yet most results elude to increased significance of maternal parenting. Therefore, the present study aimed to address the question of whether helicopter parenting influences the expression of narcissistic traits in early adulthood and if so, which parent had most influence. 120 participants completed maternal and paternal versions of the consolidated helicopter parenting scale (CHPS) and the narcissistic personality inventory (NPI). Contrary to implications from previous research, results show that paternal, not maternal helicopter parenting was influential over the expression of narcissistic personality traits. Results are discussed within the context of the potential roles parents may take on when bringing up children and how these effect the development of personality.

**Name:** Charlotte Smith  
Technology

**Faculty:** Faculty of Science and

### **Examining the effects of self, reward and emotion on perception.**

This study investigates the effect of self, reward and emotions on perception. Recent research indicates that self-relevant; emotionally relevant and beneficial biases enhance the interpretation and judgment of incentives. Suggesting that with self-bias, even neutral stimuli, that an individual may associate with oneself, would automatically capture one's attention, also known as the self-prioritization effect. It is believed that one's emotions are a potential factor, and that they act as a sociological understanding of the self, with a strong neurological link between the two processes. Although there is also evidence that perception is influenced by incentives that are of high reward to oneself, there is a lack of research to explain and understand how all three: self; emotions and reward could possibly be connected, and any possible neurological similarities. This research will aim to investigate the possible relationship. The results and conclusions will be discussed. Hypothetically the results will show that undergraduate students will have greater performance in a standard perceptual-matching task when stimuli (i.e., geometric shapes) were connected with the self; reward; emotional preference. Accuracy and reaction times will be analysed to determine this. The results will act as a basis to understanding if there is a singular brain region that controls the enhanced perception of self, reward and emotional incentives. Results will also contribute to the theoretical understanding of how the environment is perceived.

**Name:** James Sokolnicki  
(LES) / SciTec

**Faculty:** Life & Environmental Sciences

### **Quantifying variation among two *Lavendula* species and their cultivars, in attractiveness to UK pollinators**

Pollinators are in global decline, yet, with the human population set to exceed 9 billion by 2050, the demand for their services will increase. Loss of flower resource is one of the main drivers of their decline. With the reduction of hospitable habitat in the countryside, urban green spaces, particularly gardens, are increasingly being recognised as potentially beneficial to wildlife, especially pollinating insects. With increased interest from the public in 'wildlife gardening' and national policies (UK National Pollinator Strategy 2014 to 2024), interest in making the urban landscape more 'pollinator friendly' is growing. Lavender is a popular garden plant,



recommended as beneficial to flying insects so this study investigated which species of *Lavendula*, and their cultivars are preferred by UK pollinators. In summer 2019, flower-visiting insects were counted as they foraged on 10 lavender cultivars. Honey bees and bumblebees were the most abundant insects seen: comprising 38% and 33% of all insects respectively. All cultivars were used by pollinators, with mean counts of 3.2 to 8.75 per square metre. *L. intermedia* attracted significantly more bumblebees than *L. angustifolia*, whilst *L. angustifolia* attracted more butterflies and moths, but not significantly so. There were significant, positive relationships between flower spike length and total pollinators, bumblebees and *Bombus terrestris/lucorum*. Results corroborate existing knowledge that lavender is attractive to UK pollinators. In addition, planting a mixture of species/cultivars may attract a greater diversity of insect.

**Name: Jasmiina Ryyanen Email**  
**Technology**

**Faculty: Faculty of Science and**

### **The effect of active and passive social media usage on emotional regulation strategies in university students.**

The purpose of this project is to explore the effect of active and passive social media usage on emotional regulation strategies such as suppression (pushing away of negative emotions) and reappraisal (altering our perceptions from negative to positive) in university students.

Social media usage has increased by 74% in the last decade (Gerson, Plagnol & Corr, 2017). Despite the increasing popularity of social media platform use, no research has looked at the link between different emotion regulation strategies and active and passive social media use in university students. Active social media use refers to creating content online and socializing whereas passive use involves observing and consuming content (Thorisdottir, Sigurvinsdottir, Asgeirsdottir, Allegrante, & Sigfusdottir, 2019).

This is an important topic because social media can impact mental health and emotional regulation (Elhai, Hall & Erwin, 2018). This study therefore aims to investigate this gap in the research and predicts that active social media use will result in reduced suppression of emotion and increased reappraisal in university students, whereas passive social media use will result in increased suppression of emotion and reduced reappraisal.

The results from this study can help to inform intervention strategies for the promotion of healthier social media interactions, the development of emotion regulation strategies and subsequently the promotion of well-being in university students.

This study will gather data via two online questionnaires from students aged 18-25. Each participant will complete the Passive and Active Facebook Measure (Gerson et al., 2017) and the Emotion Regulation Questionnaire (Gross & John, 2003).

**Name: Luke Chandaman**  
**Technology**

**Faculty: Science and**

In societies that strive towards egalitarianism the expectation is that moral decisions and judgements are free from the influence of social characteristics such as race and age. The stereotype content model (SCM; Fiske et al., (2002)), asserted stereotypes were mediated by dimensions of warmth and competence. Similar to Cikara, Farnsworth, Harris and Fiske (2010) this study will explore the differences in moral decision making towards different quadrants of the stereotype content model (Fiske et al., 2002), whilst employing more rigorously controlled stimuli. An added variable of group size within the dilemma will be employed rather than just

using variable SCM quadrant groups in the 'sacrificed' and 'saved' conditions of the trolley problem, as seen in Cikara et al. (2010). A 2 (warmth of the 'sacrifice' group: high vs. low) x 2 (competence of the 'sacrifice' group: high vs. low) x 2 (size of the sacrifice group: small vs. large) within-subjects design will be employed, with 'moral acceptability' ratings as the dependent variable. If our findings support the implicit stereotyping assumption (Greenwald and Banaji, 1995) as well as previous research on the potential for group differences to impact moral decision making (Chu & Grühn, 2018; Cuddy, Rock & Norton, 2007; Cikara et al., 2010) this suggests that our judicial system or any quorum overseeing somebodies fate (such as possible employment, promotion or discipline) should strive for diversity within their ranks the flatten the effects of group bias.

**Name: Luke Wood Email:**

**Faculty: FST**

### **An information risk management system for instant messaging applications**

Instant Messaging (IM), a platform for instantaneous communication with a growing dependency and adoption rate within businesses is outpacing email owing to new applications such as Slack and Microsoft Teams. This is leading it to become an attack vector for cyber-attacks due to IM's main driver, instant messages.

Social Engineering, a human attack vector, relies on attacks being instantaneous and with IM this is achievable from the second a message is sent. This project is going to develop and deliver an IM risk management system to address the risks that IM poses to organisations from both a technical viewpoint and a human one. Compared to other organisations risk assessment systems, an existing security solution that addresses this issue does not currently exist, proving the urgency of this project. This project will help inform decision making as to the adoption of IM within businesses providing the risk assessment system as a basis of discussions.

The risk assessment system will utilise data obtained from various sources such as the different IM applications along with the vulnerabilities of those technologies (CVEs). Other sources include open source research/intelligence of the human factor, reputational damages along with command and control channels.

This system will show various risk matrix showing instant messaging applications weighed against identified risks and their risk score and Red-Amber-Green (RAG) status. The overall system will be hosted on a web service allowing for greater reach and exploitation. The end artefact will assist the mitigation, detection and response of IM risks.

**Name: Jessica Leverton**

**Faculty: Science & Technology**

### **Facial Recognition and Environment Navigation**

There is a long research history between prosopagnosia and navigation problems – individuals with prosopagnosia/impaired facial recognition ability likely also have impaired topographic function (Corrow et al. 2016). Topographic processing is the perception and memory of landscapes and ability to orientate. There are many theories behind the link between facial recognition and navigational abilities: it may be the failure to recognise landmarks, or individuals may struggle to learn or recognise scenes. However, participants with prosopagnosia often have no issues with topographic perception, but impaired retention for topographic information. This suggests that issues with both faces and navigation is not a perception issue, but a memory issue. Both facial recognition and navigation are complex cognition functions; previous research suggests that these skills are more closely related than first thought. The aim of this study is to

assess directly if an individual's facial recognition ability correlates with their navigation ability. To measure facial recognition ability, the Cambridge Face Memory Test (Duchaine & Nakayama, 2006) will be used. Participants will be presented target faces, and then tested with three faces, one being the target. The test phases contain identical and novel views. Participants will then complete a virtual-reality-based route-learning test (Wiener et al. 2019). The first task is a route repetition task, the second task a route retracing task, and the third a directional-approach task. This study aims to find a correlation between facial recognition and navigation – if individuals perform well in the face memory task, their performance on the navigation tasks should match.

**Name: Matthew Ring  
and Technology**

**Faculty: Faculty of Science**

### **Investigating the effects of urbanisation on the microplastic levels in freshwater invertebrates**

The production of plastic increases each year, with a number reaching sources of water in the form of small microplastics as they degrade, causing pollution. Microplastics occur in two forms; primary microplastics, which are miniscule pieces of plastic that are manufactured purposefully for cosmetic products, and secondary microplastics, which come from larger sources of plastics as they begin to degrade. The study of microplastics is relatively new area with the first papers only being published in the 1970s. The effect of microplastics are not fully understood but are known to cause entanglement and blockages within many marine species. They are becoming more prolific as they have now been found in potable water sources, seafood and there is also evidence that microplastics can be passed between trophic levels. Using gammarus and asellus, collected from three rivers at an urban and rural site, the effects of urbanisation on the microplastic levels in freshwater invertebrates can

**Name: Braden Stanley  
Technology**

**Faculty: Faculty of Science and**

The project to be showcased is an indicator of compromise (IoC) enrichment tool for cyber intelligence analysis. Security analysts use up most of their time investigating computer artefact data – known as indicators of compromise - from multiple data sources in order to get a complete picture of the information at their disposal. The purpose of the project is to create an IoC enrichment tool for analysts to address the current shortfall in the centralisation of data querying and enrichment. It is a repetitive daily process that eats up a lot of time and can therefore be automated. This in turn, improves the rate at which an analyst or computer network defender prioritises IoCs to identify, detect and mitigate against cyber-attacks from adversaries. With ever-increasing frequency and sophistication of cyber-attacks, it is becoming more important to be able to respond appropriately; the current tools that exist do not facilitate this.

The presentation will include the approaches taken to identify the current tools and their shortcomings, methodology in the design, development and dissemination of the project artefact, findings and conclusions of the project and how the project could be continued or built upon in the future.

**Name: Green Smith**

**Faculty: SciTech**

In Forensic Entomology, Post Mortem Interval (PMI) is used to determine the amount of time passed since the first oviposition on the corpse by a forensically important insect after the

victim's death. This is calculated using either predictions of development time for individual insects or by assessing the full ecology of the corpse and determining time since death based on succession patterns. Where individual insects are concerned, there are numerous factors that may cause an alteration in their speed of development, thus potentially giving an incorrect impression of the time since death. One factor that can affect the development of forensically important insects is the toxicology of the corpse. This study explores the effects of lead in the form PbCl<sub>2</sub> at 0, 25, 50, and 100 mgkg<sup>-1</sup> on larval length and instar duration of *Calliphora vomitoria*. Using an odourless food medium as a meat substitute, it was found that lead has a significant impact on the development of *C. vomitoria*. At 25 mgkg<sup>-1</sup> it was found that lead can cause a developmental acceleration of 5.740 hours, while at 100 mgkg<sup>-1</sup> it was found that lead can cause a developmental deceleration of 31.209 hours. While useful in the context of PMI estimations, these findings are also of potential interest to ecology, as high lead levels in the environment could enter the food chain and impact the normal development of *C. vomitoria*. Additional research could determine if lead has an effect on the imago and reproductive capacity of the insects.

**Aaron Hart**  
**Technology**

**Faculty: Science &**

### **Gonopod removal, an effective *Pacifastacus leniusculus* management technique?**

This study investigates the effect of signal crayfish (*Pacifastacus leniusculus*) gonopod removal and regrowth on spermatophore placement and brood size which can be applied as an effective eradication method across Europe, protecting native crayfish species and promoting reintroductions in suitable freshwater environments. *Pacifastacus leniusculus*' high plasticity has enabled them to integrate into ecosystems at many trophic levels spreading the crayfish plague (*Aphanomyces astaci*). Widespread extirpations have caused concern across Europe. Although the lag phase provides the best opportunities for eradication of an invasive species, most are detected beyond this when the detrimental ecological impacts are more apparent, so a universal eradication method is vital. A variety of methods have been unsuccessfully tested thus far. In this study we investigated the effects of gonopod removal as a population management technique on spermatophore placement and brood size. There is very little published data on this technique. Five groups of males with different sterilisation status were used: (1) Non sterilised males, (2) 2019 sterilised males – cut method, (3) 2019 sterilised males – pull method, (4) 2018 sterilised males – one year regrowth, (5) 2016 & 2017 sterilised males – one year regrowth retrimmed. Spermatophore accuracy, abundance and percentage cover were all observed to be reduced in sterilised males along with gonopod regrowth being smaller. Data collected up to February 2020 will be used to determine brood size which will ultimately decide on whether it could be applied as an effective population management technique.

**Name: Ossi Artturi Turunen Email:**  
**Science & Technology**

**Faculty: Faculty of**

Investigating the Persistence of a Generalist Pathogen "Rosette Agent" (*Sphaerothecum destruens*) Post Eradication of its Primary Reservoir Host Topmouth Gudgeon (*Pseudorasbora parva*) Invasive non-native species can pose a great threat to native biodiversity by introducing non-native pathogens. Generalist pathogens are more likely to be introduced and become invasive due to their adaptiveness and ability of host switching. *Sphaerothecum destruens* is an emergent generalist parasite introduced to Europe from China along with its healthy reservoir

fish host *Pseudorasbora parva*. *P. parva* has colonised > 32 countries in 60 years and has been declared a high risk for European fish biodiversity. In Britain, *P. parva* was eradicated 20 years after its first introduction. 57% of eradicated *P. parva* populations in the UK tested positive for *S. destruens* increasing the likelihood that *S. destruens* has now spread into adjacent water bodies and native fish communities. In this study the persistence of a generalist pathogen *Sphaerothecum destruens* was investigated in Tadburn Lake Stream in Southampton, UK, post eradication of its primary reservoir host topmouth gudgeon *Pseudorasbora parva*, by using eDNA and by testing native freshwater fish three-spined stickleback *Gasterosteus aculeatus*, and brown trout *Salmo trutta* for *S. destruens* infection. Water samples were collected from Tadburn Lake Stream, filtered and DNA extracted. A real-time PCR tool was used to detect *S. destruens* from the eDNA samples. Native freshwater fish were provided for the study. Two separate nested-PCR protocols were performed in order to detect the *S. destruens* from the fish tissue samples. This work was undertaken under a Fisheries Society of the British Isles (FSBI, reg. UK charity #256475) Undergraduate Student Research Internship.

## HEALTH AND SOCIAL SCIENCES

Brogan Isabelle Munslow  
Science's (HSS)

**Faculty:**

Health and Social

### **Market evaluation of soft drinks available in the UK and Europe to understand differences in sugar and energy content and whether there is a link to sugar tax**

Global prevalence of obesity is on the rise accounting for 28% of adults and 47% of children. Alongside this overweight and obesity is present in 63% of UK adults, with over a quarter classed as obese (Public Health England 2017).

Simple carbohydrates known as sugars are often added to manufactured foods and soft drinks (Rippe and Angelopoulos 2016). Excessive consumption of these high sugar products increases risk of becoming overweight or obese as well as developing numerous non-communicable diseases (Aeberli et al. 2011).

To tackle the rise in obesity, the UK government introduced an industry levy on sugar sweetened beverages (SSB's) in April 2018 to decrease public consumption by driving up prices of drinks containing sugar and encouraging reformulation (HM Treasury 2018).

This research project aims to analyse changes within the UK and European soft drink markets regarding the sugar and energy concentration since the introduction of the sugar tax.

During 2018, whilst on industrial placement soft drinks (n=160) were randomly selected from UK and EU supermarkets via stratified sampling.

A further 160 products will be collected via random sampling in January 2020.

This data will be analysed using SPSS to undertake descriptive statistics (mean, median, standard deviation) as well as two sample t-tests. Once analysed the data will be discussed to establish if the UK sugar tax has impacted on sugar content of soft drinks.

**Name:** Courtney Cahill

**Faculty:** HSS

**Background:** Diastasis of the rectus abdominis muscles (DRAM) is the separation of the rectus abdominal muscles by 2cm or more, this is usually caused by hormonal changes affecting elasticity and stress to the abdominal tissues which affects 40% of women during pregnancy and postpartum. Left untreated DRAM can lead to lower back pain, abdominal hernias and pelvic issues.

**Objectives:** The aim of this literature review will highlight the effects of non-invasive interventions to aid in reducing DRAM in women post-partum. Non-invasive interventions include kinesiotaping, targeted transverse abdominal, pelvic floor and rectus abdominal exercises.

**Methods:** A systematic search was carried out on EBSCOhost and mySearch databases, including articles from 2015 to present to avoid a previous literature review resulting in 42 papers. These were reduced to 5 through assessing eligibility and criteria. The final papers were critically appraised using the Downs and Black checklist.

**Results:** Papers used included a randomised control trial, cross-sectional experimental study and a pilot study. Having reviewed the literature analytically, it is the consensus that exercise can reduce the separation in DRAM post-partum. The available literature was unable to specify which method was more effective in treatment. Three main themes were highlighted; reduction in separation, coping with pain and the appropriate treatment.

**Conclusions:** The literature reviewed is limited, although multiple methods have shown to be effective in reducing the distance, no absolute method for treating DRAM has been identified therefore more studies with larger groups are required before a clear protocol can be prescribed.

**Connor Hutchison**

**Faculty:** Faculty of Health and Social Sciences

### **How does vertical loading rate and landing pattern alter in adult habitual shod runners when acutely trialling barefoot running? A literature review**

**Background:** Running injuries are a prevalent occurrence and have been correlated to a greater vertical loading rate (VLR). Barefoot running is reported to reduce VLR by promoting a forefoot strike landing, however, a synthesis of the research investigating how VLR and landing patterns (LP) alter in adult habitual shod runners when acutely trialling barefoot running has yet to be conducted.

**Objectives:** To determine how VLR and LP alter in adult habitual shod runners when acutely trialling barefoot running.

**Methods:** A systematic search of the literature identified eight studies matching pre-specified inclusion criteria, which were critically appraised using the Quality Assessment Tool for Observational Cohort and Cross-Sectional Studies.

**Results:** Average group VLR was higher in the barefoot condition in all but one of the studies identifying VLR irrespective of LP. VLR was lower in the barefoot condition in runners with a non-rearfoot strike landing in all but one of the studies assessing VLR in correlation to LP. Whilst the four studies assessing foot strike patterns found mixed adaptations to this variable in the barefoot condition, all studies classifying LP via sagittal ankle angle at initial ground contact (IGC) showed that participants landed with a more plantarflexed ankle at IGC when running barefoot.

**Conclusions:** VLR mostly increases in adult habitual shod runners acutely trialling barefoot running, irrespective of LP, yet mostly decreases when a non-rearfoot strike landing is observed. In the barefoot condition, runners land with a more plantarflexed ankle at IGC yet demonstrate a mixture of adaptations in foot strike patterns.

**Name:** Daniella Whiting  
Sciences

**Faculty:** Health and Social

### **Does Aquatic therapy improve balance in people with osteoarthritis?**

**Background:** Osteoarthritis is a leading cause of disability worldwide. Osteoarthritis is associated with balance disorders which is a risk factor of falls. The warmth and buoyancy of water can help to reduce pain and decrease joint loading that is associated with land intervention. Previous studies show aquatic exercise significantly effects pain and stiffness in people with osteoarthritis. However, currently no systematic reviews analyse the effect of aquatic exercise on balance in people with osteoarthritis.

**Objectives:** The aim of this review is to determine the effectiveness of aquatic exercise as an intervention to improve balance in people with osteoarthritis.

**Methods:** 11 databases were searched in October 2019 including: CINAHL; MEDLINE; Complementary Index; SPORTDiscus; Supplemental Index; ClinicalTrials.gov; ScienceDirect; British Library; Directory of open Access Journals; PsycINFO and SciELO. A modified version of the Downs and Blacks (1998) checklist was used to assess methodological quality.

**Results:** Five articles met the inclusion criteria. Four studies observed improved balance. Three studies observed statistical and clinically significant improvements in balance, two relating to dynamic balance, and relevant to static balance. Three produced non-significant changes in balance. Overall, there is moderate evidence that aquatic exercise improves balance in patients with osteoarthritis

**Conclusions:** Evidence suggests that to optimise balance improvements in people with osteoarthritis, aquatic exercise programmes should include a mixture of progressive upper and lower limb strengthening, balance and stretching exercises performed between 2 and 3 times weekly for 12 weeks. Aquatic exercise may favour dynamic balance but carries over into static improvements in people with osteoarthritis.

**Name:** Jessica correa

**Faculty:** Health and Social Sciences

### **The effects removal of a baby at birth has on the midwife**

I am writing a literature review to explore the effects on the midwife following the removal of a baby at birth. Having spent my community placement working with women who have complex social backgrounds I have personally experienced this area of practice. When undertaking an initial search of the literature I was shocked by how little research has been conducted. I hope to go on to develop my career in safeguarding and so I want to understand how I can protect my emotional wellbeing but also make changes within practice to support others and this review of the literature has allowed me to that. I have found that midwives report a lasting effect on the emotional health and an ethical inner conflict regarding their role of being with woman as opposed to a child focus when their is safeguarding concerns. I feel it's important that we talk about how this aspect of practice effects us and change is made to better support midwives.

**Name:** Katherine Birtwell  
Sciences

**Faculty:** Health and Social

### **Can hydrotherapy improve gait in children with cerebral palsy?**

**Background:** Cerebral palsy (CP) is non-progressive disease that affects the development of the brain which can lead to different impairments including muscle weakness, balance deficits and contractures. This can have a significant impact on a child's gait pattern. Hydrotherapy is one of the most common interventions for children with CP as it is likely to benefit fitness, function and participation. Regardless of this there is no current consensus on the efficiency of hydrotherapy in improving gait in children with CP.

**Objectives:** To conduct a literature review to explore if hydrotherapy can improve children with cerebral palsy's gait.

**Methods:** A methodical search of EBOSCOhost, MEDLINE and Web-Science was undertaken in October 2019. All studies included in this literature review were critically appraised by using a modified Downs and Black quality index.

**Results:** Five articles met the inclusion criteria and were included in this review. Studies included 19 participants, and all had a Gross Motor Functional Classification System level between one and three. Improvements were shown in walking, endurance and speed in all studies, however results maybe inconstant due to varying outcome measures in the studies. Two studies used a six-minute walk test as their main outcome which significantly improved the walking distance and showed that walking efficiency improved due to increasing speed of walking.

**Conclusion:** This research did show significant improvement in gait when taking part in hydrotherapy intervention. The results suggest that further research is needed in this area due to the small number of participants.

**Name:** Kyla Sinclair  
Sport Sciences

Faculty: HSS: Department of Rehabilitation &

### **A Systematic-Review of the Use of Transcutaneous Electrical Nerve Stimulation (TENS) to reduce hemiplegic shoulder pain in the subacute phase of stroke rehabilitation using Randomized-Controlled Trials**

**Background:** Stroke is one of the leading causes of death and disability with one in six persons experiencing a stroke in their lifetime. Amongst stroke survivors, approximately 25% will experience hemiplegic shoulder pain in the subacute phase of stroke. Pain is traditionally treated using pharmacological interventions, however, TENS has been found to have analgesic effects based on the principles of Gate Control Theory. There has been little research completed investigating the effects of TENS on reducing hemiplegic shoulder pain.

**Objective:** To explore the use of TENS in reducing hemiplegic shoulder pain in the subacute phase of stroke rehabilitation.

**Methods:** A systematic search of randomized-controlled trials (RCTs) was conducted using the databases: MySearch and Web of Science, in October 2019. The Boolean search-strategy used the terms: "stroke", "shoulder", "pain" and "TENS", as well as alternative nomenclature and synonyms. Of the screened, eligible articles, quality was assessed using the Physiotherapy Evidence Database (PEDro) scale.

**Results:** The search strategy initially produced 461 articles, however, after applying inclusion and exclusion criteria, it produced five RCTs. All of the selected studies included an outcome measure for pain.

**Conclusion:** There is moderate evidence to support the use of TENS as a method of pain treatment in the subacute phase of a stroke. The differences amongst using TENS and an alternative analgesic mechanism are statistically insignificant, suggesting that TENS has



therapeutic benefits. Future research should aim to include longer follow-up periods and larger sample sizes to account for loss of participants in during follow-up.

**Name:** Lucy Dereham  
Sciences

**Faculty:** Health and Social

### **Does cycling improve The Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) score for those with knee osteoarthritis?: A quantitative literature review**

**Background:** Knee osteoarthritis (OA) is a debilitating condition affecting physical function, increased pain and stiffness. The Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) is a self-administered questionnaire which assesses these complaints. Cycling is a form of cardiovascular exercise commonly prescribed to treat the symptoms outlined. The effects of cycling for those with knee OA on the WOMAC score have not yet been synthesised.

**Objectives:** The purpose of this review is to synthesise the literature regarding the effects of cycling on the WOMAC score in those with knee OA.

**Methods:** A systematic search of EBSCOhost was completed 8<sup>th</sup> October 2019 and identified five relevant articles using inclusion and exclusion criteria. The modified Downs and Blacks critical appraisal tool was completed for each article used in the review to ensure quality; no articles were excluded.

**Results:** The included studies were two randomised control trials, two randomised studies and one randomised trial. Four of the five articles found a significant improvement in the WOMAC scores following a home-based or class-based cycling program for those with knee OA. However, only one study reported 100% adherence and small sample sizes were a common denominator throughout the studies. Each study lasted no more than twelve weeks, thus the long-term effects of cycling on the WOMAC score has not been explored.

**Conclusion:** Home-based and class-based cycling improved the WOMAC score in those with knee OA, therefore cycling can be recommended to treat OA symptoms. However, the limitations discussed indicate further research is required in this area.

**Name:** Madison Austin  
Sciences

**Faculty:** Health and Social

### **Do natural apophyseal glides and sustained natural apophyseal glides reduce chronic neck pain?**

**Introduction:** Most people will experience neck pain at some point in their life, and in most cases, it is characterised by periods of remissions and exacerbations. Mobilisation and manipulation applied to the cervical spine have demonstrable effects on the sensory system, neck range of motion and disability levels, but there is no consensus on the efficacy of natural apophyseal glides (NAG) and sustained natural apophyseal glides (SNAG) in reducing chronic neck pain.

**Objective:** To explore the efficacy of NAG's and SNAG's in reducing chronic neck pain.

**Method:** A systematic search of Academic Search Ultimate, CINAHL Complete, MEDLINE Complete, SPORTDiscus with Full Text and Web of Science was conducted. Seven articles were identified using inclusion and exclusion criteria and were assessed for quality.

**Results:** All seven studies were randomised controlled trials. Outcome measures included the Numerical Pain Rating Scale, pain visual analogue scale, cervical range of movement, Neck

Disability Index and the Global Rating of Change. The amount of NAG and SNAG treatment sessions varied between studies. Treatment ranged from one session to four sessions per week for four weeks. The findings showed NAG's and SNAG's appeared to have some benefit in patients with chronic neck pain.

**Conclusion:** There is moderate evidence to show NAG's and SNAG's efficacy in reduce chronic neck pain. Future research should aim to ascertain the long-term effects before any further clinical recommendations can be made.

**Name:** Niamh Davies

**Faculty:** HSS

**Exercise & Body Image: What effect does today's society and social media have on exercise habits within younger females?**

Background:

Over 400 million people in Europe are active social media users, with 90% of 18 to 24-year olds using social media platforms. Ubiquitous use of social media is linked to a reduction in health/wellbeing from lack of sleep, with a subsequent decrease in physical activity. Whilst prior research has identified an association between psychological health and social media use, to date there has been little exploration of the connection that this may have to exercise (specifically within younger females). This research aims to explore societal influences & social media usage on exercise habits in younger females.

Methodology:

A qualitative approach will be adopted for this study, with Facebook used to help recruit participants for a face-to-face, semi-structured interview. Data saturation will be used to guide the number of participants interviewed, with questions structured around frequency and nature of both social media use and exercise participation, as well as the positive and negative impacts of this.

Results:

Data collection will begin in January 2020 and thematic analysis will be used to generate themes. My previous literature review highlighted the following areas which may also be reflected in the data: the concepts of "Fitspiration" and "thinspiration"; self-objectification; motivation; and goal setting.

Conclusion:

My research will help to generate important conclusions around the area of social media and exercise within younger females. Given the prevalence of mental health issues in this cohort, it is important to understand more about what factors are influencing this. I hope that my study will provide more knowledge within this area.

**Name:** Olivia Mace

**Faculty:** HSS

**The influence of motivational interviewing and health coaching based on Motivational Interviewing on smoking cessation and hospital avoidance in people with Chronic Obstructive Pulmonary Disease. A systematic literature review.**

**Background:** Chronic Obstructive Pulmonary Disorder (COPD) currently affects 900,000 people in the UK, killing 30,000 a year according to the British Lung Foundation. In 2016, the global

prevalence of COPD was 251 million with an estimated continued increase. The main cause of COPD is smoking and 25% of long-term smokers will go on to develop COPD. Motivational interviewing (MI) has been effective in smoking cessation, however to date there has not been a synthesis of research investigating the use of MI specifically for smokers with COPD.

**Objectives:** To investigate the influence of MI on smoking cessation and rehospitalisation rate in people with COPD.

**Methods:** A systematic search of the literature was conducted using EBSCOhost and mySearch databases including key terms; “Motivational Interviewing” “COPD” “smoking cessation” or “re-hospitalization”. Studies were quality assessed using a modified Downs and Blacks critical appraisal checklist.

**Results:** Initially 134 results were found using the key terms. Using the inclusion criteria of “Academic Journal”, “English”, COPD and use of Motivational Interviewing or spirit of Motivational Interviewing in Health Coaching, the appropriate studies were reduced to five.

**Conclusion:** There are limited levels of evidence to support the influence MI may have on smoking cessation and hospital avoidance in people with COPD. There was a consistent reduction in hospitalization and rate of smoking, however, it was not significant when compared to control groups and intervention effectiveness lessened at 12 months. Future studies should increase sample size and increase intervention time to induce long-standing behavioural change beyond 12 months.

**Name:** Rachel Matthews

**Faculty:** Health and Social,  
Science

### **Does hippotherapy improve the gait of ambulatory children with Cerebral Palsy?**

**Background:** Cerebral palsy (CP) is a group of permanent disorders limiting the development of movement and posture, creating activity limitations. CP occurs in 2 to 2.5 per 1000 live births. Ambulatory children with CP often have spastic gait patterns and motor impairments such as ataxia, and dyskinesia. Gait pathology has been identified by children with CP and their parents as an important factor that adversely affects health-related quality of life. Hippotherapy, a form of therapy that utilises equine movement has been found to be beneficial for children with CP, however there is currently no synthesis of published literature focusing on the impact of hippotherapy on children with CP's gait.

**Aim:** To determine the effectiveness of hippotherapy in improving ambulatory children with CP's gait.

**Method:** A systematic literature review of electronic databases using My-Search including Complementary index, CINAHL, MEDLINE, Academic Search Ultimate, SPORTDiscus, ScienceDirect, PsycINFO, Supplemental Index, and the Open Access Journals, was conducted from inception to September 2019. These articles were critically appraised using the Downs and Blacks checklist.

**Results:** Eight studies were identified to match the inclusion and exclusion criteria. All studies used hippotherapy as the intervention, although the duration of sessions, and training method used during sessions differed. A total of 122 participants were included in the studies. Six of the eight studies demonstrated a statistically significant improvement in temporospatial gait parameters post intervention, with walking speed being the most improved outcome measure.

**Conclusions:** Hippotherapy can improve gait parameters in ambulatory children with CP.

**Name:** Samuel Page

**Faculty:** Health and Social Sciences

**Does Blood Flow Restriction Training in patient with radiographic or symptomatic knee osteoarthritis give a greater increase in knee extensor strength compared to strength training without Blood flow restriction?**

**Background:** Knee Osteoarthritis is a common condition, sometimes causing pain, loss of strength, reduction in function and can result in surgical intervention. Blood Flow Restriction (BFR) training has been shown to improve lower limb strength, reduce pain and improve function. However the optimal protocol for utilising BFR for knee osteoarthritis is still unclear.

**Objective:** To synthesise the literature relating to BFR training for knee osteoarthritis, and point to an effective protocol for utilisation of BFR training with patients with knee osteoarthritis.

**Methods:** A search was conducted using electronic databases including PubMed, SportDiscus, Medline Complete, Directory of Open Access Journals, Science Direct, Academic Search Ultimate, CINAHL Complete, EBSCO Host and Open Athens. Five studies met the inclusion criteria and underwent critical appraisal using the PEDRO scale.

**Results:** The five articles that met the inclusion criteria all contained a control group and intervention group, which used BFR training. Different exercise protocols were used. Some articles compared a high intensity group also. Not all studies showed that BFR caused a significant difference in Quadriceps strength compared to the control group, however four out of the five studies showed a significant increase in quadriceps strength over the duration of the trials.

**Conclusion:** BFR training can cause a significant increase in quadriceps strength in knee osteoarthritis patients, however the most effective exercise protocol remains unknown. Future research could aim to compare different BFR training methods to isolate the key variables in order to optimise strength training in knee osteoarthritis patients.

**Name:** Sarah Wooldridge

**Faculty:** Health and Social Sciences

Postoperative pain remains poorly managed for many patients internationally. Effective pain management begins with accurate pain assessment, with patient self-report considered the most accurate measure of pain. This literature review aimed to identify how congruent nurses' assessments of pain were to patients' self-reporting of pain. From a search of seven electronic databases were identified six observational studies and one quasi-experimental study that met the inclusion and exclusion criteria. The findings from these studies were summarised under two key themes: nurses' underestimation of patients' pain and nurses' knowledge and understanding of pain assessment. From the literature identified it would appear that some nurses' pain management knowledge was inadequate with evidence of negative attitudes towards caring for certain groups of patients. Educational interventions have so far made limited impact towards correcting this ethical and professional problem which is a contributing factor towards some patients' receiving inadequate pain control post-operatively. Randomised controlled trials are imperative to identify educational interventions that help consign needless patient suffering to the annals of history.

**Name:** Victoria Lawrence  
Sciences

**Faculty:** Health and Social

## **Exploring the association between caffeine intake and sleep quality of teachers and its impact on self-perceived stress scores**

In the UK stress, anxiety and depression were the cause of 57% of all lost working days in 2017/18. The teaching profession has a high prevalence of work-related stress and therefore this research aims to establish how caffeine intake impacts sleep quality and consequently the mental and physical wellbeing of UK teachers. There is currently no research exploring the interactions of caffeine intake and sleep quality in UK teachers, with most studies conducted amongst adolescents outside of the UK. There is little evidence directly linking caffeine intake with the symptoms of stress, however reduced sleep quality is a known cause of stress, and this research is unique in exploring the interactions of all three variables.

Future interventional studies may be required before renewing caffeine recommendations for teachers, however this research will highlight any associations caffeine has on sleep quality and perceived stress scores and validate further research requirements. Uptake of recommendations could reduce the amount of working days lost to stress per year whilst increasing productivity and the economic functioning of the teaching industry.

Data will be collected using online surveys and analysed using SPSS, and teachers will be recruited via word of mouth and direct contact. The questionnaires include self-rated sleep quality scores, using the Pittsburgh Sleep Quality Index, a caffeine food frequency questionnaire which includes food and beverage products available to the UK population, and a series of lifestyle and employment questions, such as how many hours they work, level of teaching and their exercise and smoking habits.

**Name:** Bethan Bloor  
Sciences

**Faculty:** Health and Social

## **Effects of motion-controlled video games on balance in adults with traumatic brain injury**

**Background:** Traumatic brain injury is a prevalent globally and individuals who have brain injuries have a high prevalence of balance issues. Motion controlled video games have successfully improved balance in other neurological conditions, but it still remains unclear on the effectiveness when used among individuals with traumatic brain injury.

**Objective:** To collate and evaluate the current evidence around the effects of motion-controlled video games on balance in adults with traumatic brain injuries.

**Method:** A systematic search of 24 databases through EBSCOhost was completed in January 2020. Only peer-reviewed articles in English that investigated balance rehabilitation using motion-controlled video games in individuals with traumatic brain injury were included.

**Results:** 4 articles were found to be eligible using the inclusion and exclusion criteria, three using the use of Xbox Kinect and one using the Wii for the intervention. Overall three articles scored highly on the appraisal tool and one article score poorly. Two of the studies used the berg balance scale while the other two studies used the community balance and mobility scale. All articles showed significant improvements in balance using motion-controlled video games ( $p < 0.05$ ) but there was no significant difference between conventional therapy and motion-controlled video games ( $p > 0.05$ ).

**Conclusion:** Balance can be significantly improved using motion-controlled video games within individuals with traumatic brain injury. However, there is no significant difference between using the motion-controlled video games and conventional therapy. Further studies need to be conducted to increase the reliability of the results

**Name:** Catherine Henderson

**Faculty** Health and Social Sciences

**The effect of simulation-based training on registered nurses' interprofessional communication skills; a review of the literature.**

Patient safety is at the forefront of nursing care, yet ineffective communication in healthcare continues to cause harm or death to patients. Nurses and Doctors are trained in very different communication styles, nurses are more descriptive, whilst doctors use headlines. These differences can create communication barriers that may lead to misunderstanding, omissions or inaccurate information shared. Healthcare has looked to learn from other safety critical industries where communication has been identified as a key cause in adverse events and found they use simulation, which attempts to recreate real life scenarios without risk of harm, to enable learning by intent rather than by chance. This review seeks to examine the literature asking "What effect does simulation-based training have on registered nurses' interprofessional communication skills?" A review of the literature was carried out searching databases Science Direct, CINAHL complete, MEDLINE complete, Education Source, PyscINFO and SOCINDEX with full text. Only peer-reviewed articles written in English between 2009 and 2019, that contained a focus on registered nurses interprofessional communication skills were selected, resulting in six papers for inclusion. Two themes were identified: team communication and debriefing. Simulation training was found to be an effective platform for improving communication skills, whilst debriefing enables nurses to recognise areas of strength and weakness in communication, facilitating improvement leading to better teamwork and patient safety. There is a considerable amount of research available regarding the use of simulation in undergraduate nursing training, but little on its use in continued professional development of registered nurses.

**Name: Christopher Tivey**  
Sciences

**Faculty:** Health and Social

**Influential factors in the physiotherapy management of people with dementia: A qualitative literature review from physiotherapist's perspectives**

**Background:** Dementia is a term used to describe a collection of symptoms, including deterioration in memory, motor skills and cognitive functioning. An estimated 50 million people worldwide have dementia, with around 10 million new cases every year. Physiotherapists aim to maximise the functional capabilities of those living with dementia.

**Objective:** The aim of this review is to determine and summarise themes associated to physiotherapists views of the management of people with dementia.

**Method:** A systematic search across five data bases (Academical Search Ultimate, CINAHL Complete, MEDLINE Complete, ScienceDirect and SocINDEX) was performed in October 2019. A qualitative checklist from the critical appraisal skills programme allowed a review of methodological quality of the studies. Thematic synthesis was completed in the development of analytical themes.

**Results:** 235 studies were identified from the initial search and screened against the inclusion/exclusion criteria, providing a total of six qualitative studies for this review. Collaborative person-centred care, discover their potential, education and experience, and challenges of dementia care are all views highlighted by physiotherapists in the management of people with dementia. Physiotherapist education and experience has an influential positive effect managing this population.

**Conclusion:** Physiotherapists education and experience of adopting person-centred care, significantly benefits overcoming the challenges associated to people with dementia. Incorrect judgement of rehabilitation potential in this population can have long term therapeutic consequences. Future research should expand views of physiotherapists managing people with dementia in various clinical settings, identifying common barriers and facilitators to improve this population's quality of life.

**Name:** Emily Robins

**Faculty:** Health and Social Care

**"I volunteer therefore I am?": Narratives of identity amongst foodbank volunteers in Bournemouth..**

This detailed, ethnographic research project explored the meaning of volunteering for volunteers. Current literature focuses volunteers' identification with narratives of altruism and selflessness, but has given less attention to how people transform their own sense of self through voluntary action. The aim of this research was to investigate how volunteering became a means of reconstructing and redefining oneself.

My research was located in a foodbank in a central location in Bournemouth. The research entailed 30 hours of participant observation over a 9 week period, and incorporated 4 in depth qualitative interviews with participants from a range of socio- economic backgrounds including those who had used foodbanks, been or were currently unemployed, individuals on benefits and those with mental health issues.

This study's findings show that volunteering enables participants to transform their sense of self and identity. Major life challenges led research participants to volunteer at the foodbank, with many facing social stigma about their pasts and their presents. My analysis found that volunteers experienced a desire to feel accepted by society and volunteering was a means of reconstructing self-esteem and self-respect. By reinventing themselves and using volunteering as a key main source of identity, volunteers combatted earlier feelings of social marginalisation and exclusion.

**Name:** Elisha Skinner

**Faculty:** Health and Social Science

**Are orthotic helmets an effective form of treatment for reducing cephalic index and improving brachycephalic severity in infants?**

**Background:** Brachycephaly is the flattening of the back of the skull which subsequently results in the head widening. Cephalic index (CI = cranial width divided by length x 100) is a quantifiable outcome measure used to determine the severity of condition. Infants with brachycephaly are more at risk of developing further medical complications and developmental delays. Orthotic helmets are an intervention method for treatment however, the effectiveness of the intervention is not clear.

**Objective:** To synthesise and review the literature regarding orthotic helmets and their effectiveness of reducing cephalic index and improving brachycephalic severity in infants.

**Method:** A systemic search of Academic Search Ultimate, eBook Academic Collection (EBSCOhost), Education Source and MEDLINE was completed in October 2019. Quality appraisal was completed using a modified version of the Downs and Blacks quality checklist.

**Results:** Five articles met the inclusion criteria. Cephalic index was measured before the initiation of helmet therapy and after completion. The duration of intervention, type of orthotic helmet and sample size differed between the studies. The results found helmet therapy to be more effective

on infants with a higher severity of brachycephaly. All studies showed improvements in CI, however only three studies highlighted statistical significant difference in their results.

**Conclusion:** Despite methodological flaws, there is moderate evidence to support the effectiveness of orthotic helmets improving cephalic index and brachycephalic severity in infants. Future literature should include populations from a variety of countries and of a larger sample size to improve the transferability of conclusions.

**Name:** Kathryn Hayward

**Faculty:** Health and Social Sciences

### **Exploring the experience of military athletes who must restart training due to lower extremity stress fractures**

**Introduction:** My research explores the experiences of military athletes who were forced to restart their military training due to stress fractures of the lower extremity. Stress fractures are the most common injury affecting military personnel. Stress fracture rehabilitation is lengthy and causes complete disruption to the progression of training for the affected individual; these injured athletes are removed from their recruit group and must complete their training with a different group of peers once rehabilitation is complete.

**Methodology:** This qualitative study will investigate the lived experience of military recruits through the thematic analysis of semi structured interview data that explores their training, injury and rehabilitation experience. A small number of participants have been recruited for this study, to allow the participants words to be given primacy in the write up.

**Results:** Having already completed my literature review I have received ethical approval for data collection to start in January 2020. Whilst this research is inductive, I anticipate the participant stories will present varied and extreme reactions to having to take time off and restart training, as suggested by the literature.

**Implications:** Few studies exist that use the British Military as participants. Qualitative studies of this population are near non-existent. This research will be the first to give space for the emotions and experiences of these athletes. This research can be used to explore how recruits might be supported if they should sustain a stress fracture injury during their military training.

**Name:** Nicky Hewitt

**Faculty:** Health and Social Sciences

### **Dementia Friendly Sensory Stories for Planned Surgery.**

People with dementia can find hospitals a frightening and confusing place, and become more confused whilst there, according to carers and family members. One quarter of UK acute hospital beds are occupied by people who have dementia (Dementia Statistics Hub 2019), a significant proportion of hospital patients, and these patients often have longer, more complex discharges and poorer outcomes.

Our group of four Adult Nursing students carried out a service improvement project aimed to support people who have later stage dementia and are going to hospital for a planned surgical procedure. Our product aimed to introduce this group of patients to some of the common sensory experiences they would encounter in hospital, so that it is not such an unknown environment. The product we created was a sensory story, with accompanying props, to be lent to patients and their families at the point of pre-assessment. When used with people who have dementia, sensory stories have been found to be therapeutically effective, reducing confusion,



anxiety and stress levels. So, a product that might reduce stress levels, improve hospital experiences and outcomes, is advantageous.

**Name: Noor Issa Al-Maashari**

**Faculty: Health and Social Sciences.**

**Degree programme:**

**Undergraduate, Bsc (Hons) Nutrition.**

Rationale and aims:

To date, there is limited research investigating the association between academic stress and the nutritional intake of college students. The few studies previously conducted in this area were mainly focused on students of certain vocational courses including medicine, nursing, and social sciences. This makes the results of such studies inapplicable on students of other courses.

Moreover, the British Dietetic Association (BDA) has recently reported that around 3 million people in the UK are either malnourished or are facing the risk of malnutrition (BDA, 2019), which means they are not getting the needed amount of nutrients from food. This could be due to different physiological and psychological reasons in which academic stress might be one of them, but research to date has not yet determined if there is a direct relationship.

In addition to that, a publication published by the National Health Service in England (NHS England) in 2019 has reported that 64% of people were overweight or obese.

Such nutritional imbalances may lead to more complex health issues including Anorexia and Bulimia.

Aside from eating disorders, there has been no detailed investigation on the effect of academic stress on the cognitive abilities of college students and how it links to their dietary intake. For this reason, there is a need to address the issues caused by these interconnecting factors by demonstrating a study to better understand their connection and effects. This study aims to investigate the effect of academic stress on both the nutritional intake and cognitive abilities of Bournemouth University's students.

## **MANAGEMENT**

**Name:** Natalie Steele

**Faculty:** Faculty of Management

The Age of Convenience

The focus will be positioned around our everyday lives, and how we are **constrained by time and money**; where **lower cost, speed and ease (of use/consumption)** are key factors to comforting our hectic daily routines. It has been accepted that the consumer will seek out the fitter decision, upon purchasing goods and/or services when taking time and money into account.

Researching into this further, will pinpoint systems that have evolved to save valuable commodities of time and money – reflecting **the age of convenience**. Examples of said systems being same day deliveries, the ability to obtain transport, food, drink and entertainment at a touch of a button. Systems reducing time it takes to travel to the destination, finding a car parking space, waiting in the checkout lines, making the choice of payment etc.

Convenience put aside; this presentation will investigate into how we, as consumers, **favour the short term goals whilst overlooking long term sustainability** - Together with outlining the impacts on a macro scale (**litter pollution, global warming and climate change**) together with

noticeable changes towards **personal relationships, psychological wellbeing and physical health**) as a result of the change in our purchase and decision making behaviours.

Methodology:

The passion and focus for this investigation was triggered upon reading similar studies relating to retail convenience stores; and how they must stay in line and evolve to comply with the continuing demand for convenient purchasing.

My objective is to explore, and highlight the environmental, social and economic impacts caused by these purchase decisions. I intend to use the well-known delivery icons UBER (eats, travel) and Amazon as case studies.

**Name:** Paul-Ovidiu Feder  
International Hospitality Management

**Degree programme:** BA (Hons)

**Sustainability in the hospitality industry: Management and Innovation within the Food and Beverage department of luxury hotels**

In recent years, sustainability has become an important topic considered throughout the entire world. The importance and need to implement sustainable practices in order to achieve sustainable development has been discussed and emphasised by different researchers throughout the years.

This research focuses on the sustainability practises found in the luxury segment of the hospitality industry, focusing particularly on the Food & Beverage departments within luxury hotels. The research explores sustainable practises that are already implemented within the Food & Beverage department of luxury hotels and reviews innovative approaches that could be introduced in order to enhance the sustainability level of the luxury segment of the hospitality industry. Furthermore, in order to achieve the aim and objectives of the study, primary research is conducted under the form of semi-structured interviews with Food & Beverage managers and directors of luxury hotels. Throughout these interviews the present implementation of sustainable practises will be analysed and interviewees are questioned regarding the possibility of improving the sustainability level within the organisations through introducing more innovative sustainable practises.

The findings developed through the primary research are compared and critically analysed in comparison with present good sustainability practices. Whilst it is too early to be explicit in the conclusions, the original aim of exploring innovative alternatives that luxury hotels could implement to enhance their sustainability levels whilst preserving or improving quality standards is expected to be met.

**Name:** Rhianna Puddifant

**Faculty:** Management

**An Exploration of millennial identity in the beauty industry**

The purpose of this project is to explore the extent of diverse representation within the beauty industry, how beauty standards have informed this, and what the effects are of this for millennial identities from varying ethical backgrounds. The importance of this research is to recognise why

diverse representation is still an issue in mainstream media, and how this can affect diverse millennials from identifying with beauty brands which they are exposed to via various media streams. Due to the history of beauty and the standards which have been set, it has become evident how the western perception of beauty has been idealised over ethnic perceptions which has been distilled into the beauty industry. Social Identity Theory suggests people have a natural tendency to identify with others whom they see as similar to themselves; the underrepresentation of diverse ethnicities within the beauty industry deters millennials from non-western backgrounds to identify with brands within the industry. This project will explore how millennials from various ethnic backgrounds believe they can identify with a range of different brands, and whether they believe beauty standards have informed the amount of diverse representation. Considering the project methodology, a group of female millennials will be asked questions regarding the representation of diverse ethnicities in the beauty industry, from both a western and ethnically diverse perspective in order to determine whether a specific group identifies greater with the market.

**Name: Brandon Verschoren  
Management**

**Faculty: Department of Sports and Events**

### **An autoethnographic exploration into the relationship between 'critical incidents' and my sporting experiences whilst in the foster care system**

Being in foster care provides its own set of unique challenges, being taken away from biological parents is a traumatic event which placed me in a vulnerable position. This research aim is to conduct an autoethnographic study into my own life as a foster care leaver and how the trauma suffered during my 14 years in the care system have affected my sporting activity levels by outlining critical incidents throughout that time. This will be done through a timeline which is a popular method used among social workers, this is intended to pinpoint critical incidents to help analyse if there were changes in my sporting habits during those critical incidents identified. I am conducting this research now as I am in the unique position of being a care leaver who is a final year student: a situation that is only 6% of all foster care leavers achieve. The literature within the field of foster care leavers and sporting activity is severely lacking. Using an autoethnographic approach will allow me to celebrate the story that is unique to my personal circumstances and will allow me to be the voice of those who are often unheard within this fragile population. In addition to this, my research would provide a different perspective to enrich the information within a complex field.

While my story is limited to memories of recent events. Old documents that were written closer to the time of critical incidents will be utilised, in addition to open-ended interviews with former foster care parents to add depth and richness to the research.

**Name: Ellie Strutt**

**Faculty: Management**

### **The Need To Belong As A Motive For Female Veterans To Attend WoVeN.**

Any aspiring event planner should understand that in order to design an event, which will satisfy the target segment, that it is imperative to understand the needs of that target segment. Female veterans are a minority. With only 14.9% of the veteran population being female, these veterans often experience unique additional difficulties when transitioning from military to civilian life. Throughout this research I therefore set out to understand what motivates female veterans to attend support groups such as WoVeN, a weekly support group for female veterans only based in

the United States, what is required to satisfy this motivation, and how the event can tailor its marketing mix to satisfy this motivation. Through reading journal articles, military papers, and news reports it was clear that these veterans craved the need to belong. A need which arises as a result of losing their sense of belongingness during the transition process from regular personnel to civilian. Using Baumeister and Leary's' 1995 Belonginess Hypothesis two requirements to promote belongingness could be identified. That interactions with others must be a) frequent, and b) pleasant. With an understanding of these requirements in relation to female veterans', suggestions such as running an adjacent group for the support network of the veteran to combat negative interactions between them and the veteran them could be put forward. Overall, women are the fastest growing group of veterans. Therefore, we must continue to review and adapt current practices to ensure these support events continue to meet their need of belonging.

**Name: Georgia Sharpe Faculty: Faculty of Management**  
**Police and Security Services in Events: Is enough protection offered for 18-25 year old UK music festival attendees?**

Attendance at UK music festivals exposes young people to many risks. This is an important issue to research and tackle, due to the nature of music festivals becoming increasingly popular for the younger generation to attend over the past decade. Therefore, the threats at these events are more prevalent than ever, highlighting certain safety issues such as; terrorist attacks, drugs, alcohol and gang activity.

The purpose of this project is to research whether enough protection is offered to young UK music festival attendees. The aim is to highlight whether the protection offered is affecting the experience and perception of the event, such as creating a negative atmosphere and also if it is adequate enough for the attendees.

This journal article will use the methodology of questionnaires and interviews to collect the data as precisely as possible from attendees and event volunteers. Hopefully this journal article and collected data will aid event co-ordinators and security services during the process of developing their music festival, in order to make it both desirable and safe for attendees, eliminating as many threats as possible.

**Name: Sonia Sciamdibian Faculty: Faculty of Management**  
**The Impact of Artificial Intelligence in the Luxury Hotel Industry**

The focus of this research is on the impact that the developing sector called Artificial Intelligence (AI) has had and is yet to have on the luxury hotel industry. With technology being present already in numerous everyday tasks (Mazars, 2018) being realised by trends such as chatbots, mobile apps, robots, Virtual Reality and Smart products, the aim of the research is to analyse how the use of AI can affect guests, associates and businesses in luxury hotels.

Having the hospitality industry dedicating 9% of its total spend on technology advancements (Kelly, 2019), the research intends to discover to what extent the luxury hotel sector will be able to take advantage of advanced technologies. This is particularly pertinent considering they are called to deliver a personalised experience to their guests with 33% of luxury travellers expecting to be treated as special individuals (Kelly, 2019).

The topic will present not only benefits but also threats deriving from the use of AI through giving real time examples from this sector of hospitality industry. With secondary research from existing literature, primary research will be conducted via targeted interviews with personnel

working in three London luxury hotels. A full analysis and evaluation of the results will provide answers on what the future holds for AI's progression in the luxury hospitality industry.

**Name:** Tilly Christmas

**Faculty:** Management

### **Research into whether enjoyment is a motivation for grieving adults to attend events**

Events are becoming increasingly prominent within society; it is therefore important that an understanding is developed on how events can be useful in aiding society in ways other than recreation. This research establishes a theoretical review of existing research to establish a link between grieving and events. The research purpose was to look at the human need of play, taking a focus on enjoyment and how, through the application of Csikszentmihalyi's Flow Theory, it can motivate grieving adults in Kubler-Ross's stage of acceptance to attend an event and how this aids them in recovery. To do this the research focused on the London Acroyoga Festival. Flow theory states a number of requirements which must be fulfilled before the individual feels enjoyment. When considering grieving adults, the most relevant requirements are willingness to participate, the focus on the activity, and the balance of challenge and skill. Understanding the relevance of these three requirements, why grieving adults need them and how an event can fulfil them allows us to understand how events aid in the recovery of grief. The research found that the requirements needed to achieve flow were related to advice which grievers receive. The research has concluded that for people experiencing the last of the five stages of grief, certain events which allow for the fulfilment of flow can aid in recovery.

**Name:** James Platt

**Faculty:** Faculty of Management

### **A holistic study exploring the perceived relevance and effectiveness of Bio-Banding within Elite UK football academies.**

Bio-banding is the process of grouping players based on biological maturation markers such as size and strength, as opposed to chronological age (Cumming et al, 2017). Its usage is being explored increasingly within elite sport in relation to the development of young football players in elite UK football academies and the perceptions of various stakeholders (Reeves et al, 2018; Bradley et al, 2019), and into the effects that bio-banding has on the physical and technical performance of players (Abbott et al, 2019). Current research suggests identification of benefits and risks associated with using bio-banding in the development of elite youth sport (Malina et al, 2019). Building on this research, this study aims to explore perceptions and experiences of implementing a bio-banding culture from a range of multi-departmental support professionals involved in elite youth sport. Taking a qualitative approach, semi-structured in-depth interviews with approximately 3-5 individuals who have worked as part of a multi-departmental professional support team will be conducted. Maximum variation sampling will be employed to recruit a range of disciplinary perspectives and roles. Data will be recorded and transcribed verbatim. Thematic data analysis will be conducted to identify themes that emerge and translate across departments followed by a critical discussion of implementing a culture of bio-banding from various perspectives. Findings will be used to help us to better understand how bio-banding is experienced in practice and to inform those wishing to implement a bio-banding culture in elite youth sport. Potential areas for further research will be suggested.

**Name:** Michael Thompsett

**Faculty:** Faculty of Management

## **Ignorance vs. Investment: A qualitative study to evaluate a sports coach's espousal of pre-match superstition.**

The adherence to many superstitions and rituals within the world of sports suggests that appropriate preparation prior to competition extends beyond the ordinary. Sports continues to witness the manifestation of superstitious and ritualistic behaviours, despite their underlying complications. This study establishes a sports coach's views of superstitions and the potential impact these unfamiliar behaviours have upon their contribution. Whilst athletes tend to deploy these types of behaviours, due to the belief that it will enhance their performance; perhaps the implementation of superstition amongst coaches has been somewhat overlooked. A qualitative study has been employed, complemented with the use of in-depth one-to-one interviews, to determine the level of approval a sports coach exhibits for the preparation methods adopted by their athletes. Current research has identified coaching efficacy as the extent to which coaches believe they can influence the learning and performance of their athletes (Feltz et al. 1999). Further research also justifies the purpose of this study, due to the advances made in understanding the concept of coaching efficacy, as a strong predictor of athlete behaviour and satisfaction. As they realise the importance of their role, upon completion of the relevant item(s) within the Coaching Efficacy Scale (CES) (Feltz et al. 1999), this will assist coaches in their appraisal of superstition, in support of their athletes. Ultimately, this exposure will offer the coaches greater reassurance, when an athlete engages in superstitious behaviours during an event. The coach's contribution will no longer be disregarded, in their pursuit to develop self-driven athletes.

**Name: Kyana Shyanne Gani**

**Faculty: Faculty of Management**

## **The impact of service design on a state of flow: improving customer engagement at pop-up events**

The events industry has grown over the past decade and continues to at a rapid speed. This presents a need to focus on the improvement of service design of pop-up events to maintain the attention of attendees, to succeed.

"Flow Theory" was developed by Mihalyi Csikzentmihalyi in the 1990's, which was based on the concept that consumers fully immersed within activities were able to temporarily escape their everyday lives. However, this could only be achieved with appropriate measures. For example, if a task was too challenging, consumers are more likely to be distracted and not fully immerse themselves. Furthermore, there had to be a sense of urgency, which could not be easily put aside like engaging in a hobby. This study sets out to investigate the impact of service design on a state of flow and improve customer engagement at pop-up events.

The methodology followed a qualitative method, which included walk along interviews with ten participants aged 18-25 whilst they attended the Bournemouth Winter Wonderland (BWW) and interviews post-event. These uncovered opinions and reactions to the service design.

Collected evidence showed that service design impacted upon attendee perception of the event. These opinions related to their ability to connect to it on a physical and emotional level. The analysis enhances that the event created negative effects, as too many distractions were found to allow full immersion. Therefore, design elements of the BWW need to be improved for consumers to reach a state of flow. The key recommendations are to have more interactive design elements for adults, as currently there are no real elements that challenge consumers to a level that allows them to reach a state of flow.

**Name:** Rachel Alexander

**Faculty:** Management

### **University marketing from the student perspective**

University dropout rates are on the rise causing significant concern amongst universities. With this in mind, a research study was piloted with the goal of finding the root causes of these attrition rates and what could be done by universities to better market themselves to stop this. Whilst conducting preliminary research through further reading, it was found that mental health related issues played a large role, this was mainly because of uninformed decisions in the application process leading to a poor fit between the university and student. This led to many students not being able to find social happiness with the majority moving away from home for the first time, therefore resulting in effects on their work. Following this discovery, it was key that primary research conducted to find the gap in system during the marketing and application process.

Therefore, a cross-sectional mixed study was conducted by distributing surveys to participants aged 16 – 39 (Generation Z and Millennials), however, particular attention was placed on Generation Z due to them forming the majority of students. Findings showed that the marketing tactics currently used focus predominantly on millennials leading to a reach to the target market. Subsequently, an interview with the marketing manager for the Faculty of Management at Bournemouth University was undertaken to discuss how the university feel they can improve their reach and targeted advertisement.

This resulted in a comprehensive understanding of how universities could better market themselves and allowing a concept marketing campaign to be drafted.

**Name:** Sam King

**Faculty:** Faculty of Management

### **The Re-Emergence of the Dual-Threat Quarterback and are they Here to Stay?**

The Quarterback (QB) is one of the most important and dynamic roles in American Football due to their “responsibilities and direct impact on the outcome” (Brooks, 2015) . The position requires a powerful arm to produce throws down field along with keen vision to produce plays under pressure. In today’s game it has become more about a physical style of play. Players in a majority of positions are “bigger and stronger” in today’s game, this is based on the demands of their roles changing (NFL Operations, 2019). The increased physicality has brought a physical game on offense and quicker defences with more emphasis on the blitzes. There are two types of Quarterbacks, Pocket Passers who rely on passing in the pocket behind the offensive line. Dual-threat quarterbacks are more versatile being able to escape the pocket and the pressure from a blitz to produce throws down field and runs. There was a gap in the research market for this topic and through SPSS the aim was to discuss and compare the data collected from the NFL website analysing statistics between pocket passers and Dual-Threat quarterbacks comparing their successful rush yards and passing yards along with how successful that makes the team looking at their win percentage. The Baltimore Ravens who finished with 14 wins attempted 176 runs with a total of 1,206 yards and passed 401 times and gained 3,127 yards. The Carolina Panthers finished with 5 wins and attempted 32 runs only gaining 106 yards and passed 489 times gaining 3,322 yards.

**Education in India**

Entrepreneurship is indispensable for economic development through creation of new firms, which in turn, create jobs and knowledge (Audretsch et al 2019, Acs et al 2018) An expansion of entrepreneurial activity is an economical goal, specifically for developing countries. Existing literature indicates the significance of culture, education and the institutions in shaping entrepreneurial activity in India (Audretsch et al 2007). In terms of primary research telephone interviews have been conducted with programme leaders of 10 reputed colleges in India to establish the current scenario of entrepreneurship education in India. However, these factors differ critically across nations (Apricio et al 2016, Bergi et al 2019). Institutions play a key role in quantity and quality of entrepreneurship. (Acs et al 2008, Apricio et al 2016, Urbano et al 2019).

There has been on-going debate as to whether entrepreneurship can be taught (Harrison, 2014). Despite the debate on its impact, entrepreneurship education has gradually earned a global reach even in developing countries (Arthur et al., 2012). There is some scant scholarly work on entrepreneurship education within India, which calls for deep conceptual insights on effectiveness of entrepreneurship education in Indian context (Basu 2014). However, there remains little understanding on the role and impact of entrepreneurship education in a developing country like India. This study aims to investigate pedagogies in entrepreneurship education and their effectiveness in India. Through mixed methods, we aim to provide insights on the varied pedagogies used in entrepreneurship education in India and effectiveness of these pedagogies. The finding of the study will inform higher educationists, academia and policy makers to evaluate prevailing pedagogies in entrepreneurship education for future generation of entrepreneurs.

**Name: Sinem Velettin****Faculty: Faculty of Management****How London Fashion Week can build a stronger relationship with their consumers through digital marketing.**

London Fashion Week (LFW) is a clothing trade show that takes place in London twice a year, in February and September. Showcasing over 250 designers to a global audience of influential media and retailers, It is recognised as one of the top 4 fashion weeks. Attracting over 5,000 press members and buyers who spend over £100 million in orders, as well as bringing in £32.3 billion to the UK GDP in 2017.

Consumers are demanding more connectivity to these events, and therefore brands continue to find new ways of hosting meaningful experiences which are fully immersive for the audience. The purpose of this project is to research consumers' minds and take an in-depth look at the influence of LFW. It is to investigate how LFW may cause consumers to invest in the fashion market and explore the potential uses of social media platforms that designers can utilise to connect to consumers in more innovative ways.

This dissertation uses the methodology of interviews as well as questionnaires to analyse data from designers, LFW attendees and people who have an interest in fashion, and from that, develop a deeper understanding of what a designer needs to do to offer immersive experience to their consumers through digital marketing. The importance of this study is to analyse



consumer behaviour within the fashion industry as it is an ever-growing industry influencing the UK GDP.

**Name: Terri harvey**  
**Management**

**Faculty: Faculty of**

**“Ways of seeing sport coaching violence”: Exploring how sport coaches experience an explorative audio-visual art installation on abuse and coach-athlete violence in elite sport.**

This study seeks to explore the use of arts-based learning as a means of educating and engaging sport coaches on inter-personal violence (IPV) in sport. IPV is a topic that has gained attention both in research and the media. However, little is known regarding the processes of educating coaches in this area. Therefore, to increase awareness of IPV in sport, this alternative method of education has been trialled. The installation was displayed at Bournemouth University as part of the ESRC Festival of Social Science 2019. Showcasing data from Kavanagh (2014; 2016) on the maltreatment of adult athletes in high performance environments. The room combined audio-visual material allowed coaches to interact and immerse themselves in the space as they wished. With ethical approval, a two-phase qualitative, multiple method approach was adopted. Post-event questionnaires were administered to capture coaches' immediate reactions to the event, along with being offered the opportunity to take part in follow-up interviews (in February 2020). 60 participants experienced the installation, 31 completed the post-event questionnaires. Preliminary analysis of the questionnaire data is ongoing but shows that 97% of respondents had not previously experienced a workshop of this nature, and all respondents believe that this style of workshop was a beneficial method for bringing the topic of IPV in sport to life. In summary, there is preliminary evidence to suggest that an art-informed method of learning has efficacy as a coach education tool, both surrounding the topic of inter-personal violence and for bringing to life other potentially challenging topics.

**Name: Amy James**

**Faculty: Management**

**Empowerment as a motive for lesbian tweens**

Empowerment is a psychological motive that can be strongly linked to sports participation, it stems for the basic need for autonomy. Although many strides have been made in the way of inclusion and acceptance over the past decades, lesbians still suffer an injustice in sport based on 'lesbophobia', a term depicting the discrimination they receive as a result of their gender and sexuality. Empowerment is linked towards disadvantaged social groups, with lesbians facing issues such as mental illness, discrimination and lack of control over their own lives. This rising concern is of importance surrounding lesbian tweens as a group. Football has proven popular as a sport for lesbians given it being welcoming and accepting. A literature search was used to conduct this research, focusing on topics around empowerment, sport and lesbians/minority groups. Then, secondary research was used to look at the requirements for lesbians and how the Manchester FA futsal Festival could market towards their needs. Therefore, this research aims to

show how empowerment is a motive for lesbian tween girls to attend the Manchester FA futsal Festival. The Football Association hosts this futsal festival, aimed at young girls. The research first analyses the requirements needed for empowerment, focusing on coaching. Using the requirement of coaching to enable empowerment of lesbian tween girls brings the research to its final step, describing how this information can help build a suitable marketing mix that the FA could use, focusing on the marketing elements of product and price.

**Name: Ella Pierpoint**

**Faculty: Faculty of Management**

**The role of social media marketing in encouraging brand loyalty and improving brand experience for luxury automotive companies.**

In recent years, the traditional transactional approach to marketing has been challenged to the point where a number of authors have suggested a “paradigm shift” is occurring, this shift is called relationship marketing. Brands are increasingly using social media as a method of relationship marketing. The question is, is it actually effective at encouraging brand loyalty and improving brand experience for these brands? A number of brand studies show that there is a positive outcome from social media brand-consumer engagement. However, there is a significant gap when it comes to researching into the impacts of social media engagement on specific industries. It is essential to research

into the luxury industry as it is complex, competitive and facing remarkable growth, with luxury automotive manufacturers playing a crucial part. A large number of vehicle manufacturers have seen the development of a closer relationship to the consumer as a solution to increased industry competitiveness and falling sales volumes. The hope is that by focusing on this it will lead to greater brand loyalty and improved brand experience between brands and consumers. This research collects qualitative data from ten semi-structured interviews with UK consumers of luxury automotive brands. Participants are asked to reflect on specific experiences surrounding luxury brands social media. This allows analysis into whether these luxury automotive companies should be focusing on the use of social media as a form of relationship marketing to create further brand loyalty and enhance brand experience with customers.

**Name: Zlatina Karamanova**  
**Management**

**Faculty: Faculty of**

The positive impacts of sport are widely recognised, developed and promoted in England by Sport England primarily. The backbone of delivery though, are sport volunteers, and their numbers appear to be gradually decreasing. This research will investigate the motives, expectations, rationale and satisfaction of university students, who volunteer through a university organised volunteering organisation.

The project is a comparative ethnographic study concerning the experiences of student volunteers who volunteer to run community sporting events and will use Bournemouth University RELAYS volunteer organisation as a case study. The ethnographic element relates to the author’s personal experience as a RELAYS volunteer, and her position as an ‘insider’ is important to inform and understand participants’ experience of volunteering whilst studying at university. The study will examine how the author’s perception has been shaped throughout.

The research is a comparative study between two focus groups being students who have continuous engagement in volunteering, and those who no longer volunteer. The experience of being a sport volunteer will be examined in terms of the notion of social capital, and how this

form of social capital is directly interchangeable to economic capital as student involvement in volunteering is directly linked to professional development, thus potential career progression. The research is aimed to have a practical implication that will consist in examining the findings and informing the creation of specific guidelines aimed at enhancing student volunteers experience and ensure the long- term engagement of RELAYS volunteers.

Posters:

**Name:** Abbie Williams

**Faculty:** Management

### **Coach and Practitioner Experiences in Managing Performance Blocks**

Research into the sudden loss of previously automatic movements is beginning to flourish; despite previous disparity across the sporting arena (for example, the yips in golf and lost move syndrome in gymnastics), the term 'performance blocks' is now widely accepted in describing the temporary and sudden loss of motor and cognitive control that is manifested as frozen movements (Bennett et al. 2015). Nevertheless, existing literature remains anecdotal, providing a wealth of detail into the symptoms of the athlete, but little on the experiences of coaches and practitioners involved in the support of the athlete through the debilitating affliction. Therefore, the aim of the research is to explore coaches' and practitioners' experiences of performance blocks, in which a biopsychosocial approach will be adopted in ensuring a holistic analysis. An inductive, qualitative analysis will be undertaken through a series of semi-structured interviews, asking elite gymnastics coaches and practitioners of their current understanding of the disorder, their previous experiences in attempting to manage these experiences, and where the gaps lie in the current understanding of performance blocks. Following analysis, guidance and recommendations will be provided to the coach and practitioner, in the hope of assisting their crucial role in preventing and managing experiences of performance blocks. Overall, the present research will contribute remarkably to the academic field; firstly by offering a much deeper understanding of performance blocks, and secondly by offering vital practical implications to the coach and practitioner in the elite environment.

**Name:** Portia Page

**Faculty:** FM

### **The Link Between Tourism UGC Review Sites and Employee Engagement.**

User Generated Content (UGC) review sites, e.g. TripAdvisor have become a valuable resource for tourists when researching their holidays. But the use of UGC content by the tourism industry has been relatively under-researched, specifically as a tool for employee engagement. Employee engagement is a newly emerged term which has developed from the connections between organisational commitment and employee motivation (Beardwell and Thompson, 2014). It is crucial in improving employee performance and retention, which are important issues within the tourism and hospitality industries (Czarnowsky, 2008).

Academic research has found key factors influencing tourism and hospitality employee engagement are career progression (Briscoe et al, 2012), leadership (Vazirani, 2005), and organisational culture (Margaretha and Saragih, 2008). The relatively new practice of UGC reviews as an employee management and engagement tool has yet to be fully examined. Therefore, this study aims to address this research gap by investigating the link between tourism UGC review sites and employee engagement, focusing specifically on the holiday park sector.

This study is based on empirical qualitative interviews with holiday park employees and managers to investigate the use of UGC reviews as an engagement tool and its impacts on employee motivation and wellbeing. Preliminary findings indicate that employers use UGC as a reward-based incentive. Whereas, the impacts of UGC on employee engagement were varied, with some employees finding the UGC reviews encouraging to perform better, whilst others had feelings of disheartenment and lacked self-esteem. The findings show that the use of UGC reviews can have various effects on employee engagement levels.

**Name:** Alexander Lechev

**Faculty:** Faculty of Media and Communication

### **Towards a Digital Epigraphic Database**

In this project I present the UI prototype for a digital epigraphic database (a database of ancient inscriptions). The aim is to explore how such a database could be established in the future and what problems and challenges it should address. The Prototype combines aspects of a digital catalogue of inscribed artefacts with 3D objects that have been digitised from the original artefacts using photogrammetry (photo scans). The aim is to provide users with an interface that allows them to access a digitised (3D scanned) version of the artefact that can be interactively rotated and inspected. This feature would help academics in the fields of archaeology, history and epigraphy and supply them with more visual information than provided by existing systems, which they can then work with. The prototype application consists of a menu system roughly modelled after some of the UI information of the Heidelberg Epigraphic Database. The menus allow the user to access artefacts from a Roman province and inspect their 3D representation while simultaneously displaying a relevant set of information, facilitating a more holistic user experience. The 3D objects were generated by photo scanning actual epigraphic monuments and reconstructing them digitally.

**Name:** Lotta-Maija Nurmela **Email:** **Faculty:** Faculty of Media & Communications

### **How do the three adaptations of “The Unknown Soldier” illustrate the ideas and functions of collective memory?**

My dissertation looks at the Finnish war epic *The Unknown Soldier* (Linna, 1954) and how the three film adaptations (Laine, 1955; Mollberg, 1985; Louhimies, 2017) illustrate ideas and functions of collective memory. It explores adaptation theory and national cinema as functions of collective memory. These ideas are contextualised through providing historical and socio-political context as well as a discussion and analysis of the significance of the texts in the Finnish society.

This humanities-based dissertation utilises a textual approach. My primary research consists of researching collective memory, adaptation theory and national cinema, specifically Finnish and Nordic cinema. In addition, this stage includes conducting textual analysis of the emotion and characters of the three film adaptations of *The Unknown Soldier*, as well as reading the original novel. After this, the findings are merged, to illustrate how the films are examples of functions of collective memory. Where the 1955 film is considered the starting point for Finnish collective memory regarding the text, the 1985 film is used to explore ideas of adaptation in relation to retrieving collective memories. On the other hand, the 2017 film is an example of the text's significance within Finnish cinema. I have chosen this topic because as a Finn I want to find out why a text recounting such a tragic and traumatic era in my country's recent history is celebrated and regarded as a classic even today.

**Name:** Siân Venables  
Communication

**Faculty:** Media and

### **Interactive visualisation of medical imaging data for trans-disciplinary diagnostics training.**

Medical imaging techniques such as magnetic resonance imaging (MRI), computerised tomography (CT) and ultrasound allow us to visualise a variety of information related to the human body. This data is typically visualised as two-dimensional renderings of different cross-sectional planes. Three-dimensional visualisation of this data, for both clinical and academic use, has been approached previously in a variety of ways (e.g. as surfaces, volumes, or point-clouds), each technique having benefits and limitations. This paper applies graphics techniques such as point-cloud rendering, multi-window visualisation and user interface design as a proof of concept for a web-based learning tool. The tool is intended for the trans-disciplinary training of medical students and practitioners, focusing on the user's ability to relate abstract cross-sectional images back to more traditional three-dimensional visualisations of anatomy. Additionally, the design was approached using techniques that could allow the tool to be more widely distributable than some existing three-dimensional learning applications – this includes methods for improved view-port interactivity and efficiency of data storage. The findings of this work suggest that the visualisation methods explored could enhance the teaching of diagnostics if implemented through a suitable platform with improved user interface design and a more apt approach to pre-processing. While this study utilised MRI data, conclusions have been made that this would be more applicable to ultrasound training, where freedom of movement is more interactive/abstract and not limited to orthogonal views. The potential successes and limitations of this concept are presented with suggestions of where this research may be developed further.

**Name:** Meijia Wu

**Faculty:** Media & Communications

### **A Feast for the Eyes – Visualising flavour-to-vision synaesthesia**

Food-to-vision synesthesia is an uncommon neurological phenomenon where the flavours of food and drinks can induce visions or feelings of shapes and colours. In this project I aim to understand this condition better, and find a way to create an artefact to visualise the abstract phenomenon of food-to-vision synesthesia, for the purpose of education and raising positive awareness.

My project consists of three parts: 1) understanding synesthesia, 2) visualising synesthesia, and finally, 3) the making of the final artefact. In the first part I plan to gain a contextual understanding of synesthesia through existing studies, as well as conducting first-hand participant study with real synesthetes to collect more qualitative results regarding their individual synesthetic experiences. In the second part, I attempt to redesign food items based on the results collected in part 1; after reviewing and comparing several existing art projects done on flavour and synesthesia. I choose to create my artefact in the form of 3D-printed sculptures to bring a more intimate and believable visual experience. In the final part of my project I sculpt,

print and paint the 3D models, with the exploration of 3D sculpting techniques, the printability of designs, printer settings, as well as the final preparations for a potential exhibition. This project is innovative and insightful because synesthesia is not yet widely known or studied, and the research to find a method to visualise an abstract neurological phenomenon in the form of a physical artefact is also challenging and could bring inspirations for food packaging.

**Name:** Ella Deeley  
Care

**Faculty:** Health and Social

### **An Autobiography of the experience of a university tennis player returning to competition post injury**

My project will be focussed around an Autobiography of the experience of a university tennis player returning to competition post injury, which forms the basis of my dissertation which also includes a systematic review of the literature. The autobiography focusses on my experiences as a tennis player, starting at age 5 and follows my journey as I competed and trained at the highest level and the injuries and challenges I faced along the way. As well as the injuries suffered, the autobiography also highlights the personal challenges of growing up as a junior athlete; as I talk about trying to achieve the somewhat impossible work life balance.

Having conducted a systematic review of literature, six key themes were identified as factors which influenced a tennis players' return to competition from the eight papers analysed, the six themes being; Tennis-specific injuries, Training Load, Pre-injury performance and factors effecting RPT, Holistic Approach, Risk Factors and Future Research. The literature review conducted using Bournemouth University MySearch and the British Journal of Sports Medicine, identified a gap in the literature as none of the papers focussed on the overall experience of a tennis player returning to competition post injury but instead focussed on just one or two factors that either positively or adversely contributed either the injury itself or the rehabilitation process. Therefore, by conducting research on the overall experience; my research can be used by not only Sports Therapists/Physios but coaches and parents in order to guide junior athletes when experiencing injuries.

**Name:** Henry Fitch-Bartlett

**Faculty:** Hss

### **Evaluating the Citizens Advice Hate Crime Project**

The Citizens Advice Bournemouth Christchurch and Poole (CABCP) Hate Crime Project was introduced in January 2019 to increase reporting of hate crimes in the local area. I worked on a placement on the project and helped to promote increased reporting. There were 564 hate crimes reported in 2017/18 and then this figure increased to 726 in 2018/19 showing an increase in hate crime and reporting. This poster presents findings from my undergraduate dissertation on the BA Sociology programme, which involved conducting questionnaires with Citizens Advice advisors who were dealing with reports of hate crime.

A reason why I want to evaluate the project is the government (Building a Stronger Britain) gave a grant to Citizens Advice (BCP) to help fund this project meaning it would be interesting to see how this has helped the project and to see what types of hate crimes are being presented. I would be creating a qualitative survey, which hopefully 10 to 15 advisors would answer. This is because they are the heart and soul of the organisation and the advisors are they on the frontline. The questions are discussing thoughts and feelings about the project but also understanding

what types of hate crimes are being reported. I will be going to Citizens Advice and give my questionnaires out in the Monday briefing and will collect once they have all been completed.

**Name:** Hannah Hindley

**Faculty:** HSS

### **The effect of muscle vibration on gait and balance in patients with Parkinson's disease.**

#### Background

People with Parkinson disease (PD) experience festination, freezing of gait, bradykinesia, increased rigidity, postural instability and decreased proprioceptive ability. These symptoms consequently affect gait and balance in a person with PD. Substantial research has been conducted into the effect of whole body vibration on gait and balance in PD; however less research has been focused on specific muscle or tendon vibration.

#### Objective

To explore the effect muscle vibration has on gait and standing balance in people with PD.

#### Method

These databases were searched from inception until September 2019: MEDLINE complete, academic search ultimate, ScienceDirect, British Library Document Supply Centre inside Serial and Conference Proceedings, PsycINFO, Complementary Index, SPORTDiscus with full text, J-STAGE, CINAHL Complete, Networked Digital Library of Theses and Dissertations and ClinicalTrials.gov. Bias of articles was assessed using the Downs and Blacks critical appraisal tool with one question modification.

#### Results

After exact duplicate removal 28 articles were screened, of these, nine were included in this literature review with a total of 140 PD patients. Studies focusing on whole body vibration and those that had no significant markers within PD groups but only between PD and non-PD were excluded. It was found that stride length, walking velocity and speed can increase as a result of muscle vibration; however, this was not tested in severely affected patients and more research is needed. Studies regarding muscle vibration and its effect on balance highlighted that severely affected patients had a larger response to muscle vibration than those moderately affected and age-matched controls.

**Name:** Holly Ostler

**Faculty:** HSS

### **Does the cervical lateral glide reduce pain in the treatment of neural tissue related cervicobrachial pain? A literature review.**

**Background:** Cervicobrachial pain (CP) is a prevalent medical condition which describes neck pain with associated referred arm pain. Potential sources of referred pain include articular or muscular structures and irritation of neural tissue. Cervical lateral glide (CLG), a chosen treatment of CP, is a neural tissue mobilisation designed to use gentle oscillatory movements of the tissues or structures surrounding the affected neural tissue, to alleviate pain.

**Objective:** The main aim of this review, is to synthesise the literature of randomised controlled trials in order to establish the effectiveness of the cervical lateral glide in reducing pain in patients with neural tissue related CP.

**Methods:** Two online systematic searches of EBSCOhost and PubMed were conducted in September 2019. Critical appraisal was completed using the PEDro appraisal tool to establish the quality of the studies.

**Results:** A total of seven randomised controlled trials met the inclusion and exclusion criteria and were included in the review. Overall, all studies identified a decrease of pain in patients with CP following the application of the CLG. The studies used various pain outcome measures, such as the Visual Analogue Scale, Numeric Rating Scale of Pain, and Short-Form McGill Pain Questionnaire. Two studies favoured other interventions in the treatment of CP, such as upper limb neural tension test utilising median nerve and non-steroidal anti-inflammatory drugs.

**Conclusion:** The studies used in this review suggest that the CLG neural mobilisation is an effective treatment in reducing pain in patients with neural tissue related CP.

**Name:** Heidi Piper

**Faculty:** HSS Physiotherapy

### **Can Physical Exercise for People With Dementia or their Carer help to decrease caregiver burden?**

**Introduction:** Dementia is a global disease with an estimated 46.8 million people diagnosed and is projected to increase to 131.5 million by 2050. Caregivers of people with dementia (PWD) tend to feel the effects of dementia, resulting in emotional distress, financial strain and social restrictions. Therefore, there is a requirement for caregiver focused interventions to help elevate caregiver burden. Generally, studies have hypothesised that physical exercise (PE) may slow down cognitive impairment, and in doing so as a secondary outcome reduce caregiver burden.

**Objective:** To determine if physical exercise for people with dementia or their carer can help decrease caregiver burden.

**Method:** A systematic Boolean search strategy was conducted with key terms and their synonyms into a search of thirteen databases (MEDLINE Complete, Library, Information Science & Technology Abstracts, OpenDissertations, PsycARTICLES, PsycINFO, SocINDEX with Full Text, SPORTDiscus with Full Text, ERIC, Education Source, CINAHL Complete, Academic Search Ultimate and Web of Science) in October 2019, to identify relevant studies.

**Results:** Seven studies were suitable for review. These included two randomised control trials (RCT), a pilot study on a single group, two pilot study RCT's, an RCT secondary analysis and an open trial. These were critically appraised using the Down's and Blacks appraisal tool. PE interventions were analysed and outcome measures for caregiver burden reviewed.

**Conclusion:** There is limiting evidence to suggest that physical exercise for a PWD or their carer helps to decrease caregiver burden.

**Name:** Jonathan Wat  
Sciences

**Faculty:** Faculty of Health & Social

### **Can acupuncture reduce pain in patients after a knee replacement operation?**

**Introduction:** Pain affects daily activities and quality of lives after discharge. Effective pain relief is a challenge after a knee replacement operation. Managing pain is proven to be key in improving rehabilitation progress. Acupuncture is proven to be effective in pain relief in knee pain. However, no literature review has been done on this topic.

**Objective:** Investigate the possibility of applying acupuncture in reducing pain in patients after a KR operation.

**Method:** A systematic search was conducted on EBSCOhost and Web of Science. six studies were retrieved using inclusion and exclusion criteria, and were quality assessed using a critical appraisal tool.

**Results:** Five Random controlled trials (RCT) and one observational study were included in this review. The studies showed conflicting results, where four studies showed positive results and



two showed negative results. Outcome measures includes Visual/verbal pain analogue scale, amount of analgesia, and time of first analgesia.

**Conclusion:** There is conflicting evidence to support the use of acupuncture in reducing pain and improving function in post-operative knee replacement patients. No optimum acupoints and frequency can be drawn from this review. A better result was found with longer duration of acupuncture.

**Name:** Katie Herbert

**Faculty:** HSS

### **How has a young individual with Cerebral Palsy experienced exercise?**

**Introduction:** Cerebral Palsy (CP) is the most common physical disability of childhood, effecting an individual's capacity to move, and negatively impacting on their psychological processing. My research will explore whether these limitations impact upon the ability of an individual with CP to participate in exercise.

**Methodology:** A qualitative approach will be taken, using a general inductive approach. Data collection is planned for January 2020, through a semi-structured interview with an individual with CP, currently participating in sport. The interview is scheduled to include questions relating to the individual's sporting participation, to enable an in-depth insight of their experiences to be obtained. Following the interview, data will be transcribed to identify themes as part of the thematic analysis. A cross-comparison will be made between the themes identified from the interview and the literature review conducted prior to this study, exploring how the individual's experiences differ to the current research findings.

**Results:** Whilst the data is yet to be collected, my literature review indicates that emotional, physical, social, and structural factors all have a large impact on sport participation in individuals with CP. These include issues with confidence, as well as biomechanical limitations associated with CP.

**Implications of research:** This research focuses on an under-researched community in sport, namely individuals with a disability who are ambulatory. Whilst data collection has yet to be undertaken, it is anticipated that the needs of this population will differ to those of individuals who are featured in the majority of published research in this field.

**Name:** Kylie Johncock  
Sciences

**Faculty:** Health and Social

### **Is there a change in quality of life and or function in those with chronic stroke following tai chi exercise?**

#### **Introduction**

Stroke is a major health problem in the United Kingdom affecting approximately 1.2 million people, resulting in greater than 60% leaving hospital with a disability. Physical impairments detrimentally effect function leading to declines in activity of daily performance and quality of life (QOL). Tai Chi (TC) is a low-impact, moderate-intensity exercise which improves physical function, balance, health and well-being in those with neurological disorders, but there is limited research relating to TC exercise as part of a rehabilitation program for those with chronic stroke.

**Objective:** To explore if there is a change in QOL and or function in those with chronic stroke following TC exercise.

**Method:** A systematic search of the electronic data bases through EBSCOhost, Web of Science and PubMed was conducted, including articles from January 2009 to December 2019. Using the inclusion and exclusion criteria, seven articles were identified and included within the literature review. Studies were assessed for quality using a modified Downs and Blacks critical appraisal tool.

**Results:** A total of 28 articles were identified, and after reviewing with inclusion criteria, seven articles remained for the review. Studies included; randomised control trials, pilot studies, pre and post design, and cluster randomised control trial study. Four studies identified using the 36-item Short Form Health Survey improved physical and mental health following a 12-week TC programme.

**Conclusion:** Moderate evidence identified change in QOL in chronic stroke following TC participation. Improvements were found in function however, studies used different outcome measures to assess function.

**Name:** Matthew Boyce  
Technology

**Faculty:** Faculty of Science and

### **A cyber security assurance system for software supply chains in fintech**

Fintech; the combination of finance and technology, is currently in its third generation. A rush to rapidly experiment and develop technology driven, non-intermediated alternatives to traditional services creates friction with existing stringent global regulations as well as increases the likelihood of cyber-attacks. Both established incumbents and new entrants are expected to manage governance, risk and compliance (GRC) in relation to their application portfolio. This is especially important in relation to the software supply chain due to its significance and its susceptibility to compromise. This creates the question of how to balance both complex and high pace development with appropriate assurance and oversight. The final year project "A Cyber Security Assurance System for Software Supply Chains in Fintech" aims to investigate the problem of securing Fintech's software supply chain and develop a solution that aligns with stringent global Fintech regulations. It will use the agile process to interact with a group of strategic and technical industry experts to develop a GRC management system for securing the Fintech supply chain. The developed GRC management system will encompass the complex and management environment found at both the strategic and operations level. The goal is to provide a system that can support key decision makers within Fintech oversee and manage GRC risks within their application portfolio better.

The SURE conference will provide an opportunity to highlight the problem of securing the supply chain for Fintech software as well as demonstrate the developed prototype of the proposed solution and get feedback from the general public.

**Name:** Natasha Churchill  
Technology

**Faculty:** Faculty of Science &

### **A Cyber Security Awareness Framework for Tourism**

Recently, there is a change in the travel industry with an increasing number of holidaymakers choosing to book their holidays over the Internet compared to face to face bookings. ABTA reported that in 2017, 83% of holidaymakers booked their holidays online. This has led

holidaymakers to fall for fraudulent tourism information through social engineering attacks. Current research shows that the number of holidaymakers booking online will increase due to the continued growth in access to technology, with attacks becoming more sophisticated. Law enforcement agencies struggle to monitor the Internet for criminal activity due to the magnitude of the Internet and involvement of international laws. There is also a limited number of solutions available to the public with agencies only providing basic steps on identifying fraudulent tourism information. Furthermore, there is limited research from scholars on current fraudulent information trends in the travel industry. The poster will be based off my final year project “A Cyber Security Awareness Framework for Tourism”. The project aims to create a framework covering guidelines, methods and policies to help tourism stakeholders identify and respond to online fraudulent tourism information. The poster will cover the threat landscape of fraudulent tourism information in the travel industry along with the current key problems in overcoming the threats. It will also present proposed solutions for addressing the identified threats. Presenting the poster at the SURE conference will serve in highlighting the problem of fraudulent tourism information and getting feedback on the proposed Cyber Security Awareness

**Name:** Sara Dickerson  
Technology

**Faculty:** Faculty of Science and

### **A Contextualized Cyber Security Awareness Framework for Online Romance Fraud**

Action Fraud reported in 2019 that £50 million was lost due to romance fraud in 2018, a 27% increase in monetary loss from 2017, despite an increase in publicity and advice surrounding the issue. This statistic highlights the issue of romance fraud and the need for an effective, defence in depth analysis and framework to assist online dating platforms in combatting the issue and providing targeted awareness and education to customers, whilst maximising usage of the platforms.

There is, however, currently no common tactical approach to increasing romance fraud awareness for users of online dating platforms utilising pull and push techniques.

The project “A Contextualized Cyber Security Awareness Framework for Online Romance Fraud” aims to mitigate the problems of online romance fraud by developing a targeted awareness framework that can be applied to the online platforms for early identification and intervention of online romance fraud. It will utilise existing research and literature, cyber security techniques and a team of advisories consisting of academics and key stakeholders in the fields of online dating and cyber psychology to develop a holistic understanding of the current state of romance fraud. The findings from this research will be used to develop an awareness framework for the early identification and intervention of online romance fraud on online dating platforms.

The SURE conference provides an opportune to present the findings from the research as well as get feedback from the general public on the proposed framework for the early detec

**Name:** Sophie Dunn

**Faculty:** SciTech

**Putting a name to the face: Improving face recognition with biographical information, moderated by recognition ability**

Optimising face recognition ability is important so that efficient strategies can be implemented for person identification in practical settings. Name and occupation are associated with person representation and, when paired with a face during encoding, can improve recognition (Schwartz and Yovel, 2016). When such biographical information is presented with additional perceptual information, including multiple views of a face, it can help to group images of the same identity (Schwartz & Yovel, 2019). Hence with a fuller formed representation of a face, recognition is more effective. Although evidence suggests that additional information can enhance accuracy of face recognition, it is unknown whether individuals with poor recognition ability may reap greater benefits from this than better recognisers. The present study assesses whether improvement in face recognition, when faces are learnt alongside biographical information, can be observed equally in individuals ranging in face recognition ability. Face recognition ability is measured using the Cambridge Face Memory Test (CFMT) (Duchaine & Nakayama, 2006) and Cambridge Face Perception Test (CFPT) (Duchaine, Yovel & Nakayama, 2007). Forty psychology students will complete a recognition task measuring correct identification of old or new faces. Participants will each learn faces presented alone, with face and name information, and with multi-view and performance on this task will be related to performance on the CFMT and CFPT. Research will inform whether the effect of biographical information is modulated by individual differences in face recognition ability.

**Name:** Emily Garrett

**Faculty:** Life Sciences

This study looked to determine the effectiveness of *Helix Aspersa* to act as a biological indicator for cadmium. Cadmium is a heavy metal that is approximately 100x more toxic than zinc, and if present in soil can be consumed through crops. This has potentially led to incidence of Itai - Itai disease in rural Japan, with chronic cadmium exposure occurring through rice consumption.

For the purposes of my research, a sample of *Helix Aspersa* was exposed to varying amounts of cadmium, a toxic heavy metal, in a one month feeding trial. The impact on the snails was recorded through change in mass and the dimensions of the shell, alongside mass of excrement and food consumed. This change over time was documented.

After the feeding trial was complete, a smaller sample underwent histopathological investigation to determine what, if any, damage occurred at a cellular level. The organisms were euthanised according to AVMA guidelines, and a full ethical review was carried out before the investigation began. The pathology showed damage to the cell membrane and nuclei, proportional to the severity of the exposure.

The feeding trial demonstrated that there is notable change in snail morphology after prolonged exposure, with cellular damage most evident after higher levels of cadmium exposure. *Helix Aspersa* proved to be an effective indicator for heavy metal toxicity, however further research would be required to compare the impact of different metals to investigate if it is possible to identify one metal from another through a distinct pattern of injury.

**Name:** Jake Idwal Whelan

**Faculty:** SciTech

**Protecting against stress; Investigating the effect of a superficial protective item on stress reactivity.**

The Trier Social Stress Test (TSST) is a 'gold standard' social stress test used to induce acute stress and gives clues about how people cope with everyday stressful events. Previous research has shown that providing participants with items that are symbolic but meaningful to them such as a 'lucky pen' has been associated with less anxiety in stressful environments. Furthermore, providing participants with an item of 'relevance', such as protective equipment like a bicycle helmet, have been shown to increase risk taking. The effect of using a significant, meaningful item of relevance requires further investigation, particularly under laboratory stress testing conditions. This study aims to examine whether stress reactivity is influenced by the addition of a 'significant' item of clothing made 'relevant'; the goal is to provide insight into reducing an individual's stress level and improving performance within stressful situations. A modified TSST was used to elicit stress within forty students (male = 8 and female = 32) students from Bournemouth University. Participants were randomly assigned to two conditions (control group vs experimental group). The item of 'significance' and 'relevance' provided to the experimental group was a lab coat. Heart rate was monitored throughout the study through a Polar sports chest strap. Additionally, a Stress Mindset questionnaire was completed prior to the TSST, measuring participants attitudes towards perceived stressful environments. Lastly a Likert scale questionnaire was used evaluate participants own subjective performance at the end of the experiment. Results are pending as the study is currently in progress.

**Name:** Ashleigh Francis

**Faculty:** SciTech

**Orbital Observations of Ultraviolet Aerosol Index as a Proxy for Harmful Particulates at Ground Level**

Air pollution is the UK's largest environmental health risk. Inhalation of pollutants has become a serious issue, with the ability to cause both short and long term cardiovascular and respiratory conditions. There is an urgency to develop newer and more efficient ways of monitoring air pollution, specifically that in the form of particulate matter (PM). PM is specifically aggressive in penetrating the human respiratory system due to small aerodynamic diameter, meaning this type of pollution is easily and commonly inhaled. Remote sensing has allowed pivotal development of PM monitoring, and recently this has been extended to the use of proxies. Ground based observations of PM<sub>2.5</sub> and PM<sub>10</sub> were made at 11 different sites in Bournemouth and Poole across 4 days using a Casella 712-CEL optical air sampler. Remote ultraviolet aerosol index (UVAI) data sensed by TROPOMI on board Sentinel-5P, were also obtained for these days with the aim of using UVAI as a potential proxy for PM ground-based concentration. This study concluded a weak positive relationship between UVAI values and PM, with that of PM<sub>2.5</sub> being stronger than PM<sub>10</sub>. This relationship therefore has the potential to be used as a proxy for ground-based concentration of PM, but it is recommended that further research is carried out based on this conclusion, factoring in other influencing variables such as geographic location, meteorological conditions and seasonal cycles before making this a definitive statement.