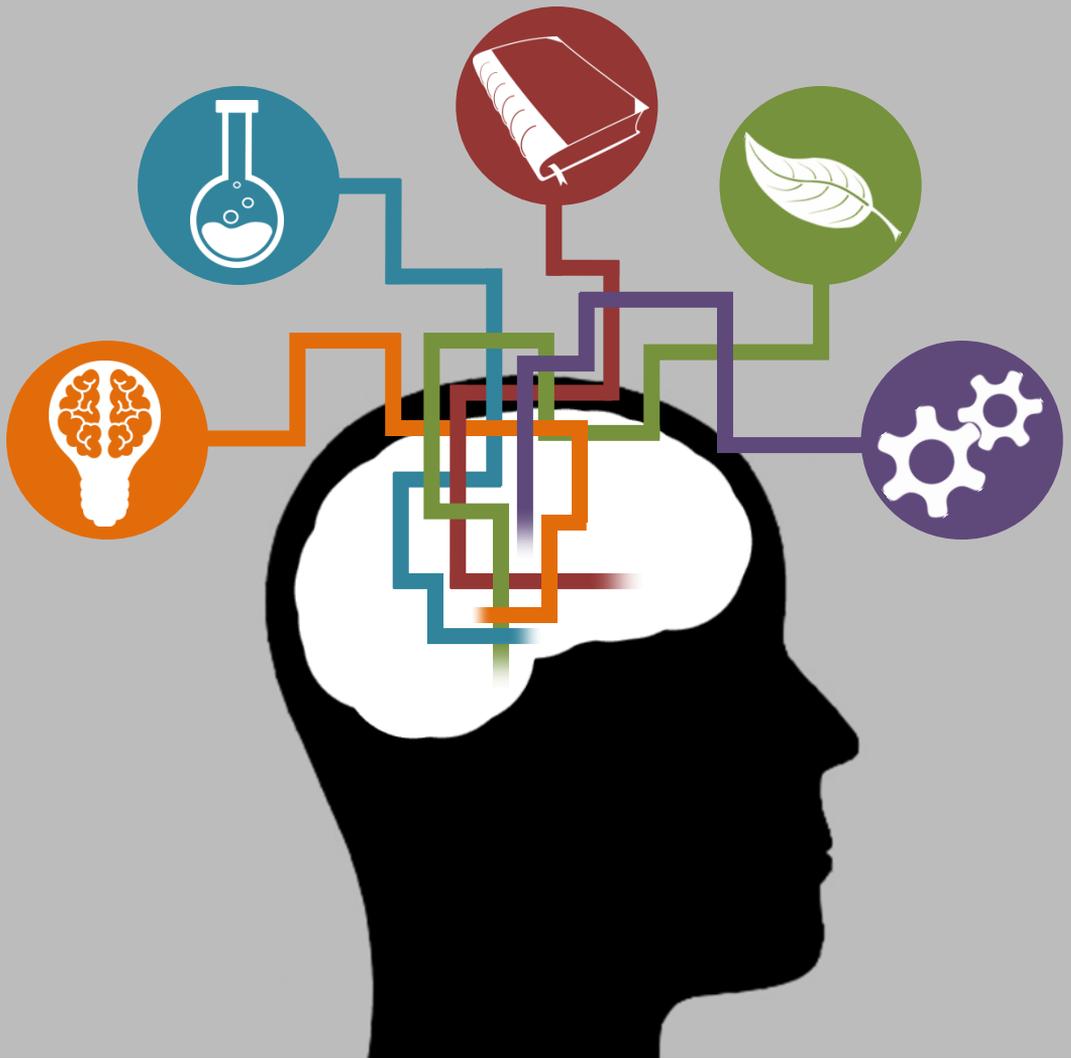


RESEARCH POSTER CONFERENCE 2018

13 June



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Welcome

We are delighted to welcome you all to the University of Birmingham's 12th Research Poster Conference organised by the University Graduate School. The conference is one of our flagship events organised by our institution to recognise the hard work of our postgraduate researchers and aims to provide an opportunity to celebrate the exciting projects undertaken by our researchers from all disciplines across the University.

We would like to thank our postgraduate researchers for taking part in this conference and sharing their research with the wider community. The success of the conference also depends on our judges who accepted our invitation to join us today to support our postgraduate researchers. Without the commitment and enthusiasm of our postgraduate researchers and our judges, it would not have been possible to organise this conference.

We hope that the conference will give you an opportunity to meet and interact with colleagues from different disciplines, share your enthusiasm with our guests and be inspired!

The Research Poster Conference Team 2018

Solin Hamawandy, I-Ju Chen, Charlie Lockwood, Dr. Eren Bilgen

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JUDGING
FORMS RETURN

STAGE

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SEATING

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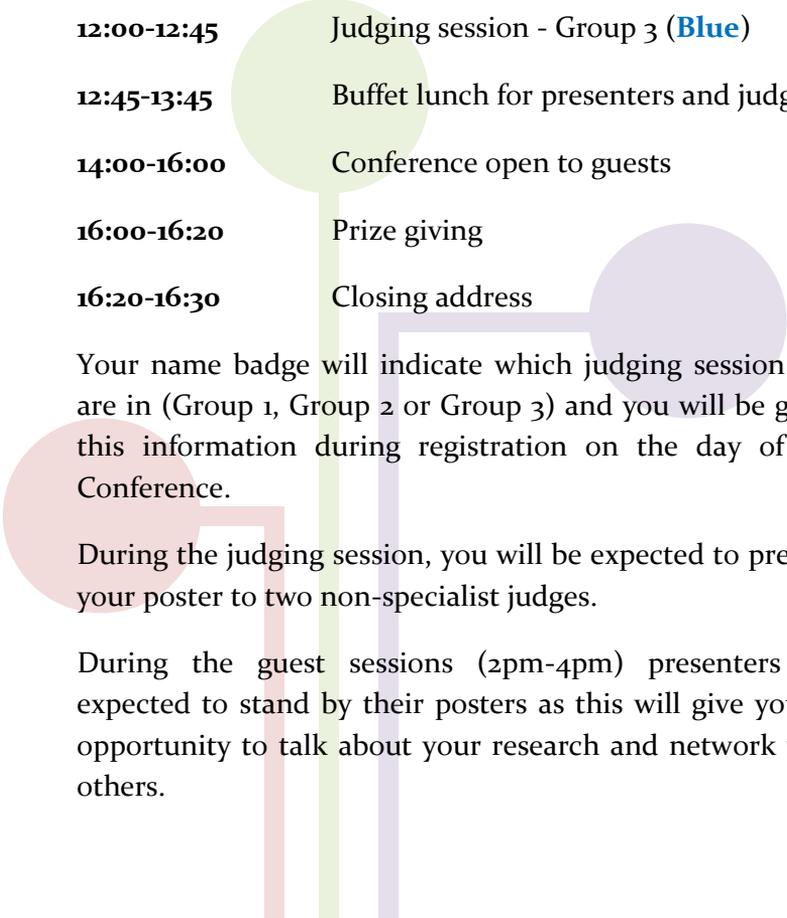
21-24

REFRESHMENTS



Schedule

| | |
|--------------------|---|
| 09:30-10:00 | Registration |
| 10:00-10:10 | Welcome address |
| 10:10-10:30 | Presenters' briefing |
| 10:30-11:15 | Judging session - Group 1 (Yellow) |
| 11:15-12:00 | Judging session - Group 2 (Green) |
| 12:00-12:45 | Judging session - Group 3 (Blue) |
| 12:45-13:45 | Buffet lunch for presenters and judges |
| 14:00-16:00 | Conference open to guests |
| 16:00-16:20 | Prize giving |
| 16:20-16:30 | Closing address |



Your name badge will indicate which judging session you are in (Group 1, Group 2 or Group 3) and you will be given this information during registration on the day of the Conference.

During the judging session, you will be expected to present your poster to two non-specialist judges.

During the guest sessions (2pm-4pm) presenters are expected to stand by their posters as this will give you an opportunity to talk about your research and network with others.

01 **Quantifying Pain: What is the best way to measure pain in people that have experienced musculoskeletal injury?**

Nicola Middlebrook

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Pain is a normal experience following an injury yet, the sensation of pain is complex which makes it difficult for clinicians to quantify an individuals' pain experience. In some people, their experience of pain becomes amplified due to a process of "sensitisation". This sensitisation can be captured in different ways such as the use of questionnaires but also by measuring skin responses e.g. temperature which can change due to increased sensitivity.

In order to be able to use these measurements to inform appropriate treatment, they need to be suitable and valid to use, but also tested for their ability to be consistent when used multiple times on the same person. This review is the first to evaluate different methods to capture the pain experience following injury which will help researchers and clinicians in their understanding of pain processes, and selection of the best tools to capture the pain experience.

02 Part-time, flexible and lifelong higher education in a digital world - A discourse analysis

Adam Matthews

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Part-time higher education is in decline, down 51% in five years. But why? Access to digital materials and the need to learn throughout the lifespan is a necessity of 21st century life. On the face of it, this appears to be the perfect scenario for part-time, lifelong and flexible higher education to flourish. This thesis will analyse the discourse of higher education institutions. I will ask what higher education is for, drawing upon both policy and the philosophy of higher education, comparing with current discourse.

Quantitative corpus and qualitative interpretative methods will be implemented. A variety of texts produced by institutions will be used to understand both implicitly and explicitly how they talk about widening participation and flexible, lifelong, part-time higher education for all.

03 Does teaching communication skills to social work students actually work?

Emma Reith Hall

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Communication is the cornerstone of social work practice therefore it is imperative that student social workers develop proficiency in communication skills, to ensure they are equipped for practice. As a social work lecturer responsible for teaching communication skills at Nottingham Trent University, I decided to form a research team to evaluate whether or not teaching communication skills to social work students actually works. Underpinned by social work values of participation and collaborative working, I formed a partnership with a student cohort and service user educators to design and conduct an action research project into this important aspect of social work education. Originality derives from using a mixed methods approach. A pre-test post-test design measuring self-efficacy revealed that students' confidence in their communicative abilities increased as a result of their training. Interview data revealed that a safe and supportive learning environment were key to achieving success.

04 Investigating the distribution of back muscle activity during a fatiguing task in people with low back pain

Andy Sanderson

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People with chronic low back pain (CLBP) move differently and display changes in the activity of their back muscles, which may have implications for ongoing symptoms. Utilising a novel method to measure the distribution of back muscle activity, we investigated whether people with CLBP engage different regions of their back muscles during a sustained contraction.

Back muscle activity was recorded from 13 people with CLBP and 13 healthy control participants as they completed a timed back extension endurance test until task failure.

People with CLBP sustained the contraction for 95.6s less than the control participants. During the task, CLBP participants showed a lower level of activation of their back muscles and a lower level of redistribution of muscle activity over the task duration. These results show that the CLBP group used a different muscle strategy to perform the task, which may have relevance for ongoing pain and more rapid fatigue.

05 From Powerless to Empowered: the voices of war-affected children in transitional justice

Jeannette Rodgers

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My research will ask how, and why, the meaningful participation of children in transitional justice should be facilitated in post-conflict environments. This will involve the first review of existing provision for children in transitional justice, and the bringing together of perspectives in development studies and law. The lens through which the work will be presented is through the experience of ‘ex-children’ (those adults who, as children, grew up in the shadow of protracted conflict and the transition period that followed). Through interweaving a ‘golden thread’ by way of international child rights, specifically the “right to be heard” (as presented in Article 12 of the United Nations Convention on the Rights of the Child), the project will look at two focus countries with a history of protracted conflict, asking new questions about the way children and youth were affected, and ‘make the case’ for supporting child participation in transitional justice.

06 How the senses turn each other on and off

Wilf Nelson

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Everyday sensations of vision, hearing and touch are processed by the brain's sensory cortices to form our picture of the world. Often these senses work together, but research has observed that unused sensory cortices are shut-down or deactivated, whilst the brain processes stimuli from other modalities. However current research has focused on only one sense's interaction with another, exactly how the brain coordinates this activity with multiple active senses and how it aids sensory perception remains unknown.

We used human neuroimaging (functional MRI/electroencephalography) to measure sensory cortex activity during either mono- or multiple visual, auditory and tactile sensory stimulation and studied how these systems interact. Our aims were to learn the precise neural mechanism for coordinating patterns of sensory activation and deactivation and how attention control locations in the parietal cortex regulate this information processing. These experiments reveal the interconnection across the cortex for even basic sensory processing.

07 Comparisons, Connections and Contexts: Cistercian Monasticism and the Cult of Saints' Relics c.1100-c.1250

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The central contention of my thesis is that twelfth-century Cistercians were as interested in the cult of saints as their contemporaries, but had specific ideas about the role of cults for their communities and the access they were willing to grant to outsiders. The *vita Waldevi* even includes a debate between members of the community at Melrose as to the best burial place for the deceased abbot and the implications of a public cult. The restricted access granted to a small group of lay people fostered an aura of exclusivity around Cistercian saints.

Exploring the materiality of Cistercian devotion, as well as its uniformity across regions and filiation, will contribute to conversations about the evolution of the order and the impact of incorporating other monasteries. Demonstrating the variation in practice, despite the regulations provided by the Chapter, also argues against the existence of an early 'golden age' of uniform observance.

08 China and India: Friends or Foes?

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In 1988, Sino-India security cooperation was restored after decades of deep hostility following the 1962 China-India border war. Yet, in 1998, security cooperation between the two countries came to collapse such that Indian nuclear test, Pokhran II, was specifically targeted against China. What has determined the rise and fall of Sino-India cooperation from the late 1980s onwards? How far can Sino-India security cooperation be re-established in the twenty-first century?

My research builds on the International Relations theorizing on the security dilemma and costly-signalling, and the Political Psychology literature on enemy images. It adopts a mixed-method approach to originally investigate the causal mechanisms promoting Sino-India security cooperation from 1988 to 1998, showing how far these are replicable in the light of the demise of security cooperation from 1998 onwards. It envisages a scope for peaceful interactions between two states whose relationship will be a key determinant of 21st century international security.

09 **Voices from the Periphery: Representations of the Marginalised Female Immigrant in The New Spain (2000-2017)**

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In spite of a move to democracy in Spain, immigrant female representation in recent cultural publication is still predominantly that of the exotic, pathetic or visually fetishistic and specters of paternalism remain in the sociological mind-set.

My research reflects on Spanish immigration law, postmillennial literature and film, discourse analytics, gender history and women's writing in Spain, with a view to establishing how the liminal immigrant female is imagined and represented in an EU-minded postmodern Spain and whether notable indications of progress are visible.

In my thesis I consider: contrasting filmic/ literary representations of female immigrants from China, Latin America and Africa; gender space, identity and social capital; and the limitations of maternity, sexuality and 'otherness.' To set this against the current socio-literary milieu, I explore how key philosophical interpretations may be applied or contradicted in relation to specifically female immigration works.

10 Radiomic Evaluation of Treatment Response in Patients with Glioblastoma: A Pilot Study

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Following treatment, glioblastoma, the most common primary brain tumour initially increases in size. In some, this is temporary and due to treatment itself known as "pseudoprogression" (psPD), rather than true progression (tPD). Conventional MRI scans cannot distinguish between the two; the aim was to identify computer-identified radiomic texture features, not visible to the human eye, which can be used to distinguish between psPD and tPD.

We retrospectively analysed 20 MRI studies (11 tPD, 9 psPD) of patients with biopsy-proven glioblastoma who had standard chemo-radiotherapy treatment and early progressive enhancing disease. Tumour components were semi-automatically segmented for enhancing disease and oedema. Texture features were calculated and statistical analysis was performed. In this pilot study, a number of texture features showed significant differences between the tPD and psPD groups, which could be used for earlier prediction of treatment response, providing more personalised treatment decisions and an improved quality of life for patients.

11 Growing 'Mini Brains' to Help in the Fight Against Alzheimer's Disease

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Advancements in science and technology have led to tremendous improvements in our healthcare, this is reflected in the increasing average age of the population. Ageing is a risk factor for many debilitating diseases and whilst treatments for many have been developed there is still little we can do for those with dementia. Alzheimer's disease is the most common type of dementia and if we are to find an effective treatment we need to gain a better understanding of what causes the degeneration seen in the brain.

Using stem cells to grow clusters of human brain cells we will be able to mimic conditions seen in the Alzheimer's disease brain that are more representative of 'real-life' than current models. We hope to gain a greater insight into the formation and interaction of toxic proteins and how this results in cellular damage.

12 Investigating the relationship between quality of discharge and health outcomes for chronic disease patients in hospitals in India

Claire Humphries

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Poor discharge communications have been repeatedly linked to negative health outcomes in high-income countries. However, there is a dearth of similar research from India and other low/middle-income countries (LMICs). This research investigated the relationship between discharge note quality and post-discharge health outcomes for chronic disease patients. Patients were recruited from three hospitals in India. Surveys covering health status and healthcare information exchange were administered during admission, discharge and community follow-up. The quality of discharge notes varied notably between patients; 31% contained all the information necessary for effectively facilitating care transitions. Failing to receive the following information on discharge notes was associated with an increased likelihood of post-discharge mortality: diagnosis, lifestyle advice, and follow-up instructions. This is the first LMIC study of its kind and has demonstrated that suboptimal discharge is likely to be compromising patient safety. Further study is required to validate the relationship between discharge quality and health outcomes.

13 Reproducing Tornadoes

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A tornado is defined as a violently swirl of rotating air. They can strike without warning and are considered as one of the most horrifying natural disasters known to men. Despite the frequent occurrence of a tornado, little is known about the flow structure of a tornado. This research aims to numerically reproduce tornadoes in laboratory scale. Because the tornadoes are produced in a controlled environment are much smaller in scale, it provides an alternative to study the structure of tornadoes and its destructive nature.

Analysis on the flow reveals several features of tornadoes: thick vortex wall and a turbulent core. The vortex wall outlines the structure of the tornado, while the turbulent core is chaotic with downdraft flows. All the maximum velocity components occurs close to the ground, making the near-ground region very dangerous.

14 (Tele)commuting, Cities, and Weather Conditions... measuring the resilience potential of the 'virtual' commute

Hannah Budnitz

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My research aims to improve our knowledge about how UK commuters respond to weather risk and disruption by changing their travel behaviour and choosing more resilient means, including telecommuting, to access work. The hypothesis is that the flexibility of people's working patterns in the modern economy enables some commuters to respond to severe weather events in a way that minimises their risk and the impact of severe weather on their productivity.

The challenge is to acquire and analyse datasets that can quantify this relationship between weather conditions and travel behaviour, including virtual access, at a sufficient level of spatial and temporal granularity to provide convincing evidence of the validity of the hypothesis for transport practitioners to apply within their modelling and planning for future infrastructure, operations and interventions. This poster explores evidence extracted thus far from the analysis of data on broadband download speeds combined with weather and socio-demographic data.

15 A framework for modelling the impact of extreme winds on engineering structures

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Thunderstorm downbursts are relatively short-lived, extreme events which can result in wind speeds matching those of medium-strength tornadoes. In many areas of the world, downbursts are responsible for the maximum wind speed which must be considered when designing structures (the "design wind speed"). The aim of this research is to develop a framework capable of addressing the wind loading arising from both stationary (normal) and non-stationary (downbursts) winds. In order to develop this framework and ensure its everyday use, there are a number of outstanding issues which this proposed research seeks to address. Namely, very little is known about the downburst climatology around the world and how frequently do downbursts occur and the locations where they occur? This information will be established by interrogating existing meteorological records. In order to develop the framework, an analytical model of a downburst will be developed.

16 Hazardous Weather, Susceptible Infrastructure and Vulnerable Railways

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Weather causes 12% of delays on Britain's railways, they are subject to a multitude of weather hazards and extreme weather events. Current research is not comprehensive and often uses "Delay Minutes"- the delay caused by a fault, providing information on the effect of faults on service but excludes those faults that have not impacted a service or have caused a cancellation. There is a lack of comprehensive analysis so fault data from all infrastructure asset types have been used with a range of associated weather data to identify the role of hazardous weather and its correlation with railway infrastructure faults. Initial results highlighted some of the known effects of high temperatures validating a fault based approach.

Further analysis will improve understanding of known mechanisms and identify additional failure mechanisms. The impact of climate change can be incorporated using probabilistic analysis to inform adaptation planning and improve resilience against future climates.

17 Bible References in Eighteenth Century Novels

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Investigating the presence of biblical references in 'Pamela' and 'Clarissa' by Samuel Richardson, and 'Joseph Andrews' and 'Tom Jones' by Henry Fielding. This will lead to a deeper understanding of how the Bible is used by novel writers in order to appeal to a society obsessed with religious literature. These references take the form of either direct quotations, paraphrases, allusions, and parallels between characters in the novels and those from the Bible. These references are used to indicate a character's morals, in conversations between characters and by the narrator in a world where novels were a new genre and often regarded as debased and amoral. By referencing the Bible, not only does the author sure up their claims to writing a moral story, but also can be assured that their readership (mainly those educated using the Bible and without benefit of a classical education) will understand and interpret them according to prevailing theological opinion.

18 Mapping Fantasy: Examining the Intersection Between Narratology and World Building

Stephanie Katz

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Fantasy literature makes use of subcreated worlds in a unique manner unlike other subgenres of fiction, driving the journeys of the characters and dictating narrative constructs. The purpose of this study is threefold: 1) to analyze the development and use of subcreated worlds and cultures in 21st century fantasy literature, 2) to examine the narrative structure of multi-volume 21st century fantasy series and 3) to identify how subcreated worlds influence narrative structure and reflect 21st century world views and cultural similarities. In doing this, the researcher aims to show the usefulness of combining spatiality studies and topophilia with narratology in regards to how they naturally work hand-in-hand not only in fantasy literature, though that is the chosen focus of this study, but in the broader realm of literature as a whole.

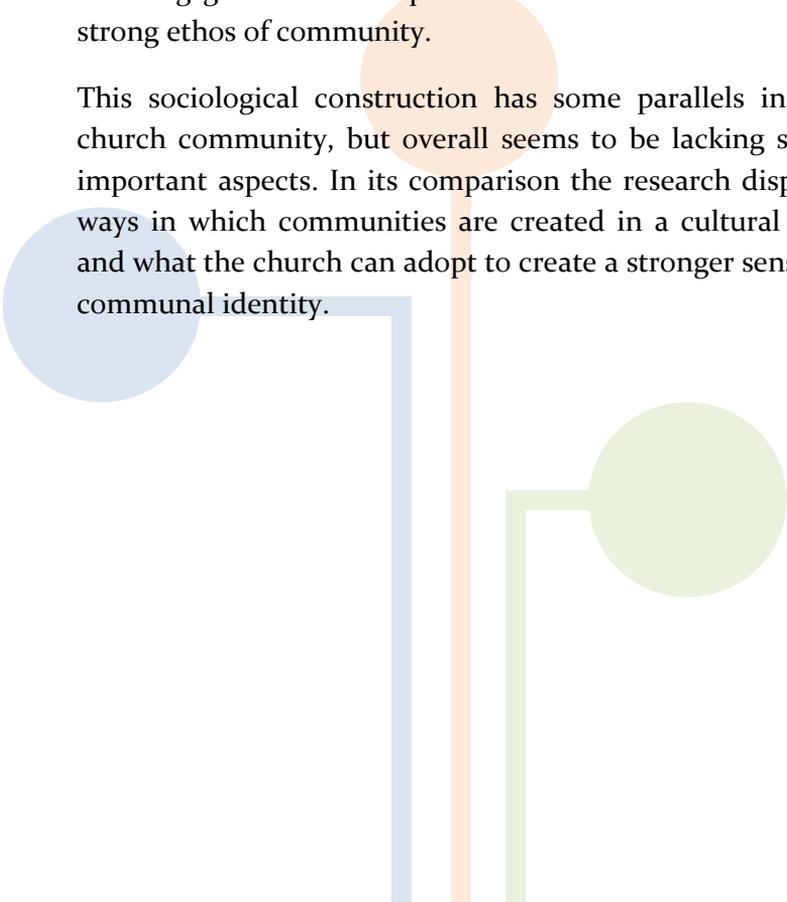
19 **Creating Community: A look at the communal identity of Music Festivals and Church Congregations**

Kylie McCormick

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My area of research looks at the sociological construction of communal identity in a cultural context and if/how this is reflected in a religious setting. Music festivals are a breeding ground for unique tribal identities that create a strong ethos of community.

This sociological construction has some parallels in the church community, but overall seems to be lacking some important aspects. In its comparison the research displays ways in which communities are created in a cultural lens and what the church can adopt to create a stronger sense of communal identity.



20 **A road crash is one to many and many to one: Assessment the road safety system by an overall unique index**

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Road fatalities result in raising the concerns of health, social and economic issues. Therefore, there is a need to assess the performance of the road safety system to recognise warning and take actions early. The main aim of my research is to develop a unique index of road safety performance assessment. The developed theoretical framework of this index is based on the safe system approach, which has been adopted by the WHO and the UN as the most successful guide for road safety management. The concept of 'safe system' considers the effect of the transport elements: road infrastructure, speed, and vehicle in accommodating the human vulnerability and saving road users' life. Based on this theory, a set of indicators are framed, weighted, and aggregated to construct the index which its robustness is tested by comparing the performance index with the real crash rate of a group of countries.

21 Thinking metaphorically: what do language and gesture reveal about thought?

Greg Woodin

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Metaphorical expressions such as 'Cheer up' and 'I'm feeling down' exemplify our use of vertical space to talk about positive and negative concepts. According to Lakoff and Johnson's (1980) Conceptual Metaphor Theory, these expressions reflect thought: we think about good things as being high in space, and vice versa. Gestures produced during speech often align with these metaphors; for instance, a speaker might move their hands upwards when saying 'Cheer up'.

Using the TV News Archive, an online database comprising around one million videos, I am analysing gestures co-occurring with positive and negative metaphorical expressions. Specifically, I am interested in the frequency with which different types of expressions are accompanied by gestures; for instance, by contrasting expressions containing a metaphorical verb (e.g., 'Raise the standards') versus a metaphorical adjective (e.g., 'High standards'). If both language and gesture are products of thought, this research should reveal more about how we think.

22 'The People: Where Will They Go?'- The Green Belt and Britain's Housing Crisis

Charles Goode

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My research is evaluating to what extent reforming the Green Belt and allowing sustainable housing development there is a feasible solution to Britain's housing shortage. This is a very controversial but highly important topic given that the housing crisis is one of Britain's most pressing national problems and high on the policy/political agenda. The study's main aim is to be interdisciplinary as acknowledging the complexity of the planning system, especially its social and political aspects, thus moving beyond the simplicity of traditional, economic housing market models.

Its theoretical frame views the Green Belt as a conflict between 'community' and 'capital' (between homeowners and housebuilders), and will use a range of methods drawing particularly on elite interviews with key stakeholders, questionnaires with planning professionals and focus groups with campaigners. The study's overall goal is to influence the national policy debate on housing.

23 The Edge of Europe. Heritage, Landscape and Conflict Archaeology

Roxana-Talida Roman

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The centenary of the end of the Great War highlights the relevance of WWI sites as places of remembrance and heritage. The Great War reshaped the balances of power, redefined borders, wrote fundamental pages of national history for several states, and concurrently shaped the identity of the land redefining the landscape. Bunkers, trench systems, mine craters were all carved wounds in the landscape, wounds that in time turned into scars giving the natural environment pride and personality, converting space into place.

Although much has been written on the subject, the understudy of the Eastern Front in opposition to the prominence of the Western Front blurred the inseparable relations that exist amongst them, negatively impacting the general knowledge of the war. The war sites hold the capacity to highlight the holistic dimension of the two fronts and to gather fragmented memories, becoming representative in a frame larger than the national state.

24 The Pupil Premium Plus: The Implementation and Effects of Policy for Children in Local Authority Care

Hannah Bowden

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The Pupil Premium Plus (PP+) was introduced in the academic year 2014-15 and provides the local authority with £1,900 per young person who is in local authority care (or adopted). This funding stream is separate from the general Pupil Premium, addressing the achievement gap between looked-after children and young people (LACYP) and their peers. On average, 14% of LACYP achieve 5A*-C GCSEs compared with the national average of ~ 60%. This project takes a critical policy sociology approach to the analysis of the PP+, exploring how the methods by which the money is distributed by government affect the schooling the child receives. The project will explore the effects of PP+ on young people's educational identities, in the context of schooling and wider education policy. This project is important given the lack of research regarding PP+ and of official resources for professionals seeking to use this money effectively.

This project seeks to give voice to the LACYP.

25 See it and reach it

Julia Wolska

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Traditionally, research in behavioural neuroscience focuses on either the cognitive system or on the motor system. However, little research examines the interactions between the two systems. In order to advance our understanding of these interactions, my PhD utilizes a choice reaching task (CRT). It is based on a traditional visual search task where participants are asked to decide whether a pre-defined object is present on a screen (e.g., Song and Nakayama, 2009). However, different from traditional visual search tasks, where participants respond with key presses, participants reach for this object on the screen. These reaching movements are recorded and are assumed to reflect the time course of the target selection process. In other words, the selection process is assumed to "leak" into the motor system (e.g. Strauss et al., 2015). In my PhD I aim to further explore the nature of this "leakage".

26 Evaluating network criticality of interdependent infrastructure systems

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An emerging management problem for infrastructure systems is the increasing degree of interdependency, both geographically and functionally. Should a strategically important asset fail, there is the potential for widespread service performance losses across connected networks. There is a need to identify critical assets and thus the pathways that may result in cascades of failure.

Rail infrastructure depends upon a power distribution system for electric traction. Using a case study for the Cross City railway line and local substations in the West Midlands, novel industry data and information sources are used to identify asset dependencies, before service performance metrics are used to assess and map interdependent network criticality.

Single-network criticality assessment doesn't represent the full spectrum of vulnerabilities presented by the connected network. With limited network management budgets, a criticality layer can inform targeted and efficient resource allocation for the twin challenges of longer-term asset renewals and day-to-day incident response.

27 Why did wind turbine towers collapse? -- A historical case study

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Wind energy plays a decisive role in the global renewable energy development which relieves the increasing demand for electricity. Wind turbines are conceived, designed and operated to interact with the environment including through extreme events. However, engineering malpractices combined with human or mechanical errors and defects of constituent members and materials, still derive in hundreds of structural collapse cases annually. It seems therefore, necessary to reflect on factual wind turbine performance against the target. This poster summarizes the most severe tubular wind tower collapse incidents recorded over the past four decades, makes an account of the damage and discusses the respective potential causes. This research categorized the main causes for wind turbine tower collapse as unexpected load conditions, and chain relationship determined by the design, manufacturing, construction, operation and maintenance, needs enhancement and further cohesion, at the time that our understanding of and adaptation to wind energy harvesting continue developing.

28 Using vetiver grass to clean crude oil contaminated soil

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This research is aimed at determining the effectiveness of a plant in cleaning crude oil contaminated soils particularly the Polycyclic Aromatic Hydrocarbons (PAHs) that are capable of causing cancer in humans. The selected plant (vetiver grass) has resistance to acidic, alkaline and saline conditions and extreme temperatures ranging from -15 to 60 degrees centigrade and also have long roots making it suitable for cleaning oil contaminated soils. The experiments were conducted in a glasshouse by growing the plant in a crude oil contaminated soil under the influence of soil organisms where the contaminated soils were amended with fertilizer to promote plant growth and microbial activities.

It is highly anticipated that the results and findings of this research will help in treating Persistent Organic Pollutants (POP) such as PAHs in the crude oil contaminated soils. Thereby creating a cost effective, environmentally friendly and sustainable method of treating the soil.

29 Does neck pain change the way people move?

Feras Alsultan

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Chronic neck pain is common and more than just 'a pain in the neck,' since it is associated with massive health service and societal costs. Examining changes in the way people with neck pain move can provide essential information to inform clinical practice and novel management approaches to help alleviate pain. In this study we evaluated the variability of active neck movement (including the speed and range of motion with eyes open and closed) in people with chronic neck pain compared to asymptomatic individuals.

The main results of this study revealed that people with neck pain move in a less variable way compared to asymptomatic people. The present findings show the importance of data derived from measurements of neck movement, and the potential these measurements have for providing clinicians with further insight into active neck movement behaviour in people with chronic neck pain.

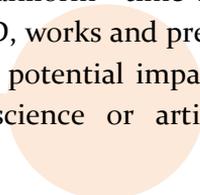
30 eMOTION: Analysis of Emotion and Movement Variability in the Context of Human-Robot Interaction

Miguel Perez Xochicale

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Movement variability (MV) is an inherent feature within and between persons. Such MV can be seen in many activities where human body movement is involved. So, we hypothesise that not only the subtle variations of face expressions but also simple body movements in the context of human-robot interaction activities can be described and quantified using nonlinear dynamics (ND) theorems.

We therefore explain how the uniform time-delay embedding theorem, a technique of ND, works and present both results of our hypothesis and its potential impact in areas such as rehabilitation, neuroscience or artificial intelligence to name a few.



31 Exploring social support within psychosis: a service evaluation of Peer Support programmes

Laura Moreno Galindo

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Human relationships play a significant role in recovery from psychological distress. This study is an exploration of social support and aims to better understand the contribution of social relationships to well-being. It constitutes a service evaluation of the Peer Support programmes in Adult Mental Health services across a NHS Trust.

Participants with psychosis-like experiences produced images in collaboration with the researcher. These images illustrate their relationships, personal meaning and experience of social support during their recovery from psychosis. The analysis explored the understanding of psychological and social needs of Peer Support service users to inform the delivery of mental health services.

Ideally, this will lead to an improvement in recovery from psychological difficulties by providing sensitive, effective and meaningful interventions.

32 **Hearing Non-existent Voices: Resting State Networks in Schizophrenia with Auditory Verbal Hallucinations**

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Auditory verbal hallucinations (AVHs) are commonly seen on schizophrenia patients. Previous studies suggested AVHs are associated with aberrant connectivities within a brain network (e.g., default mode network). However, recent findings regarded to the connectivities between the brain networks are rare and inconsistent. The present study aimed to explore the aberrant connectivities within and between the brain networks toward the causes of AVHs. We asked 14 schizophrenia patients with AVHs and 18 healthy individuals to stay wakeful rest in an fMRI scanner for 10 minutes. The results showed that the schizophrenia patients did not only have a greater connectivity within their auditory network, but also a reduced connectivity between their auditory and salience network. Importantly, the auditory and salience network is responsible in perceiving auditory stimuli and shifting our attention between internal-state/external-world respectively. Altogether, these suggested that AVHs are caused by mis-attributions of internally-generated speech as voices coming from the external-world.

33 Minimally invasive delivery of biologics for the regeneration of orthopaedic tissue

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Orthopaedic tissue regeneration is desired for a number of reasons. Cartilage is unable to naturally heal well, leading to complications for the patient. Whilst although bone can heal naturally, it often does so poorly without intervention.

This project aims to formulate gels that can be used in the delivery of two biological products known as platelet rich plasma and bone marrow concentrate. These products have been shown to aid the regeneration of both cartilage and bone tissue.

Formulation of a gel is desired as it allows any surgical intervention to be minimally invasive, reducing both recovery time and the risk of any complications. Many different gel compositions have been investigated extensively for use within the body to regenerate orthopaedic tissue.

However little work has been carried out to investigate the use of gels for the delivery of these biological products. This work aims to formulate just such a gel.

34 Black, British, Feminist: Creating The Collective Resistance

Rita Gayle

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This research project features case studies of millennial Black women located in Britain who have come together in response to their collective exclusion from the creative and cultural industries. The project will evaluate the politics facing the collectives as they seek to journey from 'exclusion to inclusion' by use of social media platforms to direct online and offline strategies that nurture relationship-building with the general public, charities, cultural agencies and media corporations. The research method used is 'Embodied, Embedded and Everyday' ethnography (Hine, 2015) to analyse and assess the online/offline activities of the collective group case studies. In addition, semi-structured interviews with individual case study members, their audiences and industry commentators will be undertaken.

The research aims to consider the impact of social media on the value of racial identities in British society and to support the ongoing dialogue on bridging the diversity gap in the creative and cultural industries.

35 Influence of Local Air Quality on Short Term Athletic Performance

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Air quality and urban pollution is an increasingly important topic that needs to be addressed. Increasing levels of degrading gases and compounds including nitrogen dioxide, ozone and particulate matter have been shown to contribute to respiratory and cardiovascular distress, neurological, immune system and developmental damage. Consequently, examining how local air quality may influence athletic performance of parkrun athletes over extended time periods will provide a highly useful insight into potential negative impacts of an otherwise 'healthy' pastime. This is particularly relevant if runners are regularly living, training and competing in a highly polluted area. This research utilises data from fifteen parkrun events held within the Greater London area between 2011 and 2016 in association with NETATMO meteorological data and DEFRA Automatic Urban and Rural Network air quality measurements, hoping to highlight relationships between air quality and athletic performance.

36 **Cycling through the trees: Tree-soil-water relations and future climate resilience**

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Water is essential to life on Earth; water abundance in a place, and water requirements of living things, are controlled ultimately by weather and climate. By 2050 say, increased temperatures, atmospheric carbon dioxide (CO₂)/ greenhouse gas content and more extreme weather systems are predicted. Trees are long-lived organisms. In a changing climate they mature in conditions very different from those during germination. Whilst climate zones and topography provide 'natural laboratories' to study changing temperature and water availability, Birmingham Institute of Forest Research (BIFoR) Free-Air CO₂ Enrichment (FACE) facility enables study of changes to global atmospheric composition. This project, at FACE woodland, investigates the role of water, cycling through vegetation, the soil and the atmospheric interface in mature woodland ecosystem patches at ambient and elevated CO₂. It uses direct observations, and remote measures (e.g. of soil moisture and sap-flow) to see how trees adapt and stay resilient under future climate conditions.

37 **People with low back pain become more sensitive to pressure over their back following a repetitive lifting task**

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Chronic low back pain (CLBP) is the leading cause of years lived with disability worldwide. Previous work has shown that some people with CLBP become "sensitised", which may affect their ability to respond positively to exercise. We investigated if pain sensitivity, specifically to pressure applied over the back and hand, is altered in people with CLBP compared to asymptomatic people following a repeated rotational lifting task.

Preliminary results from 12 asymptomatic and 10 people with mild to moderate CLBP were assessed. The CLBP group became more sensitive to pressure applied over their back after the task, which contrasted to the asymptomatic group showing reduced sensitivity. No differences for measurements over the hand were observed. These results indicate that people with CLBP do not gain the same pain relieving effects when exercising their trunk muscles. These findings help to explain why some people do not respond favourably to an exercise programme.

38 Blend Membranes for Hydrogen-Powered Vehicles

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Petrol-powered vehicles release greenhouse gases and damages the environment. Over the past decades there has been an increasing interest and investment for an alternative to the conventional combustion engine. An alternative power generator is the fuel cell, which uses hydrogen and oxygen to make electricity and water. They normally perform at 80°C but can be operated at higher temperatures. However, the polymer membrane used in a fuel cell dries out because of the water evaporation at elevated temperatures. One method to stop the drying of the membrane is to add filler materials that retain water. This work involving blended membranes has not been used at higher temperatures before. We made several blended membranes of different thicknesses with graphene oxide filler and tested them in a fuel cell at different operating temperatures (80°C, 100°C and 120°C). The structure, surface and properties of the membrane were also inspected with different characterisation techniques to understand how this new membrane is enhancing the performance.

39 A Gun of One's Own: Gender Representation in Contemporary Westerns

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This research dissertation deals with issues of gender representation in contemporary film Westerns. The classic view of the Western as a male genre that marginalizes women has been contested in the last twenty-five years. A trend of films has challenged the idea of the feminine as inferior to the masculine within the Western landscape. Reversal of roles, violence, and the exposure of oppression are used as strategies in order to allow the Western to accommodate feminist discourse. It can be argued that the impact of this research can be found within the current political and social debates around feminism, the necessity to equal women's rights to men's, and the pervasiveness of masculine gender violence. Proving a feminist reversal in a traditionally masculine film genre would help it to maintain social relevance, on the one hand; and, on the other hand, could result in some valuable dissemination of feminist ideology.

40 Human rights as "brakes" and "engine" to security: understanding security from the people's perspective

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Terrorism, wars, cyber-attacks, but also poverty, interpersonal violence and climate change: these are all pressing issues that states have to face and that constitute threats to security. Security is routinely mentioned by people, politicians and media. Security appears in domestic laws and international treaties. Despite its importance, it is still not clear what "security" means in legal terms. One of the consequences of this vagueness is that states enjoy great discretion in invoking security, often violating human rights in the name of it.

Can human rights play a role as "brakes" against repressive security measures and as "engine" in driving the state towards ensuring security? My research investigates the role of human rights as a tool to promote people's participation in order to shape security from the perspective and in the interest of those affected by insecurity.

41 Porous bone cement for orthopaedic applications

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Portland cement (PC) is a ceramic bone cement which has been used in dental applications for decades. PCs possess high compressive strength and demonstrate good biological responses, that are generating interest as a potential bone cement for medical applications. The aim of the present study was to investigate the addition of foamed gelatine (FG) to induce macropores e.g. $>100\ \mu\text{m}$ to promote potential bone ingrowth, whilst retaining appropriate mechanical and physical properties for vertebroplasty used to stabilise fractured vertebral bodies. The cements were prepared using a range of powder-to-liquid ratios and FG were added from 1-10 wt% to induce macroporosity during setting of the cement. It was found that FG improved the viscosity of the paste so that it was readily injectable, whilst the total porosity of the cement was doubled by generating plenty of macropores. The compressive strengths of the modified cements were sufficiently high to stabilise the spine.

42 **Understanding changing flood risks, perceptions and responses with shifting Flood Risk Management in the UK and Netherlands**

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Current and projected increases in flood risk have identified traditional structural defences alone are expected to be insufficient. To reduce this risk, there has been a global shift towards Flood Risk Management (FRM). Parallel to this, interests have increased towards flood risk perceptions and their importance towards influencing risk-reducing behaviour, therefore being key during risk management. However there is limited research evaluating whether this FRM shift has altered flood risk perception, having an overall effect on flood risk. Furthermore, recent socio-hydrology model outputs have determined a key link between risk perceptions and awareness, responses to flooding and vulnerability. However these models use theoretical assumptions of flood responses, and therefore may not represent real life or take into account FRM. This presentation will introduce a three-part methodology to investigate changing flood management alongside changing flood risks, public perceptions of flood risk with this change to FRM, and responses to flooding using socio-hydrological modelling, using regional case studies in the UK and Netherlands.

43 **Examining the links between environment and identity in Francophone Caribbean literature and culture**

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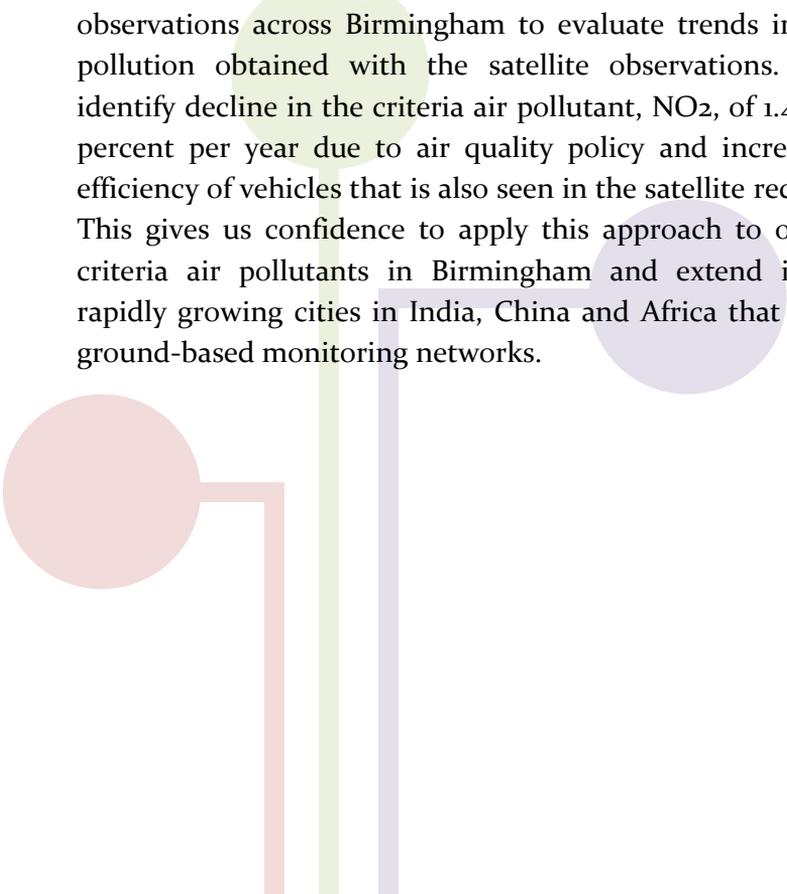
The French and Creole speaking islands of Martinique and Guadeloupe are located in the Caribbean Sea. However, following on from French colonial rule, in which slavery formed the main economic structure, the region became a department of France in 1946. It is not only the people who have been affected by this French colonial rule and postcolonial dependency but also the natural environment and food production methods. Both literary and cultural work by authors Patrick Chamoiseau and Maryse Condé are examined in this research in order to show how the environment and humanity have been, and are still, affected by the same (post)colonial force. This research aims to fill a gap in the research produced about the representation of this domination through literature from the islands that has received little attention in terms of the environment and it aims to show the links between literature, culture, ecology and politics.

44 Monitoring Air Pollution in Birmingham from the ground up

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Air pollution has adverse effects on human health, but it is challenging to effectively monitor air pollution in cities due to budget and location constraints. Satellite observations of air quality provide complete coverage of cities and can be used as city-scale air quality monitors. Here we use surface observations across Birmingham to evaluate trends in air pollution obtained with the satellite observations. We identify decline in the criteria air pollutant, NO_2 , of 1.4-5.8 percent per year due to air quality policy and increased efficiency of vehicles that is also seen in the satellite record. This gives us confidence to apply this approach to other criteria air pollutants in Birmingham and extend it to rapidly growing cities in India, China and Africa that lack ground-based monitoring networks.

A decorative graphic consisting of a large pink circle on the left, a green circle above the text, and a purple circle to the right of the text. Three vertical lines (pink, green, and purple) extend downwards from the bottom of these circles.

45 A multi-functional DNA defender

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Our DNA is under constant threat from a multitude of sources. During cell division, cells must faithfully copy their DNA; perturbation of this process has damaging consequences. Passing on inaccurate information to new cells underpins a spectrum of diseases, such as cancer. DNA also sustains double-strand breaks (DSBs), which affect both DNA strands at the same location and impede vital cellular processes. Robust DNA repair pathways are therefore critical for survival.

We recently demonstrated that the DNA repair protein BOD1L is fundamental in defending against damage when DNA copying is perturbed. My research reveals that BOD1L also contributes to DSB repair. Interestingly, these roles each involve different components of the DNA repair machinery.

We therefore now understand that BOD1L employs distinct means to combat multiple types of DNA lesion. Furthermore, unravelling the complex mechanisms by which cells preserve DNA integrity provides a crucial foundation for improvements in clinical disease prevention.

46 **The complex world of plant growth. Revealing the secrets of how plants regulate and control their elongation via mathematical modelling**

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Understanding plant growth is essential for a future sustainable world. With a growing population there will be a need for higher crop yields as well as plants that can cope with the problems that climate change will bring. There are still many unknowns on what regulates cell growth. Evidence has shown that cells restructure their walls as it ages. We investigate the role of this and the potential mechanism of growth slow down. We use mathematical modelling to calculate the stress of the cell wall to look at changes in the cell wall as the restructuring takes place. We calculate the stress contributions for different components in the cell wall with assuming an elastic (spring) response and incorporating the new biological theories of cell wall structuring. Our results shows reorganisation raises the stress, meaning it's increasingly difficult for the cell to grow and that enzyme's are needed to continue growth.

47 Mines bigger than yours: Responses of leaf-mining larvae to elevated Carbon Dioxide

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Insect herbivory is an important ecological process affecting nutrient flow through forested ecosystems. It remains unclear, however, how insect herbivores will respond to increasing concentrations of atmospheric Carbon Dioxide (eCO₂). The new Birmingham Institute of Forest Research (BIFoR) Free Atmosphere Carbon Enrichment (FACE) facility provides a unique opportunity to investigate these responses for first time in a mature, temperate woodland.

Leaf-mining insect larvae are a useful feeding guild to study these responses as they are sessile, abundant and leave a clear trace of their life history. eCO₂ is known to impact plant C:N and production of secondary metabolic compounds, which is expected to have a direct impact on leaf-miner performance. This poster outlines the results from the first year of CO₂ fumigation on leaf-miner abundance and feeding rate.

48 Optimization of Energy and Traction System For Hybrid Railway Vehicles

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To reduce energy consumption and tackle carbon emissions in railway transport industry, an alternative clean power source is required to address such issues. Trains equipped with fuel cells can resolve this issue, however, with current rate of efficiency of fuel cells, train requires secondary power source as well to perform up to the level of current operational railway vehicles.

This Research presents multiple solutions in form of designing hybrid railway vehicles and optimising them for maximum efficient operational performance. In this process electric multiple units and diesel multiple units were converted into hybrid trains and simulated over typical routes of UK rail network for evaluation of energy consumption and hybridization.

Various optimisation techniques are studied along with battery simulation which are resourceful for devolving a dynamic algorithm for optimisation of energy and traction control system for hybrid railway vehicle.

49 Power reverted: the translation of non-fictional books about post-2003 Iraq from English into Arabic

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In translating a book from a dominating language into a dominated language, an accumulation of cultural capital is claimed to take place, according to scholars like Casanova (2010). However, my research argues that if the books are about the culture of the dominated language, such an accumulation will be neutralised and the power relation will be inverted.

The context of Iraq following the US-led invasion showcases this power relation. Many books about Iraq were written by American and British authors, touching upon its political and cultural life after the war, and were translated from dominating English into peripheral Arabic. This type of translation materialises power relations on three levels: English over Arabic, invader over the invaded, and the source text over the target text. The research demonstrates how these are reversed because the culture covered in the texts is the possession of the target culture, presenting the concept 'retro-cultural translation'.

50 In Visible Ink: Keeping your teaching in your teaching

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Why did you want to become a teacher?

Contemporary primary teacher education is (un)purposefully entangled in myriad, mystical methods, means and ends of how to do teaching; so, how are student teachers meant to discern their own vocation?

This research appraises the work of an initial teacher educator working with student teachers on a Primary PGCE programme. The aim of the research is to stimulate student teachers' recognition of pedagogical discourse in the practice they experience so that they may critically engage with it.

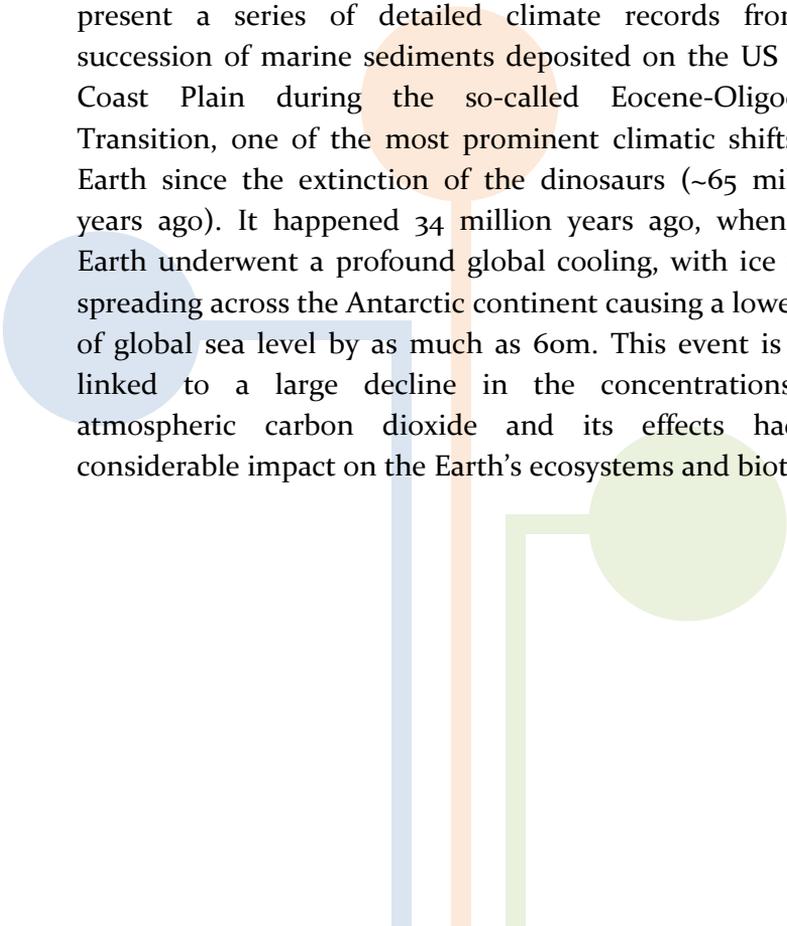
In order to do this, the teacher educator seeks to make his own teaching more visible in his teaching by explicating the reasoning behind the pedagogical decisions made during university-based sessions. This pedagogical revelation affords opportunities for critical reflection on working with vocational values in practice. Stimulating recognition of vocational values in practice opens transformational possibilities for student teachers realising their own vocational values in practice.

51 The dynamics of global cooling

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Although we know the broad features of the global climatic shifts, the detailed timings and relationships between falling carbon dioxide levels, ice sheet growth and the impact on ecosystems is still poorly understood. Here we present a series of detailed climate records from a succession of marine sediments deposited on the US Gulf Coast Plain during the so-called Eocene-Oligocene Transition, one of the most prominent climatic shifts on Earth since the extinction of the dinosaurs (~65 million years ago). It happened 34 million years ago, when the Earth underwent a profound global cooling, with ice caps spreading across the Antarctic continent causing a lowering of global sea level by as much as 60m. This event is also linked to a large decline in the concentrations of atmospheric carbon dioxide and its effects had a considerable impact on the Earth's ecosystems and biota.



52 Ask not what you can do for Africa, ask what Africa can do for you

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During the Cold War, Britain's interest in Africa can be understood in terms of preventing the spread of Communism. After the Cold War, however, the reason for Britain's interest in Africa is less clear.

This research project studies the speeches of British Prime Ministers since 1990 to understand why Britain remains interested in Africa, and how the idea of Africa is used to shape British national identity.

This research finds four themes in these speeches that answer this question. Since 1990, Britain's interest in Africa can be understood in terms of British security, British economy, morality and historical ties.

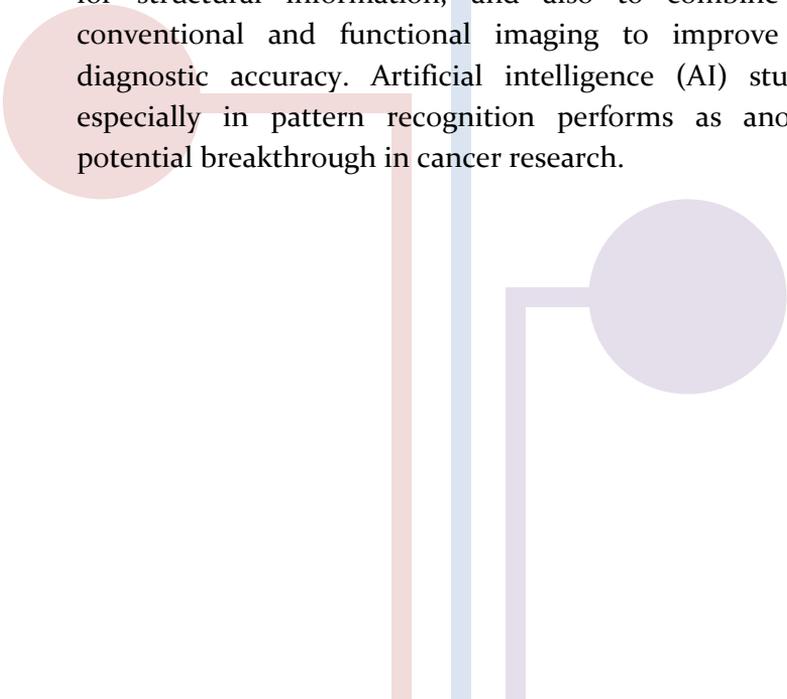
It makes original contributions by using the novel approach of studying Prime Ministers speeches. It also uses longer time period than the current literature, which allows for claims in the literature to be re-assessed - and to look at differences between political parties.

53 Diagnosing paediatric brain tumour through functional imaging

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Brain tumours have become one of the most common causes of child death from cancer. Tumour diagnosis through functional and conventional imaging becomes one of the key methods in recent years, where structural and metabolite information can be used to classify the tumour type. The aim of this study is to design an automatic classifier to diagnose paediatric brain tumour. Associated with the multiple hidden layers in the deep neural network, it is possible to simulate the human recognition procedure for structural information, and also to combine the conventional and functional imaging to improve the diagnostic accuracy. Artificial intelligence (AI) studied especially in pattern recognition performs as another potential breakthrough in cancer research.

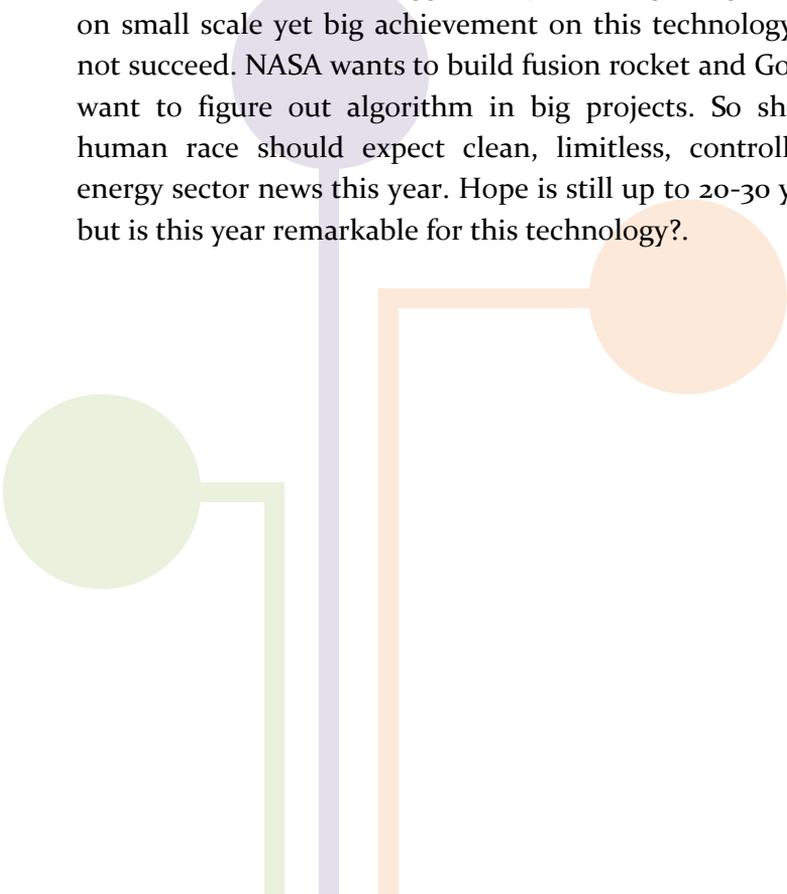


54 2018 - Year of outcome for fusion investment

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There are many public/ private funded groups are available in worlds who had invest in fusion research for e.g. ITER, Tri alpha energy, Lockheed Martin etc. from very long time without knowing success will happen or not. But from last year show some of the biggest projects are getting success on small scale yet big achievement on this technology yet not succeed. NASA wants to build fusion rocket and Google want to figure out algorithm in big projects. So should human race should expect clean, limitless, controllable energy sector news this year. Hope is still up to 20-30 years but is this year remarkable for this technology?.



55 Who said DNA is only a carrier of genetic information ? Processing and characterising a novel self-assembled DNA origami catalyst

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The increasing global energy demands have led to the need for a green and more reliable means of energy generation. Fuel cell technology can help resolve this issue by offering an energy efficient and environmentally friendly means of energy generation. The commercialisation of fuel cells has been hindered due to the high expense of the precious metals like Platinum, which have a fundamental role in the electrocatalysis of the two significant redox reactions that occur in most types of fuel cells. Through the combination of biosynthetic and chemical techniques, this project aims to resolve this matter, by increasing the utilisation and duration of platinum using a novel material known as DNA origami.

The material will undergo various characterizations techniques to determine its physical and chemical properties and most importantly its behaviour as a catalyst.

56

Study the Mixing of Newtonian and non-Newtonian Fluids Using a Unique imaging technique invented at the University of Birmingham

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Previous studies on mixing of floating particles in mechanically agitated vessels focused mainly on power saving by achieving lower just-drawdown impeller speeds and on the performance of different impeller and baffle configurations. The internal flow field and spatial dispersion of floating particles have been little studied experimentally. Owing to the opaque nature of such suspensions, work has been restricted to flow visualisation through the wall and measurement of particles distribution. In this work, the technique of Positron Emission Particle Tracking (PEPT) was used to investigate at just-drawdown speed the two-phase flow field inside a stirred vessel of polypropylene particles of 3 mm diameter and 900 kgm⁻³ densities in fluids of Newtonian and non-Newtonian rheology.

Mechanical agitation was achieved by a six-blade down-pumping pitched blade turbine (PBTD). For the first time, the effects of the fluid rheology on the two-phase flow pattern and 3D phase velocity and concentration fields were determined.

57 Low Impact Light Rail (Development of a Lower Impact Approach in the Construction of Light Rail & Tram Systems in Nigeria)

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In the UK, over £3million from Innovate UK and Department for Transport (DfT) has been invested in the Low Impact Light Rail Scheme to foster innovation in the Light Rail Transit (LRT) industry. This will seek to reduce costs in track and energy usage. However, in Nigeria, the realisation LRT projects is painstakingly slow. For example, the Lagos Blue Line project, which is the country's first LRT project, is a decade in construction with its delivery date still unknown.

As such, the study aims to expedite the realisation of LRT and tram systems in Nigeria by seeking to improve its constructability and maintainability properties without undermining quality and functionality. To enable this, an LRT Constructability Assessment Tool (LCAT) will be developed which would be able to predict approximate project cost, duration and level of environmental impact early on in the project - where changes could made be easily.

58 The Morphine Addict in French Visual Culture, 1880-1916

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By the 1890s, the morphine user was a familiar visual motif in France, created in response to the increasing societal and medical problem of morphine addiction. These images did not often show morphine addiction as problematic or unpleasant, although its visual culture comes to an abrupt end in 1916 with criminalisation laws. These artworks always show female users, despite the fact that the majority of French morphine addicts were men.

My research analyses this visual culture for the first time, from institutionally-approved oil paintings and newspaper caricatures, to medical wax models. I question the hypervisibility of the female body and the invisibility of male addicts. As the first art-historical analysis on this subject, my research reframes the significance of this widely neglected aspect of French society; I approach images of morphine addicts as interdisciplinary, multi-functional devices, which impact directly on important wider debates on medicine, feminism, lesbianism and nationalism.

59 A Moral Weapon - the Public Organist in the Midlands, 1851-1914

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My research is focused on an almost lost tradition of organ music in public buildings. This tradition had its heyday in the UK in the latter half of the 19th century, where organists were employed by local government to provide regular and affordable entertainment to their citizens. But these weren't just concerts - in an age where there were concerns as to what the working class did for leisure and the moral repercussions of popular entertainment, many authorities believed that these recitals could act as a counterweight. Through the power of carefully selected repertoire, the audience would become "better men and better women, with tempers softened, dispositions elevated, and in every way more qualified to distribute among their families the harmonious influences with which they would become imbued there.". As the chairman of Wednesbury Local Board put it at the opening of Wednesbury Town Hall, the organ became "a moral weapon".

60

Exercise: it is the chill pill for stress?

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Mental stress often increases our blood pressure, and makes us feel anxious, stressed and unhappy. Large increases in blood pressure and psychological responses to stress can lead to cardiovascular disease and psychological disorders. Exercise is proposed to potentially reduce these blood pressure and negative emotional responses experienced during mental stress.

Forty individuals completed a 10-minute mental stress task on two separate occasions: once on its own, and once after 10-minutes of moderately high intensity cycling. Results showed blood pressure during stress was lower after exercise. However, participants also experienced greater anxiety, feelings of stress, and negative emotions such as tension and depression, during the stress following exercise. Therefore, exercise before stress may be good in reducing our blood pressure response to stress and thus reducing the risk of developing cardiovascular disease, but bad for our psychological health by causing more negative thoughts and emotions.

61 **Recognising images of left and right back movements: is it a problem in people with low back pain?**

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Seeking new approaches to understand back pain continues unabated. Left/right judgment tasks (LRJTs) are used to measure people's ability to recognise and imagine left and right movements and have been shown to be impaired in individuals with hand pain. For this reason, we wanted to investigate LRJTs in individuals with back pain with the hope of developing a new approach to the assessment and management of back pain. In this study, we examined the response times/accuracy of two groups of individuals performing LRJTs (images of the back in different positions projected on a computer) with and without low back pain (LBP). Our sample comprised 52 (16-LBP) participants aged 18-37. We found no difference in the performance between the groups, which suggests that the usefulness of performing the tasks remains questionable. Our findings will enable us to develop a new understanding of back LRJTs for research investigations in the future.

62 Clashing discourses: investigation of public debates on issues of science & technology

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The research investigates the discourses and rhetoric of public debates where science finds itself competing against alternative sources of knowledge, antagonistic world-views, and vested interests. The debates include instances of science coming into conflict with, among others, business interests, religious beliefs, pseudo-science, and disciplines within the humanities. Also, the debates selected are not simply face-to-face interactions but include exchanges that occur across time, in varying communicative settings, using multiple channels and modes. Though within the field of linguistics, the research draws on a range of theoretical ideas from different disciplines with the aim of developing a repertoire of analytical frameworks to identify and explain linguistic and rhetorical features of the public exchanges. While one aim is to contribute to linguistic theory, a more applied goal is to contribute to the broader question of how scientists may better critically evaluate opponents' arguments and improve their communication practices.

63 Detailed Review of Road Safety Countermeasures

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Daily, many individuals die or get harmed on streets around the globe, which requires more particular solutions for transport safety issues. International road assessment program (iRAP) is one of the models that are considering many countermeasures which influence road user's safety. The crash reduction estimations of single countermeasures cannot be summed easily. Therefore, iRAP makes usage of a multiple countermeasure correction factor (MCCF) to produce more precise number of estimated reduction in road accidents fatalities as a result of using multiple countermeasures.

However, the use of this strategy produces a probable over-estimation. This research intends to modify this correction factor by new developed models using statistical regression approaches (Poisson and Negative Binomial). Poisson and Negative Binomial regression approaches were applied to the data set. The analyses by R software showed that the Negative Binomial regression is the appropriate approach as the Poisson model experienced over dispersion.

64 Protective and enabling factors that facilitate undercover police work

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This study aims to explore the factors related to resilience and capabilities/ skills that enable a police officer to be effective undercover. Inadequate coping strategies have been linked historically with higher rates of depersonalisation and burnout.

Research in police forces tends to overlook protective factors that sustain this type of work and has focused more on uniformed officers. This research will use a mixed-methods approach, applying both quantitative and qualitative methodologies. Presumably, by identifying the protective and enabling factors of resilient officers that militate against stress in this role, it will be possible to elaborate recommendations that will strengthen the protective factors of police officers. Having an appropriate selection of undercover operatives is crucial to determine these agent's psychological health and safety. This study could support police decision-making in selecting procedures of officers for undercover roles, with a view to decreasing turnover rates and risk in the police forces and increasing wellbeing, safety and retention.

65

Psychosocial factors facilitating use of cognitive enhancing drugs in education: a qualitative investigation of moral disengagement and associated processes

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Drive for excellence has led some individuals to seek methods to enhance performance illicitly. This study investigated psychosocial processes associated with the use of cognitive enhancing (CE) drugs in students through Bandura's theory of moral thought and action (1991). Semi-structured interviews were conducted with students with experience of prescription drugs for the purpose of CE. Ethical approval was granted by the host institution. Data was content analysed deductively using definitions for mechanisms of moral disengagement (Bandura, 1991). The analysis evidenced six mechanisms (moral justification, euphemistic labelling, advantageous comparison, displacement of responsibility, diffusion of responsibility, and distortion of consequences). Emergent themes were discussed referenced to Bandura's theory and other doping literature. Findings suggest that when explaining CE drugs use, students frequently morally disengage. The mechanisms of moral disengagement may help to avoid morality and health-based deterrents. The findings are similar to mechanisms used by athletes with experience of doping in sport.

66 The European Court of Human Rights in context: A Reality Check

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The focus of my research is European human rights law and, in particular, the work and functioning of the European Court of Human Rights (ECtHR), having as an objective to seek solutions to make the wider European Convention on Human Rights (ECHR) system more effective through a re-assessment and possible reform of the ECtHR. The present reality of the Court shows that a number of institutional or practical problems exist.

Despite the numerous institutional and constitutional changes recently made, the Convention system continues to face: (a) a case overload crisis that impedes the Court's institutional efficiency, (b) a consistent pattern of serious and repetitive human rights violations by particular states and (c) the insufficiency of the current enforcement measures by the Committee of Ministers that prevents the effective implementation of the ECtHR's decisions. This presentation intends to give an overview and contextualize the existing institutional challenges faced by the Court.

67

A systematic review of methods and cost-effectiveness findings of economic evaluations of obesity prevention and/or treatment interventions in children and adolescents

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Background: We aimed to review methods of economic evaluations of child and adolescent obesity, summarise cost-effectiveness and examine any limitations. Methods: Nine electronic databases were searched. Full-economic evaluations were included. There were no restrictions based on language or country. Results: 4,185 studies were initially identified. After two levels of screening, 39 economic evaluation studies were included. Interventions were categorised by type: behavioural; behavioural and environmental; and behavioural and policy. Methods of economic evaluations varied by country, setting and type of intervention. There was a lack of consistency with choice of outcome measures. The majority of interventions offered good value for money and 13 were cost-saving. Five interventions were not cost-effective. Conclusion: The economic evaluations identified suggest that "behavioural and policy" interventions are potentially more cost-effective and offer better "value-for-money" than many other interventions. However, an expanded conceptual approach for evaluation in accordance with good-practice methodological guidelines is needed.

68 Exploring views on transport in different urban areas

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In urban areas, an increased use of walking and cycling can be beneficial in many ways. However, for many people, a major disadvantage of these modes is the limited distance range. Public transport can complement this, but distances people walk to and from public transport are found to vary a lot between urban areas, which might partly be explained by how different people look at different transport modes.

To explore these differences in views further, a questionnaire survey was carried out in four areas of Birmingham, differing by public transport supply and level of deprivation. In each area, 1000 questionnaires were delivered and overall 565 responses were received. Questions were asked about socio-demographics, work, travel behaviour and related perceptions. The questionnaire also included a free association task, in which respondents wrote down three associations for different transport modes. Views tend to differ mainly between the deprived and less deprived areas.

69 How companies communicate to consumers using the visual language of smartphone app design

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The popularity of smartphones has given rise to the frequent use of applications. More people are searching for and using apps that facilitate social functions, changing not only the way we communicate with each other but also how companies communicate with their customers.

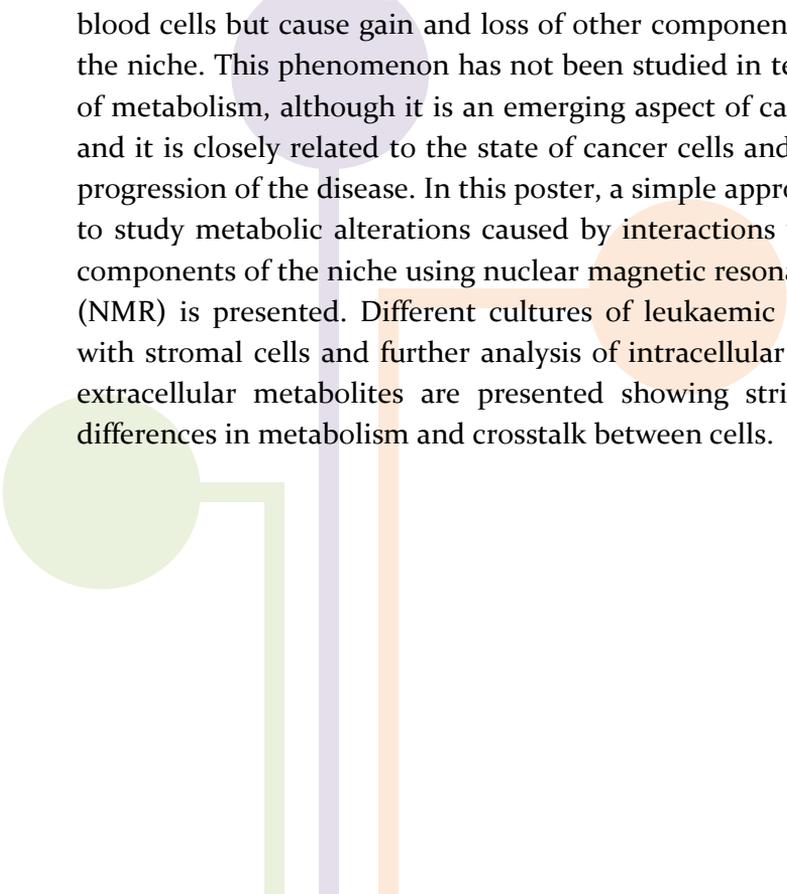
Companies utilise visual cues in product design to communicate figurative messages and evoke emotional responses about their product. Design research has focused on physical goods and foodstuffs; yet, it may also be instructive to investigate communicative design in the virtual environment of growing app markets. The study's data is two-fold: (a) a corpus of 250 apps that investigates the use of colour and shape in app design; and (b) a web-based experiment that determines participant perception, appreciation, and experience of apps. By combining these two datasets, I show how companies can communicate to consumers through the visual cues of virtual products in online marketplaces.

70 **Characterisation of the metabolism of AML cells: the role of the niche**

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Leukaemic cells are located in the bone marrow, surrounded by a complex microenvironment composed of a variety of other cell types, known as the niche. It has been found that during the development of the disease, leukaemic cells not only impair the normal production of blood cells but cause gain and loss of other components of the niche. This phenomenon has not been studied in terms of metabolism, although it is an emerging aspect of cancer and it is closely related to the state of cancer cells and the progression of the disease. In this poster, a simple approach to study metabolic alterations caused by interactions with components of the niche using nuclear magnetic resonance (NMR) is presented. Different cultures of leukaemic cells with stromal cells and further analysis of intracellular and extracellular metabolites are presented showing striking differences in metabolism and crosstalk between cells.

A decorative graphic on the left side of the page consists of a light green circle at the top, connected by a horizontal line to a vertical line that extends downwards. This vertical line is joined by a horizontal line to another vertical line that continues down to the bottom. To the right of this main structure are two more vertical lines, one purple and one orange, which are shorter and do not reach the bottom. The background is white with a light blue header bar at the top.

71 **Sitting time in people with multiple sclerosis: How can we best measure this?**

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Multiple sclerosis (MS) is a long-term neurological disease causing muscle weakness and fatigue. People with MS are often considered to spend a lot of their time sitting, but few studies have measured sitting time in MS. We first need to find out how to measure sitting time in MS. People with MS completed validated questionnaires measuring sitting time and were asked about their opinions on these questionnaires. Reported sitting time varied between questionnaires and ranged from 7.4 to 13 hours per day. Participants missed some sedentary activities from the questionnaires, e.g., eating and internet use on mobile phones and tablets. They also indicated difficulties in describing a "typical day" due to variability in symptoms. People with MS do many sitting activities. In the general population, sitting increases the risk for health problems. Accurately measuring sitting time in MS will help our understanding of whether sitting is related to MS symptoms.

72 The Power of Saints in the Middle Ages: The Influence of the Life and Afterlife of St Æthelthryth of Ely

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The relics of St Æthelthryth of Ely in Cambridgeshire, whose shrine acted as a beacon for nearly nine hundred years to pilgrims from across the country seeking cures, retribution, or forgiveness, were both a source of strength and guidance for those that visited them, and a symbol of the saint's protective and sometimes vengeful character on behalf of Ely's monastic community. My research uses a combination of textual, archaeological, cartographic, and other historical sources to build a complete picture of how the saint's remains, miracles, and character were utilised by the Ely monks to publicise the shrine and increase Ely's significance and influence throughout the Middle Ages. The wide variety and long chronology of the sources available to me means that I can also show how the foundation's fortunes through periods of both severe upheaval and relative calm are reflected through the portrayal of the saint and her actions.

73 Effect of windbreak walls on a train subjected to crosswinds

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A train travelling through a natural crosswind is surrounded by a complex flow field which can induce significant changes in the vehicle dynamic behaviour thus resulting in an obvious deterioration in the running performance of a train. This then implies the likelihood of a catastrophic event involving accidents, where a train may derail or overturn. One possible approach to overcome the detrimental effects of crosswinds on train aerodynamics is the introduction of windbreak walls. This research aims to explore both experimentally and numerically the influence of windbreak walls as a preventive measure on the flow around trains subjected to crosswinds. Experimental results are used to provide validation to numerical simulations. It can be established already that the height of the windbreak wall, the distance between the windbreak wall and railway tracks and the design of the windbreak wall can significantly influence the flow on a train surface.

74 'NONSENSE - but it's MUSIC!' Decoding Michael Tippett's opera

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The relationship between 20th century composer Michael Tippett and 'maverick' Jungian psychologist John Layard is unexplored by scholarship, despite him being the only analyst with whom Tippett had a close relationship. The influence of standard Jungian theory is undisputedly significant in Tippett's operas such as *The Midsummer Marriage*, but is often dismissed as jumbled and confusing. Through exploring Tippett's unexamined letters to Layard, my study reveals the operas underlying schema and demonstrates the relevance the opera still holds.

In particular my research focuses on Layard's seminal work *Stone Men of Malekula*, an anthropological examination of the people and culture of Vanuatu. There is, for example, a striking resemblance between the first three Ritual Dances from Act II, to the maki initiation dances and the cult of the goddess Lehevhev. My research clearly demonstrates the importance of the relationship between Tippett and Layard, providing new insights into Tippett's work and philosophy.

75 **Understanding Consequences of Sexual and Gender Based Violence (SGBV) Experienced by Migrants**

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My doctoral research is embedded in an interdisciplinary and global project which seeks to better understand the experiences of migrants from the Middle East who have suffered sexual and gender based violence (SGBV).

SGBV often results in short and long-term physical and mental illness. This poster summarises a literature review of current knowledge and research gaps, with a focus on health consequences of SGBV. My research will later involve contact with migrants at the NGO, Doctors of the World (Medicins du Monde). First-hand narratives and perspectives will be gathered and analysed with the aim of eliciting protections and interventions that survivors have found to be effective. The overall project aims to recommend local and international policies to protect and empower those vulnerable or affected.

76 Environmental Impacts of disaster relief housing from a life cycle perspective

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In the world, both the ecological balance and the health of the people are endangered with the increase of environmental problems and disasters. At the bottom of the environmental problems lies the use of energy resources far from sustainability and without consideration of nature. However, the needs of today must be met without jeopardizing for the needs of the next generation, which is achieved through the provision of environmental sustainability. Avoiding depletion in the natural sources and ensuring environmental sustainability is possible with saving energy and protecting natural resources. Buildings play an important role in energy consumption and carbon dioxide emissions worldwide.

Therefore, disaster relief housing with district scale solutions is considered to be potential area to increase energy efficiency and decrease environmental impacts throughout their life span.

77 The EU: a sanctuary or a fortress for refugees?

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In the context of the so-called "refugee crisis" starting in 2015, the European Union (EU) has had a rather inconsistent approach to refugee inflows. The EU simultaneously stressed its commitment to offering protection to people fleeing wars and persecutions as well as developed cooperation with non-European countries, such as Turkey or Afghanistan, in order to constrain migrants within countries where they are from or which they are crossing on their way to Europe. Researching these cooperation policies matters, not only because they have huge impacts on migrants' lives and might lead to further persecutions, torture or even death by preventing these people to reach Europe and thus, the protection that they deserve according to international treaties. It also matters because these policies are used by the EU to impose the burden of refugees on the poorest countries in the world, rather than sharing it with developed countries.

78 To Hedge Or Not To Hedge: Multiple hedging in real-world contexts

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The aim of this linguistics study is to examine hedging outside an academic context by using real-world examples taken from two political discourse genres: Questions to the Prime Minister sessions from the UK and White House press Briefings from the USA. These examples are then investigated within larger general corpora (Bank of English and Corpus of Contemporary American English). I will explain how hedging items can often cluster together in what I define as multiple hedging and some examples of multiple hedging and how such lexical items can commonly cluster will be presented.

I suggest that multiple hedging often distorts the established belief to how hedging items function: often allowing the speaker to strengthen the rhetoric force of the utterance. Furthermore, by distorting under- and overstatements, multiple hedging can allow the speaker to utilise irony more explicitly.

79 Exploring mobile proximity payment use from a customer value perspective

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Despite mobile phone services having become part of everyday life in the last ten years numerous mobile wallet initiatives have failed, questioning how to fulfil the real needs of the consumer. This study answers calls for mobile adoption research to move away from dominant information technology adoption approaches through employing a customer value perspective. Therefore, adoption is not viewed in terms of isolated benefits but compared to existing traditional alternatives in a real world context. As the physical wallet contains multiple activities, e.g. travel tickets, loyalty vouchers and payment methods, the study focuses on the most common activity, proximity payment methods, where consumer and provider are in the same location. Contrary to previous research pilot study results suggest that mobile proximity payment services offer no increased value over traditional payment methods. Where solutions may find success is through add-on value functionality such as integrating payments with loyalty and budgetary functionality.

80 Swallow it whole

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One of the major concerns of oral medicines is patient's ability to swallow. It was reported that 4 of 10 of adults struggle to swallow medicines. Notably, in the older populations this difficulty is often enhanced by dysphagia or dry mouth. Coating oral medicines with polymers is a common method to improve swallowing of the tablets. We carry out the clinical study to examine swallowability of tablets with different coatings in comparison with uncoated tablets.

Moreover, our research looks into the texture and overall mouthfeel of the tablets. The study was designed according to the standard rules of sensory analysis. We aim to compare the influence of variables like time to swallow or amount of used water, on the swallowability of the tablets. Additionally we try to evaluate the attributes of mouthfeel and use them to predict the acceptability of bespoke tablets.

81 **Materials science and engineering in osteoarthritis**

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Osteoarthritis is a chronic degenerative disease affecting 25% of the world's population over fifty years of age so presents a huge socioeconomic burden in the UK. It is characterised by degradation of the cartilage covering the end of bones at articulating joints as well as biological changes to the surrounding tissues. Traditional therapies are not effective in treating OA. Instead, when the disease reaches 'end-stage' the diseased joint is removed and replaced with a metallic implant. Whilst these are effective short-term, they require highly invasive surgery. My research uses a combination of materials science and engineering techniques to devise strategies to regenerate cartilage before the disease reaches end stage. Using biomechanical tests we can understand the early changes to cartilage and then use jelly-like materials called hydrogels to mimic the native tissue. We are working to reduce the prevalence of end-stage OA to reduce the need for costly joint replacements.

82 **Developing a numerical analysis for enhanced geothermal multi-wells reservoirs based on financial consideration (case study Soultz-sous-Forêts, France)**

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Geothermal power is proven to be very promising due to its ability of huge heat storage along with its independence of weather conditions. For a commercial profitable reservoir of enhanced geothermal system (EGS), a minimum mass flow of 80 kg/s of hot production fluid should be achieved. However, achieving this value is very difficult in a doublet reservoir. One of the potential solutions is to design multi-well reservoirs. In addition to the physical/thermal/mechanical aspects of a reservoir, its economical consideration has to be taken into account during the design process. Therefore, in this study, a 3D FE model is developed to provide an understanding of the reservoir long-term performance combined with economic model to study the reservoir thermal efficiency over 50 years of heat extraction process.

83 "What are the islands to me?": The Shore in H.D.'s Poetry

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H.D. (1886-1961), the American modernist poet and writer, returns to the image of the seashore throughout her work. This poster traces the presence and significance of the shore in her poetry, from its echoes of the East Coast U.S. landscape she knew, to the mythologies of nereids, nature spirits and sea gods that shape it.

This poster also explores the shore itself as a poetic and cultural image; as a marginal space that neither land nor sea, as a point of cultural exchange, as a demarcation of nationhood, and as a complex 'ecotone', a unique environment that combines two distinct habitats.

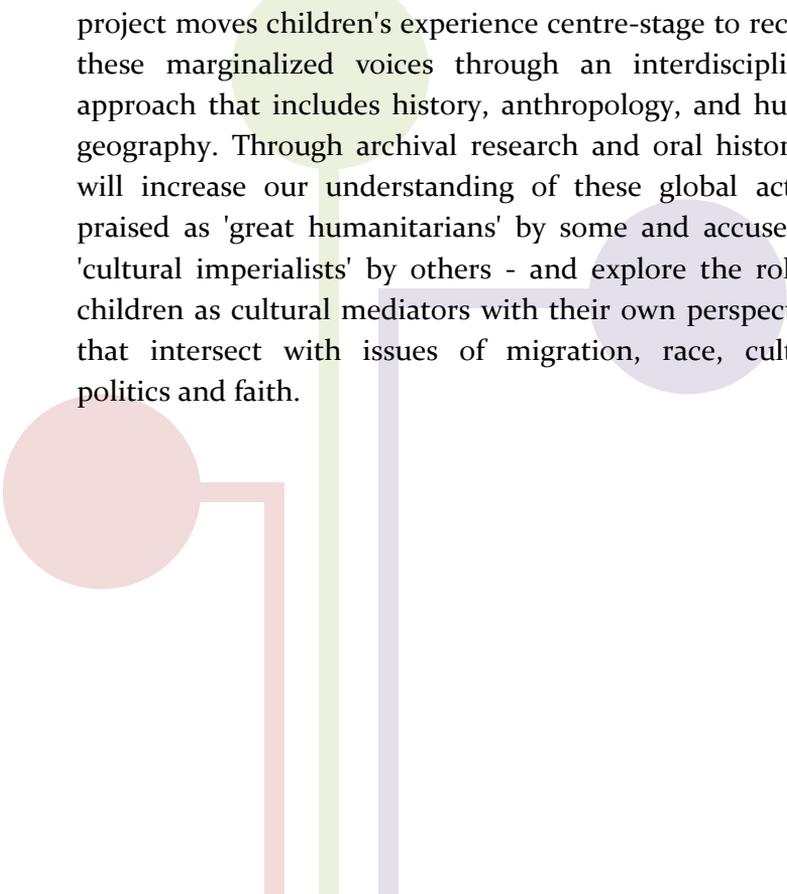
H.D.'s shores ask larger questions about how we relate to the world around us. How do we project our inner lives onto the natural world? Why do we find comfort in nature metaphor, and why do we tie particular associations to natural objects?

84 Little Lights in a Big World: Missionary Children and Transnational Religious Migration

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They traversed continents, grew up bilingual, experienced family separations, were socially mobile, and crossed racial and cultural barriers; yet children of missionaries are seldom mentioned in general or religious histories. This project moves children's experience centre-stage to recover these marginalized voices through an interdisciplinary approach that includes history, anthropology, and human geography. Through archival research and oral history, it will increase our understanding of these global actors—praised as 'great humanitarians' by some and accused as 'cultural imperialists' by others - and explore the role of children as cultural mediators with their own perspectives that intersect with issues of migration, race, culture, politics and faith.



85 Dissolving Bone: A New Solution to an Old Problem

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Following a traumatic injury, surgery, or even a knock to the head, bone can form in joints, making it difficult to move and limiting motion. Many soldiers who suffered blast injuries in recent conflicts returned home with bone growing out of amputated limbs, causing pain and preventing them from wearing prosthetics. Current preventions for this condition are inconsistent, and have serious side effects that limit their use, leaving surgical bone removal as the only option for many.

Our new approach is to demineralise the pathological bone, or even prevent it from forming in the first place, without damaging the skeleton. To achieve this, we have designed an injectable material capable of controlling the release of a novel dissolving agent, and have demonstrated its capabilities *in vitro* and *in vivo*.

86 From Hydrocarbon to low-carbon based energy: Legal challenges of energy transition to perform energy sustainability in Indonesia

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Located at the ring of fire and in the equator line, Indonesia has great potential in natural resources that many of which could be transformed into energy sources. Oil is one of the famous types of the energy source that has been used as mining objects in Indonesia for decades; however, as the oil production decline, Indonesia's position has changed from oil-exporting to oil consuming nation. To address this circumstance, there is a need to shift from the hydrocarbon-based energy to renewable ones. The journey of this energy transition has started but unfortunately, it is still far from the achievable targets. With a focus on Indonesia's policy, this research, therefore, will elaborate on the legal challenges of this transition of energy from hydrocarbon to low-carbon energy to shape the future of Indonesia. It will use geothermal as an example of a renewable energy source that can be favourable for the country.

87 Technologically-mediated implementation intention to support habit formation

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Have you ever feel why is it so difficult to change habits? In fact, forming new habits or stopping bad habits requires more than a strong intention. In most cases, people often fail to act upon their good intention because they do not have a clear plan for their intended action. A theory called implementation intention provides a strategy plan to shield goal intention by mimicking how habit works. In theory, habit is a set of cue-response's link, where cue acts as the trigger for the behavioural response. Implementation intention provides similar pattern called if-then planning: "If X happens, then I will do Y", where X is the cue and Y is the intended action. To change habits, we could use implementation intention to modify cue-response's link. My research is focusing on how technology can be used to enhance implementation in order to support habit change.

88 **A qualitative study of patients' and clinicians' perspectives on the use of ePROMs in the management of patients with Advanced Chronic Kidney Disease (PRO-trACK Project)**

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Chronic kidney disease (CKD) can significantly affect patients' health-related quality of life (HRQOL). Electronic patient-reported outcome measures (ePROMs) could be used to capture patients' symptoms/HRQOL and assist clinicians with the management of patients with advanced CKD. The aim of this study is to explore patient and clinician views on the use of a renal ePROM system incorporating electronic versions of two PROM questionnaires.

A focus group with nurses and semi-structured interviews with CKD patients and doctors from University Hospitals Birmingham NHS Foundation Trust were conducted. Thematic analysis was conducted to identify the main themes and subthemes. The study found that patients generally welcomed the idea of using a renal ePROM system as part of their care and found the questionnaires acceptable. Clinicians acknowledged that a renal ePROM system could potentially have an important supportive role in the management of patients with CKD in routine clinical care.

89 Redefining what it means to be a Sikh: Analysing Sikh identity through the Rehat

Parminder Davgun

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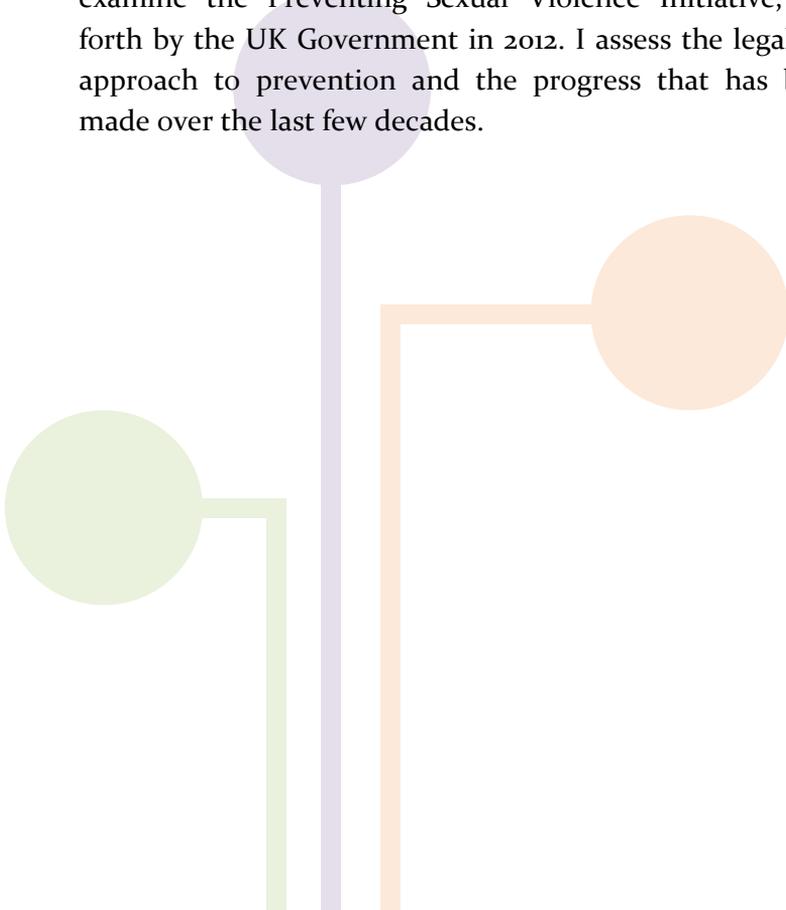
My research will be looking at the integral question that is yet to find a conclusive answer - 'Who is a Sikh?' Implementing a Scriptural and Historical analysis, my research aims to redefine essential terminology and reshape the perspective on Sikh identity by employing historiography. Challenging contemporary and classical perspectives on Sikh identity, my argument will provide a new perspective on Sikh identity in light of Scripture, history and oral traditions of the Sikh faith. The research will show how the Gurus re-established the Sikh Dharam and then moved to create their own religious path, known as GurSikhi, which was followed by the creation of a religion - known as the Khalsa. This research will provide a very vital reconstruction of Sikh identity in the study of Sikhism.

90 **The Use of International Humanitarian Law to Prevent Conflict-Related Sexual Violence**

Kate Schenck

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My research addresses how the international community goes about trying to prevent conflict-related sexual violence. With much of the focus on international law, I examine the Preventing Sexual Violence Initiative, put forth by the UK Government in 2012. I assess the legalistic approach to prevention and the progress that has been made over the last few decades.



91 Exploring underlying narratives of trust, reliance and apprehension towards emerging technology in the Military

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New technologies, increased levels of automation and artificial intelligence is emerging and integrating into our lives at an ever quickening pace, however how we respond to these changes aren't as immediate. Furthermore, in high-criticality domains where integration of new technologies is mission and life critical, finding the underlying obstacles for mistrust, under-reliance and apprehension in adapting to these are incredibly important.

In an effort to aid in the facilitation of new technologies in the Military domain, the research seeks to explore attitudes and behaviours of alongside civilians and inquire into differences between military subgroups due to their unique cultures and subcultures.

92 **Comparative Crisis Decision-making: Foreign Policy Analysis and the US and UK decisions on Iraq (2003) and Syria (2011-2014)**

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This PhD will use Foreign Policy Analysis (FPA) models to explain the decision-making processes which led to the US and UK invasion of Iraq in 2003 and their Non-Intervention in Syria between 2011 and 2014. The FPA models which will be used here will be Groupthink, Leadership characteristics model, and Analogical Reasoning model. This work will provide original explanations by referring to both a Presidential system and a Cabinet government system. This research will also make an empirical contribution to the study of the case study decision-making processes. This PhD will use Process-tracing to analyse the data generated by interviews conducted with individuals who were part of the decision-making processes, and archival research of government documents pertaining to these decision-making processes.

93 The Effects of British Imperialism on the Constitutionality of Shari'a Tribunals in Canada & the United States

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Events of 9/11 and 7/7 reinvigorated questions concerning the proper association between religion and government in nations that espouse liberal democracy. They also induced a skepticism of Islam from which Western nations may never rebound. Thus, post-9/11 evaluations of faith-based legal schemes, particularly shari'a tribunals, tend to be grounded less in constitutional law and more in religious politics. As accommodation of faith-based legal schemes is a constitutional inquiry, any assessment in England, Canada, and the United States should consider the effects that British Imperialism had on North American colonies. This period of overlapping history buttresses each nation's approach to constitutionalism. Due to the markedly divergent paths taken by England and Canada, it is necessary for the US to reassess the church-state arrangement envisioned by her constitutional framers. This is the proper basis for an equitable outcome that does not encourage more tension in an already inflammatory climate of political division.

94 **Girls on Film: The Perception of Women in Pornography**

Amy Gunn

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My research focuses on female viewers of pornography, how they perceive the women who perform in the films they watch, and how they perceive the women in decision-making roles in pornography.

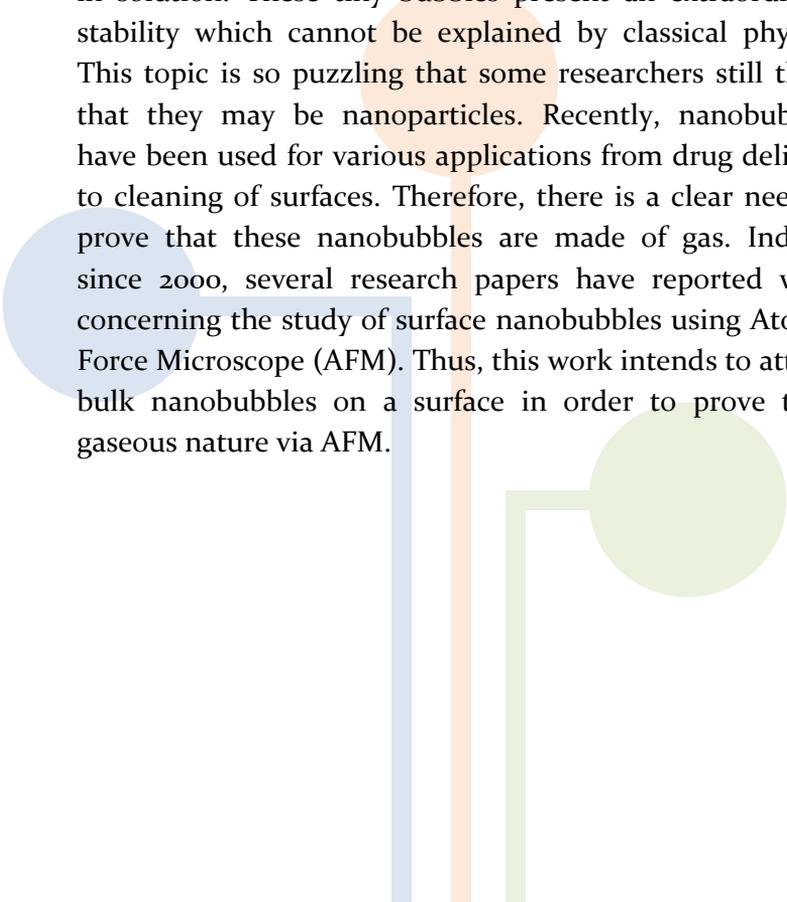
There is a wealth of feminist writing on pornography, offering opinions on the effect of erotic media, as well as numerous studies on male viewers of pornography. My thesis aims to answer how female sexual performances and films by women are received by a female audience. I will use a combination of online questionnaires and face-to-face interviews to gather opinions on women in pornography, as well as identifying trends in how factors such as age, sexual orientation and frequency of porn consumption affect these opinions. My research is currently in process for ethics approval and questionnaires will be distributed in the summer of 2018. My poster will outline the basis for the research and a methodology.

95 How to prove that a bubble is made of gas?

Leslie Labarre

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Nanobubbles or ultrafine bubbles are defined as bubbles with a diameter below 1 micron. In nature, there are two kinds of nanobubbles: the surface nanobubbles present at solid-liquid interface and the bulk nanobubbles which are in solution. These tiny bubbles present an extraordinary stability which cannot be explained by classical physics. This topic is so puzzling that some researchers still think that they may be nanoparticles. Recently, nanobubbles have been used for various applications from drug delivery to cleaning of surfaces. Therefore, there is a clear need to prove that these nanobubbles are made of gas. Indeed, since 2000, several research papers have reported work concerning the study of surface nanobubbles using Atomic Force Microscope (AFM). Thus, this work intends to attract bulk nanobubbles on a surface in order to prove their gaseous nature via AFM.

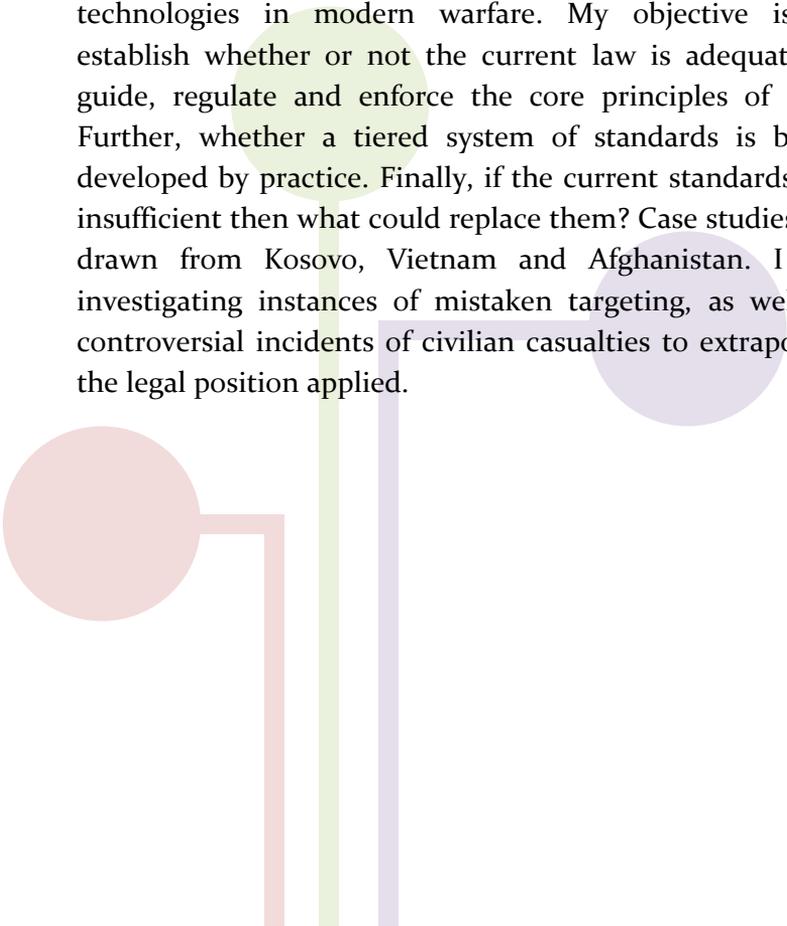


96 Know Your Enemy: Technology, Intelligence and Targeting under International Humanitarian Law

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My research is investigating what intelligence standard International Humanitarian Law (IHL) requires in targeting, and how it manages the development of new technologies in modern warfare. My objective is to establish whether or not the current law is adequate to guide, regulate and enforce the core principles of IHL. Further, whether a tiered system of standards is being developed by practice. Finally, if the current standards are insufficient then what could replace them? Case studies are drawn from Kosovo, Vietnam and Afghanistan. I am investigating instances of mistaken targeting, as well as controversial incidents of civilian casualties to extrapolate the legal position applied.



97 Resistance and Visual Strategies: The Representation of Female Identity in Contemporary Iranian Art

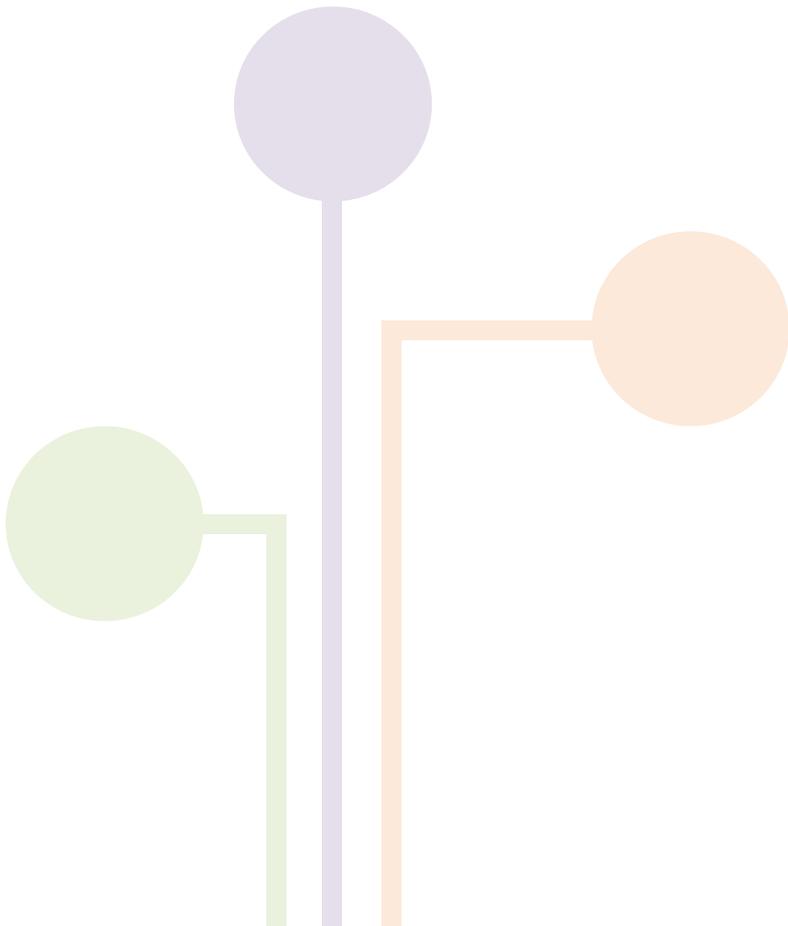
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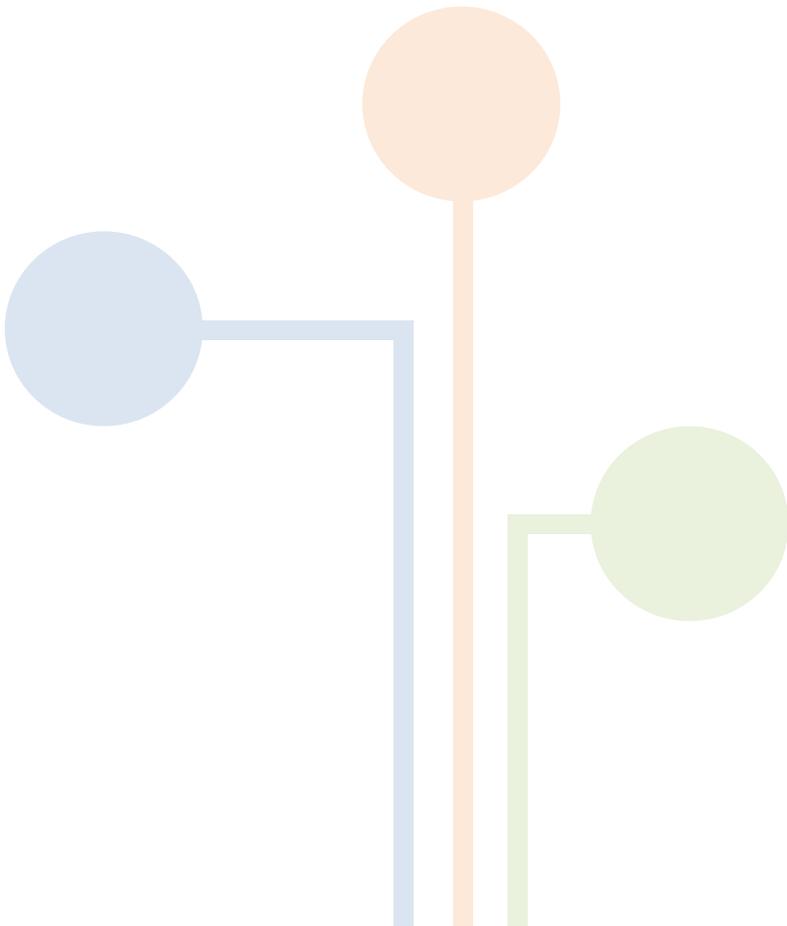
a_sarjoughian@yahoo.com

My research will attempt to further the analytical research on female identity embodied in contemporary Iranian art. In this regard, I will investigate what influences the visual strategies of Iranian artists, considering expectations imposed on their practices by two forces: the domestic ideological discourse and the Western audience. Furthermore, I aim to determine how Iranian artists would defy the monolithic or "one-view" formula of the image of the Muslim woman, woman-in-veil, in their works. To this end, Homi Bhabha's concept of hybrid identity as a possibility of political resistance needs to be examined in various interwoven domains: Iranian women's everyday lives, their representations in contemporary Iranian visual art, and the status of these artworks in global critical debates.

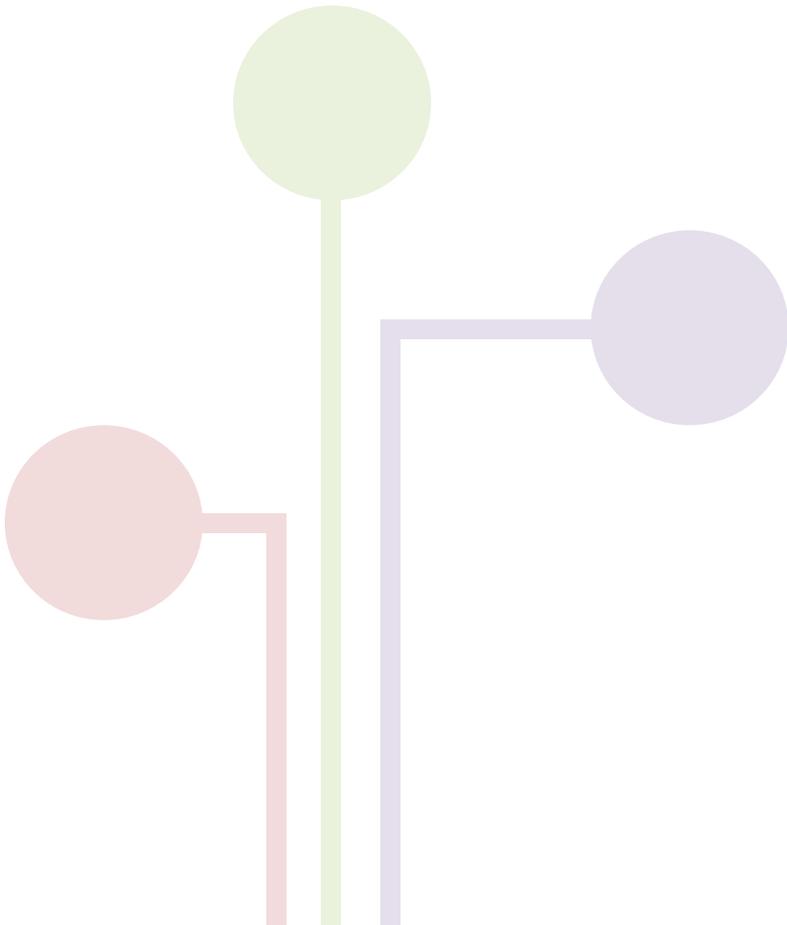
My intention is for this research to challenge the essentialised depiction of Muslim femininity and to create more diversity in general perceptions of Iranian artworks, which in turn enriches cultural production.

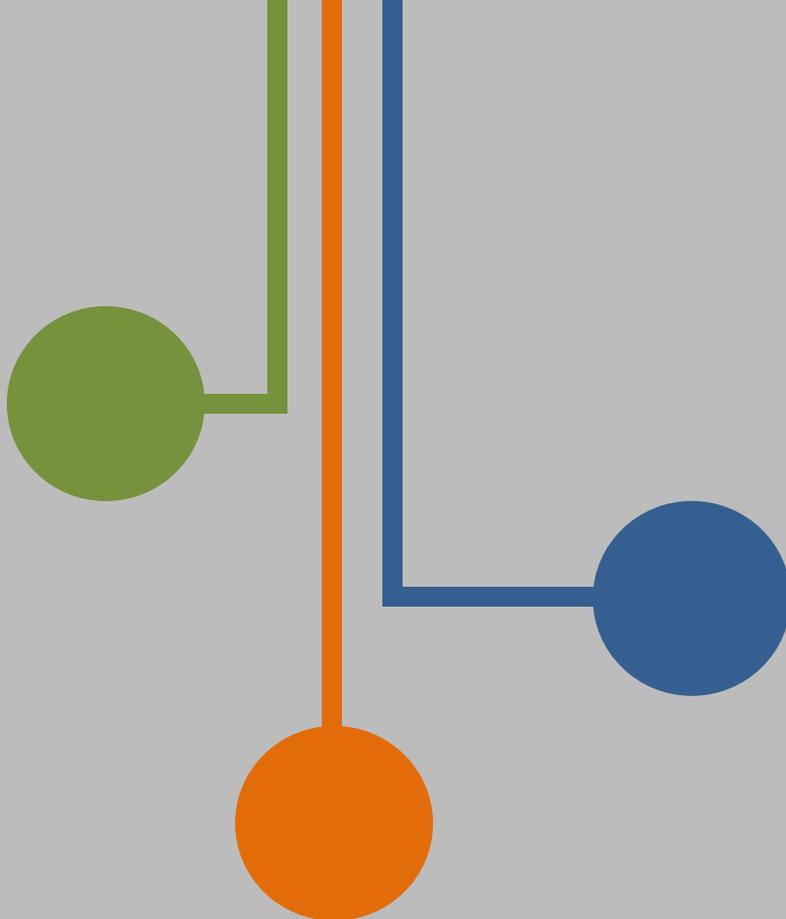
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