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FREDERICK DOUGLASS CENTRE,
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Book of Abstracts

Posters and Installations

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1. Maternity experiences and support in non-serving military partners – a scoping review

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Anglia Ruskin University

Pregnant non-serving partners of active-duty military personnel face unique challenges due to the nature of their partners mobility and deployment, this includes increased perinatal mental health difficulties. However, the broader needs during the perinatal period and support services available to them remain under explored. This scoping literature review examines existing research on the maternity experience and available support for this population, highlighting key gaps and areas for improvement.

An international scoping literature review was undertaken following the method outlined by Arksey and O'Malley. Five databases were searched and following removal of duplicates and screening (first title and abstract, and then full text) against a set inclusion/exclusion criteria, 7 studies met the inclusion criteria for data charting.

Preliminary findings indicate a significant lack of research addressing both the maternity experience and the quality of support services available to non-serving military partners. While existing literature primarily focuses on perinatal mental health outcomes, few studies explore broader support mechanisms such as healthcare accessibility, financial assistance and social support networks. Further primary research is needed to understand these and also the broader maternity experience of this community.

This review contributes to the broader discourse on military family mobility and maternal health, stressing the need for targeted policies and interventions to better support pregnant non-serving partners of service members.

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2. Identification of Drugs and Pharmaceutical Compounds in Urine from alleged Drink Spiking Incidents using GC-MS

Danika Taylor

Anglia Ruskin University

In 2021, drink spiking concerns were highlighted by the NPCC because of public awareness and media coverage. Drink spiking is the act of adding substances to beverages without the consumer's consent or knowledge. Presenting major health and safety risks. Forensic analytical chemistry is crucial in criminal investigations, like detecting substances in biological matrixes like urine to determine if an individual has been spiked. Urine is the preferred sample due to its longer time frame.

This research includes a qualitative analysis by comparing the extraction methods used in Gas Chromatography-Mass Spectrometry, to detect any substances within urine samples related to drink spiking. By looking at the impact on sensitivity through different extraction techniques. This involved eight main samples, applying two extraction methods: acidic and basic extraction. Following analysis underivatised as well as post derivatisation which created 32 sub-samples.

Urine samples were obtained from Cambridgeshire Constabulary, who collected them from consenting individuals reporting alleged drink spiking incidents. Detection could be influenced by the time of collection to analysis as they ranged from 8 months, 15 months and unknown.

Results demonstrated different extractions can affect intensity variations. Sertraline, an anti-depressant, was detected. Other compounds were identified which included caffeine and its metabolites, paracetamol, nicotine and aspirin metabolites.

The public was reassured as no illicit drugs were detected. Although, this study demonstrated the methods effectiveness by challenges through a variety of sensitivities. Emphasising the need to optimise sample preparation methods. Further research could be explored by LC-MS/MS to improve detection.

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3. Burn That Ad: Transforming Digital Touchpoints to Memorable Brand Experiences

Moyin Adegboyega

Aston University

Digital brand experience refers to how consumers perceive a brand through online interactions, creating value and removing friction from the shopping journey. It includes any digital touchpoint where customers engage with a brand, offering opportunities to create unique and memorable experiences (Johnson, 2021) through design elements. The construct is multidimensional and includes a customer's sensory, affective, behavioural and intellectual responses to a brand's offerings throughout the entire journey (Brakus, Schmitt & Zarantonello, 2009; Lemon and Verhoef, 2016). This research explores the role of brand symbolism in customer journey and the importance of digital brand experience in enhancing brand equity in saturated markets. Semiotic analysis (Peirce, 1991) and Burger King's digital brand campaign "Burn That Ad", which encouraged customers to burn competitors' ads with the contribution of augmented reality in exchange for a free Whopper, are used to answer research questions. Preliminary findings demonstrate the role of brand meaning co-creation and consumer empowerment in reinforcing brand equity, by turning passive encounters into interactive and rewarding touchpoints. This results from the combination of visual elements, language, and cultural context as reflected in the hero and the rebel brand archetypes (Mark & Pearson, 2001) integrated in the brand experience created by the Burger King campaign. This study contributes to our understanding of the role of semiosis and subsequently brand meanings in building brand equity via meaningful and engaging digital brand experiences.

Keywords: Digital brand experience, customer journey, brand equity, semiotic analysis, fast-food industry

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4. Building Brand Perceptions Through Storytelling - When Creativity Becomes Clutter

Rosie Davis

Aston University

Storytelling allows consumers to retrieve memories by identifying with the story (Woodside, Sood & Miller, 2008), taking meaning from it and applying it to personal contexts (Escalas, 2004; Merchant, Ford & Sargeant, 2010). Storytelling allows brands to create an emotional bond with consumers by providing peripheral cues – crucial to generating customer engagement (Fog et al., 2010; McKee & Fryer, 2003; Straker & Wrigley, 2016b).

The purpose of this research is to examine the impact of storytelling on brand's perceptions. Perception theory will be used as the main analytical perspective and will critically evaluate the use of creativity in storytelling and the implications upon the consumer journey. This study answers calls for research into consumer behaviour and storytelling, allowing brands to build and manage good customer relationships (Júnior et. al. 2023, p.255).

Research Design: A single case study design (Eisenhardt, 1989; Yin 2018) and content analysis (Krippendorff, 2019) of Cadbury's 'Yours for 200 Years' television advertisement will be used. Consumers' perceptions will be analysed via secondary sources in digital media.

Cadbury's creative storytelling may have been overwhelmed by excessive stimuli, limiting the campaign's impact. Constant changes in stimuli failed to reach some consumers' sensory thresholds, and the changes weren't significant enough to capture attention. Consequently, some viewers couldn't understand the campaign's relevance and struggled to progress through the customer journey.

The single case design limits the generalisability of findings due to a lack of comparative data.

Keywords: storytelling, creativity, brand perception, perception theory, content analysis

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5. When Socially Conscious Advertising Flirts with Woke-Washing: The Role of Consumer Attitudes

Habiba Helmy

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High-profile brands have recently rolled back their Diversity, Equity, Inclusion (DEI) initiatives due to assertions that such initiatives lack tangible business impact. An Unstereotype Alliance's report (2024) shows that the catchphrase 'Go woke, go broke' is a misconception as DEI could be a source of competitive advantage. However, several brands faced consumer resistance in integrating DEI related causes in brand campaigns. This study explores the reason(s) consumers form negative attitudes towards brands that promote socially progressive values. Functional theory of attitudes (Katz, 1960) is adopted to help us understand how socially conscious advertising impacts brand identity perception and how those differ based on psychological functions fulfilled by the brand. This analytical perspective suggests that a persuasive message is most likely to change an individual's attitude when the message is directed at the underlying function the attitude serves while attitudes could become dysfunctional when they fail to help consumers meet their needs. A comparative case study research design (Eisenhardt, 1989) and secondary qualitative data from YouTube, were collected. Sephora's "We Belong to Something Beautiful" and Victoria's Secret "Angel" campaigns assisted the research process. Preliminary thematic analysis highlights the role of brand purpose and the virtues of brand identity authenticity, consistency, and continuity as crucial when advertisers attempt to shift attitudes from a utilitarian function to a value expressing or ego-defensive function.

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6. Exploring Modern Education in Early Years and Does it Build Resilience in Children

Josephine Marshall

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Resilience is the ability to withstand and recover from challenges, setbacks, or adversity (GOV UK 2021). It plays a vital role in children's emotional and psychological development, allowing them to cope with difficulties such as stress, failure, or major life changes. Resilient children are better equipped to navigate the ups and downs of growing up, developing healthy coping mechanisms and problem-solving skills (Department of Education 2023). Statistics show one in six children aged five to 16 were identified as having a probable mental health problem in July 2022, an increase from one in nine in 2017 (Young Minds 2024). The research explores how early years practitioners value resilience within the workplace and if the guidance provided supports children. As it is now more widely acknowledged that children in the twenty-first century have encountered difficulties, such as health-related events like the COVID-19 pandemic and environmental disasters linked to the climate crisis, policymakers have begun to show a great deal of interest in children's resilience because of its possible effects on physical and mental health as well as overall well-being. However, Research indicates that various metrics are employed to evaluate children's resilience, and the opinions on the structures and domains that best capture resilience are divided (Hall et al 2024, Sumner et al 2023) .

Rutter's (2023) resilience theory emphasises the concept of resilience as a dynamic process where individuals can develop resilience through both personal characteristics and external influences. His work emphasises the interaction between risk and protective factors in educational settings. On the other hand, Bronfenbrenner (2000) proposes that children's development, including resilience, is shaped by various interconnected systems underscoring the importance of multi-level approaches in promoting resilience.

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7. The Menopausal Journey in Blackpool: Women's experiences of formal and informal support and the impact of this on their menopausal journey

Natalie Morgan

Blackpool and The Fylde College

This research explores the menopausal experiences of women in Blackpool with a focus on the role of formal and informal support and what impact this has on family dynamics and daily life:

The aims of this research are: 1. Analyse women's experiences of menopause in Blackpool. 2. Explore the role of formal and informal support in the menopausal transition and around family life. 3.Evaluate the positive and negatives of the impact of support on the menopausal transition.

The researcher intends to explore the journeys of women who have experienced menopause within the local area of Blackpool, focusing on family dynamics, formal and informal support and how that looked for each individual and impacted on their daily lives.

A mixed methods approach was used to ensure credible outcomes via questionnaires, focus groups and a literature review. Existing research aligns with themes such as symptoms and feelings, lack of specialised services, and varying perspectives within family settings, creating inadequate trusted guidance and emotional support.

The research will contribute to an already increasing need for menopause services in the local area and women sharing experiences and supporting each other creates a safe and understanding environment. The lived experience of these women would be an asset to the shaping of future services in Blackpool offering the right much needed support.

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8. How does cyberbullying affect the mental health and emotional well-being of children and adolescents?

Hayley Rawcliffe

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According to the ONS Centre for Crime and Justice (2024), an estimated 847,000 children experienced online bullying in the last year. Traditional bullying, being in person, allows the victim to name the perpetrator potentially. However, cyberbullying creates the opportunity for perpetrators to have a level of anonymity (Suler, 2004) and constant access to the victim (UNICEF, 2024).

The research has explored professional perspectives on the effects of cyberbullying. Cyberbullying can affect not only a young person's mental health but can also affect the victim in various ways, such as affecting a person's sleep and physical symptoms, such as stomach aches, and can even lead to self-harm behaviours and suicidal ideations (Anti-Bullying Alliance, 2019). Whilst there have been studies done looking at the effect of cyberbullying on young people, they have been conducted in school-based settings. This research has looked at perspectives from professionals who are based in different settings to offer a broader understanding of cyberbullying and its effects. The researcher will be sending out anonymous questionnaires to a mix of professionals, including counsellors, teachers, mental health practitioners and clinical psychologists. Having a mix of professionals take part will help to provide a broader perspective on cyberbullying.

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9. Exploring the impacts of short video usage on creativity: The roles of need for cognition, sleep, and information overload

Nok Sze Choy

City University of Hong Kong

This paper aims to explore the relationship between creativity, short video addiction, sleep disturbance, short video flow, need for cognition, and cognitive overload. Four hypotheses were stated. First, there is a negative relationship between creativity and short video addiction. Second, there is a negative relationship between sleep disturbance and creativity. Third, there is a positive relationship between need for cognition and creativity. Fourth, there is a negative relationship between creativity and cognitive overload.

89 questionnaires were received from participants and further analysed using SPSS. The results showed that creativity was positively correlated with short video addiction, need for cognition, short video flow, and information overload. Need for cognition and short video flow were found to be significant predictors of creativity. In addition, need for cognition mediated the effects of sleep disturbance on creativity. A weak correlation was found between the father's education level, need for cognition, and creativity. Moderation effects were observed between creativity and the following moderators: Gender x Sleep disturbance, Gender x Short video addiction, Gender x Information overload, and Short video addiction x Information overload.

The findings suggest that there is no direct relationship between short video addiction and creativity. However, gender may play a role in moderating the effects between creativity and short video addiction. Furthermore, this paper provides additional evidences for the relationship between need for cognition and information overload on creativity.

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10. The Role of Emotional Content in Word Recognition: Evidence from a Chinese Lexical Decision Task

Sze Nga Wong

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This study explores the influence of emotional content on word recognition in a Chinese-speaking context, focusing on emotional valence (positive, neutral, negative) and arousal (high, low). 60 Chinese-speaking participants were recruited to complete a lexical decision task, in which they had to identify presented Chinese words (90 real, 90 pseudowords) as real words or non-words by pressing corresponding buttons. Their reaction time and error rate were recorded. Two major hypotheses were made – (1) Positive emotional words would be recognised faster than negative emotional words, reflecting the general positivity effect, and (2) Low-arousal positive words would be recognised faster than high-arousal positive words, reflecting the congruency effect in emotional word processing. Results supported both hypotheses. Positive words were found to be recognised significantly faster than negative words, with follow-up pairwise comparisons revealing that the positivity effect was driven by facilitated recognition of positive words rather than inhibited recognition of negative words. Specifically, the difference between the reaction time of positive and neutral words was significant, while that of negative and neutral words was not. It was also found that low-arousal positive words (congruent reactive strategies) were recognised significantly faster than high-arousal positive words (incongruent reactive strategies), reinforcing the role of arousal-valence congruency in word recognition. These findings extend existing evidence on emotional word processing to a Chinese context, offering insights into the linguistic and cultural influences on recognition.

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11. Imposter Syndrome in the Classroom: What are the impacts on students' learning experiences and how can academic practice be improved?

Tilly Forster

Durham University

This study examines the experiences of imposter syndrome amongst students at a Russell Group university in the UK. Imposter syndrome occurs when one persistently feels as if they are a fraud, and is a phenomenon which can affect the educational experiences of university students. This report examines the way in which experiences of imposter syndrome in higher education impact the student. Until recently, academic research on imposter syndrome in higher education has been limited; in recent years, this has increased, however much more extensive research is still needed to mitigate this problem. The analysis of this study was focused on data from an open-ended survey with responses from students from the same university at varying levels of study. Data was analysed using content analysis which were broadly coded and then organised thematically to analyse how imposter syndrome impacts learning experiences, and how academic practice can be improved. An analysis of these themes clearly reveals that the way in which this affects learning experience is through students not making the most of the resources available to them because imposter syndrome restricts their participation. Wider literature has suggested that this can have lasting effects on the lives of students who experience imposter syndrome, as they lack the ability to develop key skills available to them in the university environment. This research could be used to inform changes in the ways in which universities operate through recommendations on how to improve support and reduce the impact of imposter syndrome on learning experience.

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13. Examining the relationship between sensory processing, menstruation and mental health among autistic adults

Aarushi Kalsi

Durham University

The male predominance in autism prevalence has led to a significant gap in studies examining the menstrual experiences of autistic people (Loomes et al., 2017). This study investigates how sensory processing differences during menstruation impact mental health outcomes among autistic adults who menstruate. Existing research suggests that autistic menstruators experience heightened sensory sensitivities, increased period pain, and emotional dysregulation compared to non-autistic individuals, potentially exacerbating mental health challenges (Burke et al., 2010; Toy et al., 2016; Steward et al., 2018). However, previous studies are limited by their predominantly observational or caregiver-focused perspectives (Hamilton et al., 2011; Obaydi & Puri, 2008). This undergraduate dissertation seeks to fill this gap by centering the experiences of autistic menstruators. Including non-autistic participants will also allow us to draw comparisons between the two groups' different experiences.

We recruited 88 participants (38 autistic, 50 non-autistic), screening non-autistic participants with the Ritvo Autism Asperger Diagnostic Scale–Revised (RAADS-R). Sensory processing was assessed using the Sensory Processing 3 Dimensions (SP3D) Assessment, and PMS and PMDD severity were measured using the Premenstrual Symptoms Screening Tool (PSST). Mental health and quality of life were evaluated using the Anxiety Scale for Autism-Adults (ASA-A), Autistic Depression Assessment Tool-Adult (ADAT-A), and WHO Quality of Life-BREF, all administered online. Additionally, five autistic participants were randomly selected for semi-structured interviews.

This poster will discuss our findings from both studies. Preliminary analyses have suggested that there is a link between mental health, sensory processing and menstruation for autistic adults, with some reporting heightened sensory sensitivities.

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14. Understanding Experiences of Abuse, Sex and Consent of Durham University Psychology students - A Replication

Min Hua Amelia Kwok

Durham University

Objective: This replication study aims to establish the prevalence rates of sexual violence (SV) at Durham University for the first time by replicating the Oxford Understanding Relationships, Sex, Power, Abuse, and Consent Experiences (OUSPACE) survey, retitled as DURSPACE.

Methods: Data from a sample size of 163 psychology students were analysed. Descriptive statistics were used to explore the demographic characteristics of the sample and calculate the prevalence rates of sexual assault (SA) and sexual harassment (SH). Chi-square tests explored associations between demographic variables and SV prevalence and compared overall SA and SH prevalence with Steele et al., (2023). The analyses focused on students' SV experiences during their time at Durham University in the past year.

Results: Prevalence rates of SA and SH were significantly higher than those at the University of Oxford. The prevalence rate of SA was even double that of Steele et al., (2023). Male and postgraduate students were underrepresented in the sample. SV incidents mostly occurred at the university, and the perpetrators were male and typically known to victims.

Conclusion: SA and SH prevalence rates at Durham University were alarmingly high. A large-scale DURSPACE survey should be conducted by the university. A more comprehensive picture of SV prevalence could be provided by incorporating more male and postgraduate students. This could aid in informing appropriate intervention and support strategies to reduce SV experiences at the university.

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15. Wired for sound? Children show auditory dominance when determining the emotions of others

Kaitlin Munro-Dick

Durham University

Recognising emotional cues is essential for the development of social cognition in children. This skill depends on the perception of multimodal sensory input. Research suggests adults perceive the visual component of multimodal stimuli better than the auditory component: this is known as the Colavita effect. Children, on the other hand, show the opposite effect, exhibiting auditory dominance. Previous studies have shown this effect in children using emotion-based stimuli, however none have done so in a naturalistic way. Often, static pictures are paired with audio clips, failing to mimic real emotional expression. This disconnect may interfere with spatiotemporal binding needed for multisensory integration. Here, we solve this problem by presenting children and adults with dynamic audiovisual clips of full body emotions, asking them to identify what the person is feeling. Children overwhelmingly made judgements based on the voice, whereas adults were more often relying on the body. This indicates that children preferentially attend to audition when determining the emotions of others. These findings are discussed in relation to educational and diagnostic settings.

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16. Antioxidant Effect of 3-Hydroxphenylacetic Acid on the Blood-Brain Barrier

Bethel Mmaduabuchi

Edge Hill University

The blood-brain barrier (BBB) is a key interface between the brain and blood, maintaining homeostasis in the neuronal microenvironment by strict regulation of the passage of molecules between the blood and the brain. Oxidative Stress (OS), resulting from an imbalance between antioxidant defenses and reactive oxygen species (ROS), has been implicated in recent studies as a potential factor in the progression of neurodegenerative diseases like Alzheimer's Disease and Ischemic stroke. OS mediates BBB dysfunction, increasing permeability and facilitating cellular damage and disease progression to dementia. Recent studies have explored the use of antioxidants, with respect to dietary flavonoids and their metabolites to mitigate OS mediated damage. This study aims to continue that avenue, exploring the antioxidant effects 3-Hydrophenylacetic acid (3-HPA), a potential antioxidant derived from gut-microbiome metabolism of dietary flavonoids, in the mitigation of OS mediated BBB cell damage.

Murine brain endothelial cells (bEnd.3) were used as an in vitro model of the BBB. OS was induced using hydrogen peroxide at varying concentrations to simulate disease conditions. Following OS induction bEnd.3 cells were treated with varying concentrations of 3-HPA . Cell metabolism was assessed using Presto Blue cell viability assays. Preliminary data suggest that 3-HPA may have potential antioxidant properties, and further study is required to ensure it has little or no cytotoxicity on the BBB.

This study hopes to contribute to the growing body of research on dietary flavonoid metabolites and their potential antioxidant effects on the BBB which may have implications for the treatment and prevention of neurodegenerative diseases.

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22. Patients' perceptions on the assessment and treatment for the management of persistent throat symptoms

Emma Brown

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Persistent Throat Symptoms (PTS) encompass a range of throat complaints, including the sensation of a lump in the throat, catarrh cough, dysphonia, and post-nasal secretions. Patients with PTS are typically referred to secondary care for assessment and therapy. Current understanding of PTS management remains limited, with recent studies recommending non-pharmaceutical treatments. To gain further insight into the promise of non-pharmaceutical treatment, understanding the patient experience is key.

How do patients with PTS view their experience of assessment? How do patients with PTS view their experience of therapy? How do patients with PTS view their experience of Patient-Reported Outcome Measures (PROMS)?

Study design, mixed methods. A retrospective convenience sample using NHS e-record identified 20 participants (16 females, 4 males, average age 58.1). All participants were adults with English as their first language, presenting with PTS. A case note audit identified specific symptoms, assigned therapists, recommended therapies, and pre- and post-treatment GRBAS scores. Descriptive statistics highlighted themes and trends in this data. 4 participants were recruited for focus groups via invitation letters and follow-up phone calls. Discussions focused on their care experiences, specifically assessments, therapy, and PROMS. Thematic analysis identified themes and subthemes around the patient experience.

Initial themes include adherence, monetary cost, improved understanding of symptoms, and accuracy in capturing symptoms. Cough and dysphonia were the most commonly reported symptoms.

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Finalise themes from the thematic analysis and organise audit data into more clearly defined groups.

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23. Exploring Hierarchical Structures of Cognitive Impairment in ADHD

Jess Brown

Newcastle University

Attention deficit hyperactivity disorder (ADHD) is a neurodevelopmental disorder associated with a range of adverse outcomes including academic and occupational underachievement. ADHD is primarily associated with impairments in attention, however, individuals with ADHD also show impairments in other cognitive functions such as processing speed, executive function, and memory. In healthy individuals, these cognitive functions appear to be relatively independent, but in disorders such as ADHD, there may be core cognitive deficits which affect wider functioning, forming a hierarchy of cognitive impairment. Some research suggests that deficits in processing speed or attention may explain poor memory in ADHD, but few studies have specifically investigated this idea. We used network, mediation, and hierarchical regression analysis to investigate the relationships between cognitive functions in ADHD using a large public dataset. Network analysis revealed complex relationships between the core cognitive functions (vigilance, inhibition, and processing speed) and the wider function, memory. Mediation and hierarchical analysis found that deficits in the core cognitive functions together could explain the memory impairments associated with ADHD. These findings suggest that these basic cognitive functions could be targeted to indirectly improve memory function in ADHD.

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24. Historical Legacies and the Politics of Memory: Examining the Oglethorpe Pledge

Akrivi Chaimala

Newcastle University

Calling into question what the collective 'we' chooses to remember and what to forget, recent activism on university campuses has resisted the memorialisation of contentious historical figures. Beyond starting a productive dialogue on the far-reaching implications of the selective construction of history, this project aims to establish a guidance model for universities to follow in responsibly handling complex legacy donations that are rooted in sensitive, even painful, pasts. Due to the gap in academic literature on the link between political theory and ethical memorialisation practices, universities currently lack the theoretical support to responsibly shape our present memory of the past. As such, the theoretical framework of the Politics of Memory is applied to the case-study examination and proposed interpretation of the recently pledged James Edward Oglethorpe (1696-1785) legacy to Newcastle University. Although commonly memorialised as an early abolitionist and a progressive Enlightenment figure, Oglethorpe's often-overlooked ties to colonial history demand thorough examination. After all, a critical reinterpretation and an active acknowledgement of the complexity of Oglethorpe's legacy may disrupt dominant, simplified narratives and connect previously disconnected communities. Emerging from this research is the conclusion that legacy donations ought to be understood as offering to universities the valuable opportunity to effectively materialise their vision for the future in a way that dynamically reaffirms their core values in the present. Importantly, my final report is to be delivered to Newcastle University administration to inform potential change in the current university policy on legacy donation handling to advance reconciliatory identity belonging on campus.

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25. Antimycobacterial drug discovery - Targeting the KAS enzyme of fatty acid biosynthesis

Caroline Elaine

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Tuberculosis (TB), caused by Mycobacterium tuberculosis (Mtb), remains a leading global health issue, due to the emergence of drug-resistant strains. The mycobacterium cell wall, composed of different kinds of lipids, including mycolic acid, is essential for Mtb's survival, virulence, and resistance to antibiotics. Mycolic acid biosynthesis involves two fatty acid synthase (FAS) systems: FAS-I and FAS-II. FAS-I synthesises Acyl-CoA which acts as a precursor that will be elongated by FAS-II into a long chain of meromycolates. The initial elongation process in FAS-II is driven by the β-ketoacyl synthase enzymes (KAS), including MtFabH, KasA and KasB, which are a promising drug target to prevent the mycolic acid biosynthesis of Mtb and affecting its survival. In this study, the aims are to identify potential sensitisers of Mtb that target the KAS through compound screening using Minimum Inhibitory Concentration (MIC) and fluorescence colourimetric assays. Additionally, the potential synergistic effects of these compounds with six clinically used antimycobacterial drugs, including rifampicin, isoniazid, ethambutol, moxifloxacin, linezolid, and delamanid, were evaluated using Fractional Inhibitory Concentration (FIC) assay. Targeting the KAS and investigating its role in combination therapies could provide a new therapeutic option for treating TB, improving the antibiotics' efficacy, and reducing the chances of the emergence of resistant strains.

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26. TP53 Knock-out Models of Childhood Burkitt Lymphoma

Cornelia Valerie Genika

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Burkitt lymphoma (BL) is a rapidly growing blood cancer which, in children, has a high cure rate with current intensive treatments. Although, treatment-related toxicity and poor outcomes in relapsed cases still present clinical challenges. The risk classification used today to determine treatment is not yet well-tailored and there is a lack of understanding of genetic factors associated with BL. Mutations in TP53 – a gene that monitors and protects cells from turning into cancer, are shown to be associated with a poorer chance of cure. TP53 may be a promising biological indicator for BL, but the mechanisms by which it acts in BL are not understood. Understanding these could lead to new strategies to develop more targeted therapies and prevent or treat therapy-resistant diseases.

Develop deleted TP53 (TP53 knock-out) BL cell models to understand the biological features associated with TP53 mutation in BL and establish methods that can be easily and effectively repeated in-house.

BL cells are modified using gene editing technology to investigate the impact of loss of TP53 on cell growth and survival. Analysis will be done at DNA, protein, and functional levels using laboratory techniques, and compared to unedited BL cells (mutated TP53) and healthy cells (normal TP53).

CRISPR guides have been successfully introduced into BL cells, which are now undergoing introduction of the Cas9 protein. Assays to validate the gene editing are being established.

This study will contribute to a better understanding of the mechanism/significance of TP53 as a target for treatment strategies.

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27. Benchmarking of CPU-intensive sensor stream processing in the edge computing systems

Viacheslav Horbanov

Newcastle University

Edge computing has emerged as a pivotal technology with significant advantages such as low latency and improved data security. These benefits are crucial in applications requiring high security or real-time data analysis. However, edge devices working in the edge clusters are mostly underutilised, mainly due to the lack of a holistic performance profile that can help adjust the desired system configuration for a given workload.

As there is a complex relationship between CPU frequency, power consumption, and application performance on processing nodes, understanding the correlation can uncover insights that can be utilised for better performance and energy efficiency. To address this gap, this paper evaluates the power consumption and performance of the single processing node with stress-ng microbenchmark by varying the workload size and CPU frequency. We profile the application performance and power consumption with varying CPU frequency to find optimal energy efficiency sweet point. The results show how an optimal measure can lead to optimised usage of edge resources, given both performance and power consumption.

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28. Investigating hippocampal hyperexcitability in a transgenic mouse model of dementia with Lewy bodies

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Patients with neurodegenerative diseases including dementia are known to exhibit an increased incidence of epilepsy which may enhance disease progression. This summer project investigated early hippocampal hyperexcitability differences between wild-type (WT) control mice and a transgenic (A30P) mouse model of dementia with Lewy bodies (DLB). The transgenic A30P mouse model harbours a point mutation in the SNCA gene encoding alpha-synuclein, leading to overexpression. In line with the previous findings which have demonstrated that A30P mice display increased hippocampal excitability, local field potentials were recorded from hippocampal slices from both WT and A30P mice to investigate the differences in gamma frequency oscillations. Epileptiform activity differences between genotypes were also studied under known excitatory compounds which evoke interictal discharges and seizures. The frequency and amplitude of the gamma oscillations and the frequency and types of epileptiform-like discharges and the number of seizures were analysed. It was found that A30P exhibited more seizures with longer duration, displayed more complex bursts, and had a different gamma frequency activity pattern than WT mice. It is therefore suggested the burst activity pattern could be used as a diagnostic tool to identify early Lewy body dementia patients.

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29. Benzoxazolium Reagents: Synthesis and Applications in fluorine group transfer

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Fluorine and fluorinated molecules are an essential part of modern healthcare and crop protection, with around 20% of pharmaceutical compounds containing fluorine. With only 6 naturally occurring fluorinated compounds, it becomes imperative to be able synthesise organic molecules with fluorinated motifs, to continue to allow modern medicine to develop. Working with fluorinating reagents can be dangerous and have long-lasting environmental effects, so efficient and safe methods to add fluorine to organic molecules, remains important.

This project aimed to develop a next-generation reagent, with the benzoxazolium backbone to more safely transfer fluoroalkyl(thio) groups (S-CxFY), thought to be less environmentally damaging, compared to traditional methods of fluorine bond forming. Inspired by the group's previously developed benzothiazolium (BT) reagents, the benzoxazolium (BO) reagents use a similar architecture but have a higher reactivity in comparison due to the presence of a more electrophilic oxygen atom.

Use of this reagent is simple and effective; it can be simply used in a one-pot reaction to transfer (fluoroalkyl)thio groups in place of alcohol groups, with the addition of a simple base. Exploratory reactions also hold promise to transfer these groups with no sulphur, making this method much more attractive to medicinal chemists. Other developments from this project also include the development of a reagent to transfer attractive alternatives to CF3 groups, newly prohibited by EU guidelines on Perfluoro Alkyl Substances (PFAS).

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30. CHD1 Knockout Prostate Cancer Cell Line Generation

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Prostate cancer (PC) is a remarkably heterogeneous malignant transformation of the male accessory reproductive organ. It occurs in approximately 60% of men over the age of 65 and represents a significant health issue as around 1.3 million new cases were diagnosed and 350 000 deaths resulting from PC were identified in 2018, making it the predominant cause of cancer-related mortalities. CHD1 is a chromatin remodelling enzyme involved in transcription, DNA replication, repair and recombination. Loss of CHD1 leads to DNA repair defects, chromatin instability, transcriptional plasticity, and androgen receptor (AR) redistribution/dysfunction, eventually leading to PC where the aberrant enzyme may increase the rate of disease progress. Due to its vital roles in cells, and observed co-occurrence, or mutual exclusivity, with other genes like SPOP and MAP3K7, or PTEN and ERG, generating a CHD1 knockout cell line model is essential for accurate determination of the effects of CHD1 deletion on PC development, progress, and treatment responses. Three prostate cancer cell lines were experimented on to achieve this – LNCaP, PC-3, and 22Rv1. Using doxycycline-inducible Cas9 in the 22Rv1 cell line along with a suitable guide RNA, a successful CHD1 knockout was introduced that results in a marked decrease in CHD1 levels as confirmed by western blotting of cell lysates and PCR and sequencing of the altered gene segment. The effectiveness in the LNCaP and PC-3 lines remains uncertain, so at least a repeated transfection or the use of a different small guide RNA remains an opportunity for future development.

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31. King Cnut (r. 1016-1035) and the restoration of the 'golden age' of Edgar the Peaceable (r. 959-975)

Michael Robb

Newcastle University

This paper aims to illustrate the creation of the reign of Edgar the Peaceful as a 'golden age,' during and after his reign, and King Cnut's claim to have restored this after his conquest of England, examining both these monarchs' claims and to what extent these reflected actuality. It will highlight the role of monarchical self-representation in both the creation and appeal to a glorious past.

Using law codes, charters, encomiums, skaldic poetry, hagiographies, coronation oaths, contemporary and later chronicles, visual depictions, as well as other administrative and ecclesiastical documents. These sources demonstrate the glorification of Edgar as a process begun by supporters of the Benedictine monastic reform movement, whose success was dependent on his endorsement of the project. This increased following the anti-monastic reaction, instability, and war that occurred after his death. This was adopted by Cnut, as a means to discredit Edgar's successors and as part of his political strategy to appease his new subjects.

The administrative documents of Cnut's reign claim to be restoring the 'law of Edgar.' These documents show, however, the evolution but modified, role of Æthelredian political thought, namely in Archbishop Wulfstan II of York, the composer of Cnut's law codes, reflecting his own ecclesiastical vision of the history of England and subsequent mission to create a 'holy society.' Charters, similarly, show the continued evolution in pious donations that in Cnut's reign touching upon the lasting effect of the monastic reform movement on the sacred nature of the kings, as the 'vicar of Christ'.

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34. How does the play Antigone gives us an insight into politics, literature and society in both ancient Athens and today?

Cheng Lam Wong and Shanti Herve-Gruyer

Newcastle University

This is an interdisciplinary research between two students of different major and our research aims to investigate the political values and philosophies of Ancient Greek societies, and explore its relationship to politics, literature, and society today. Through the play Antigone by Sophocles, reading secondary sources and field work in Athens to understand the impact of Ancient Greece; we have analysed the themes in the tragedy which are autocracy and despotism, gender, and civil disobedience. The play deals with a tyrant, Creon, the king of Thebes who forbids Antigone to bury her brother. This tyrannical act is defied by Antigone deciding to bury her brother anyways and was executed for it. The autocracy shown in the play reflects Ancient Greece at the time and remains relevant to nowadays as we can see from Russia and North Korea. Antigone also depicts the struggles of women that are still apparent in Ancient Greece and modern society. For example, men still hold the most positions and power in politics. Finally, the question of civil disobedience is still something that is debated in present times. Antigone breaks a law (by burying her brother) because she believes it is the right thing to do; and people are still breaking laws in peaceful, nonviolent ways nowadays to protest what they think are right. In conclusion, a lot of issues in Ancient Greece still exist today; literature and politics are intertwined and have always reflected on societies and commented on them. Henceforth, Antigone will forever remain a classic.

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35. Do research retreats have long term impacts on the wellbeing of academics?

Lucy Ferris

Newcastle University

Research Retreats provide time and space for academics to focus on research activities, such as writing papers, books or applications for funding. Whilst the immediate positive benefits to going on a retreat are well studied, the long-term impacts, for example on writing practice or wellbeing, are less understood. My study used semi-structured interviews with 8 academics and were conducted 18 months after they had attended a rural overnight research retreat in the north of England provided by the university. The academics were selected randomly from the sample and invited to participate in the study, including people at different career stages and with diverse disciplinary research backgrounds. The interviews focused on their experience of the retreat along with aspects including productivity, time management, goal setting and stress. Thematic analysis was used on the extensive qualitative data to interpret data from our interviews and organise specific information into broader themes. Following analysis, the results depicted themes of productivity, work identity, detachment, connection and self care to be evident indicators influencing wellbeing. Our findings suggest these retreats have a positive influence on wellbeing and general writing productivity for academics both immediately and in the long term. Directions for future research include research into on-campus retreats and further investigations into specific themes.

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38. Overview of siRNA lipid-nanoparticles therapy's: Assembly, Encapsulation & Effect against cancerous cells

Mohamad Jomaa

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Small interfering RNA (siRNA) are small RNA molecules with the ability of gene silencing of proteins involved in cancer progression. This makes it an ideal treatment against malignancies with targeted effect. Lipid nanoparticles (LNPs) present a neutral state of drug therapy, encapsulating the negatively charged siRNA and stabilising it. This allows delivery of siRNA into cancerous sites interrupting translation of pro-cancer proteins. Thus, preventing advancement of malignancy.

Optimising LNP is essential to ensure optimal drug delivery and content. Accordingly, encapsulation efficacy assays can be used including Ribogreen assay utilising fluorescence binding to siRNA. Readings then aids in quantifying free siRNA against LNPs' encapsulated amount, providing an accurate representation of packaged therapy to be delivered.

Cell viability assays help in assessing the cells state post-treatment. Alamar Blue was used to evaluate metabolic activity of cells based on a chemical reaction. The blue colour in the dye is based off Resazurin that is reduced by active cells into pink biproduct, measured using spectrophotometer. Alternatively, Trypan blue's assay helped distinguishing dead cells from viable ones by staining membrane-ruptured cells. Together, both assays and RIbogreen provide complementary information drug's cytotoxic effect on treated cells through viable cells quantification in relevance to siRNA content in LNPs.

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40. Investigating how water quality impacts the health and productivity of watercress

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Ewelme watercress beds (Oxfordshire) are a historical watercress cultivation site selling produce nationwide until 1988 (Chiltern Society, 2024). The beds are built upon one of 283 chalk streams in the UK (Chilterns, 2024). The UK accounts for 85% of the global total (Chilterns, 2024) chalk streams. These streams accommodate unique biodiversity and are threatened by anthropogenic activity (Dolman, 2024), such as urban development. Research suggests that watercress are capable pollutant absorbents (Khan et al., 2022; Lelesz et al., 2024; Duman, Leblebici and Aksoy, 2009; Amiri, Nafez and Amiri, 2020) and act as natural filters.

This study investigates the impacts of water quality on watercress health and productivity. Relevant studies suggest that parameters such as pH, biochemical oxygen demand (Amiri et al., 2020), dissolved oxygen (DO) and temperature affect watercress health and productivity (Aripin, N.F.B. and Surugau, 2016; Googoolee et al., 2020). Additionally, pollutants such as heavy metals also have an impact.

Field and laboratory testing was conducted across multiple sampling sites to determine the potential impacts of these parameters on the watercress. Analysis identified variability across sample sites, and suggests that point source pollution was prevalent despite otherwise ideal conditions for fecundity. Despite existing pollutants in the waters and raised pH levels, watercress was generally healthy as suggested by the abundant population and their size. XRF analysis affirmed this revealing healthy heavy metal concentrations in plant tissue and sediment. To prevent wilt and maintain watercress health, measures to deter pollution should be enacted. Further research is necessary to identify other pollution sources and their impacts on watercress.

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41. Exploring the impact of visual attention and gestures on online learning

Farees Adam-Saib

Queen Mary University of London

The COVID-19 pandemic has hastened the transition to asynchronous learning through instructional videos, yet research on their effectiveness for student engagement and achievement remains inconclusive. Additionally, the impact of video modality is not fully understood. During in-person teaching, multimodality, and particularly instructors' spontaneous hand gestures, improves learning by directing attention and giving abstract ideas a concrete form. However, this effect in asynchronous teaching remains unclear, especially in settings with real instructors (as opposed to actors) and in psychology-related content (as opposed to math). This study investigated if instructional videos featuring a gesturing, compared to non-gesturing, instructor improve learning outcomes, while considering participants' eye gaze. 135 participants watched instructional videos with or without a gesturing instructor as part of an online learning activity using a mixed factorial design. Eye-tracking data captured visual attention, while pre- and post-video test scores examined learning outcomes. The findings showed that instructional videos enhance learning in asynchronous settings, but there was no evidence for an effect of gestures or visual attention. Further research is needed to clarify gestures' role in asynchronous learning, particularly regarding their impact on cognitive mechanisms such as visual attention and knowledge retrieval.

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42. Predicting Atrial Fibrillation Treatment Outcomes using Cardiac Digital Twins and Deep Learning Techniques

Kiane Johnson

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Atrial fibrillation (AF) is currently one of the most common cardiac arrythmias affecting people worldwide, however it is difficult to predict if a given treatment type will be efficacious for a specific patient. In this work, a Deep Learning (DL) pipeline has been trained to be able to predict freedom from AF for several different treatment types using multi-modal features from both atria derived from an in-silico cohort of 400 virtual patients. In particular, the DL pipeline incorporates a Flattened Outer Arithmetic Attention (FOAA) block which interrelates features from both atria to improve the predictive capacity of the pipeline.

Training the DL pipeline which incorporates the FOAA block yielded better performance metrics than the DL that uses simple concatenation:

ROC-AUC = 0.946 vs 0.911.

Through being able to accurately predict freedom from AF, this pipeline provides an opportunity for the fast and personalised selection of optimal treatment for an individual patient.

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48. MD simulations of Alzheimer's disease–associated APOE isoforms, such as APOE3-Christchurch, highlight potential shared mechanism of protection

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University of Alabama at Birmingham

The lipid carrier protein Apolipoprotein E (APOE) is the most prominent risk factor for late onset Alzheimer's disease (AD). The three most common alleles are APOE3, APOE2, and APOE4 which provide neutral, decreased, and increased risk of developing AD, respectively. Several rare variants in APOE have been identified to be protective against AD. One such variant is APOE3-Christchurch (R136S), which was identified in a case study of familial AD. ApoE3-Christchurch is thought to be protective, in part, due to its reduced affinity for apoE receptors by reducing spread of toxic proteins. ApoE, a lipid-transport protein, is largely lipid-bound in vivo and undergoes distinct structural changes upon lipidation to enable binding to receptors like the low-density lipoprotein receptor (LDLR). To better understand how apoE3-Chrischurch affects receptor binding, we used molecular dynamics (MD) simulations to study lipidated apoE structure and apoE binding to the LDLR. We obtained a lipidated apoE structure, provided by Prakashchand et al., which was generated from coarse-grained MD simulation of a mutant apoE structure (PDBID: 2L7B) in the presence of DPPC lipid molecules. We converted the mutant apoE to apoE3 using PyMOL and ran MD simulations to generate a representative apoE3 structure. We then docked apoE3 to a structure of LDLR (PDBID: 2FCW), converted it to other apoE isoforms, and examined changes in structure, conformation, dynamics, and binding interactions. Our analysis of apoE-LDLR binding provides insight into similarities and differences between common and rare apoE isoforms that could provide insight for development of future therapeutics.

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52. Audit on the review of antidepressants in General Practice

Cindy Wati

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Depression is a mental health condition characterised by low mood, low energy, and anhedonia amongst other symptoms. However, the side-effects of antidepressants require regular monitoring by healthcare practitioners. The National Institute for Health and Care Excellence (NICE) recommends reviewing patients within a week if aged 18-25 years old (criteria 1) or at risk of suicide (criteria 3) and reviewing patients within two weeks if older than 25 years old (criteria 2).

To assess the adherence of Marton Medical Practice, Blackpool to NICE Guidelines, NG222 on the review of patients starting an antidepressant medication.

Method: The audit was conducted by Egton Medical Information System (ÉMIS) Search at the practice. Inclusion and exclusion criteria were selected, and standard were set at 95%, 90% and 100% respectively for criteria 1, 2 and 3. The search identified 113 patients for criteria two among which 31 were excluded, and 24 were selected by randomisation. 13 patients were selected for criteria one and 5 for criteria three.

100% of patients considered at risk of suicide were reviewed in line with the guidelines. 46% of patients aged 18-25 years old and 30% aged 26 years old and above were reviewed within the recommended timeline.

The unavailability of appointments, inappropriate assessments of patients and outdated notifications on EMIS were all contributing factors to these results.

Recommendations have been made to assist the practice in delivering improved care to the patients including an update of the guidelines on the internal system, scheduled text messages, video call appointments, additional mental health clinics, etc.

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53. Characterising global pathological changes in the absence of microglia following experimental ischaemic stroke in mice

Amelia Beckett

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Ischaemic stroke is the most common stroke type, accounting for approximately 85% of cases and remaining a leading cause of mortality and long-term disability worldwide. Following stroke injury, a cascade of immune responses are triggered, with microglia, the resident immune cells of the central nervous system, playing a key role. Microglia rapidly respond to injury, mediating neuroinflammation and contributing to both tissue damage and repair. However, their precise role in stroke pathology remains unclear, particularly their dual role in exacerbating injury and facilitating repair.

This study aims to determine the impact of microglial absence on stroke-induced brain pathology using Csf1r-FIREΔ/Δ mice, a CRISPR/Cas9-engineered model that completely lacks microglia from embryonic development to adulthood. By analysing infarct volume, astrocyte response, and neuroinflammatory changes three days post-stroke, I seek to determine whether microglial depletion influences lesion development and recovery mechanisms. Key methodologies include lesion volume analysis using histological haematoxylin and eosin stains, immunohistochemistry for IBA1 to label microglia/macrophages and GFAP to label reactive astrocytes, and qPCR to assess molecular and cellular responses.

As the first study to examine ischaemic stroke in a fully microglia-deficient model, this research will provide novel insights into microglial contributions to neuroinflammation, tissue remodelling, and secondary neurodegeneration. The findings will be presented, aiming to clarify whether microglia predominantly drive injury progression or support post-stroke recovery. This will offer new insights for the development of therapeutic strategies that modulate microglial activity to improve stroke outcomes.

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54. Human Health Effects from Inhalation of Sea Spray during Harmful Algal Blooms: A Scoping Systematic Review

Emily Bennett

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Exposure to marine phycotoxins, primarily studied in the context of ingestion, has well-established health implications. However, the effects of inhaling these toxins, particularly via sea spray aerosols (SSAs) produced by wave activity, are less understood. In HAB-enriched environments, SSAs can contain entrapped phycotoxins, leading to local inhalation exposure. Over the last 30 years, such exposure has increasingly been linked to acute respiratory symptoms in coastal regions. This study explores the respiratory health impacts of inhaling HAB-contaminated SSAs.

This review builds on previous studies by Young et al. and Lim et al., updating findings with a literature search from May 2019 to November 2024 using databases such as PubMed and Google Scholar. Keywords included “brevetox*,” “cyano*,” and “respiratory.” After excluding criteria was implemented, 65 publications were reviewed within this paper.

Over 6,400 cases of respiratory symptoms linked to SSA inhalation in HAB-affected areas were reported, including 4,600 cases with Karenia brevis, 1,575 with Ostreopsis spp., and 283 of unspecified species. Global hotspots included Florida, the Mediterranean, and the Baltic and Aegean seas. Symptoms varied from mild (runny nose) to severe (acute respiratory distress). While most outcomes were acute, only two studies reported chronic effects.

This study underscores the need for better understanding of pathophysiological mechanisms, standardised data collection, and longitudinal research on acute versus chronic respiratory effects of HAB-enriched SSAs. Comprehensive species-specific surveillance and improved symptom reporting are essential for advancing public health responses.

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55. Exploring gaps in awareness: Investigating public knowledge of conservation and climate action in zoos

Isabel Brinkley

University of Exeter

The biodiversity and climate crisis are the biggest threats currently facing our world. To help reverse these problems, zoos and aquariums have a significant role in conservation education and increasing awareness, which can help reduce human impacts on the environment by creating a sense of stewardship in members of the public. This investigation sought to understand the levels of learning and engagement with conservation education in a zoo environment, as well as exploring climate actions carried out by the public. Covert observations showed limited levels of engagement by visitors with zoo signage, which was used as a proxy for learning. In-person surveys reflected this, since most qualitative answers from visitors about their learning were vague and generic. Additionally, surveys showed that in terms of climate action, measured levels of intention to act were low. Possible reasons for lack of engagement and action could be explained using behaviour-change frameworks and identifying potential barriers, such as personal or financial capability and/or opportunity. One way zoos can reduce barriers is through ensuring conservation education materials are accessible and inclusive to all ages and abilities. By identifying these gaps in public knowledge and awareness, this could benefit education and outreach programs run by conservation institutions in terms of focusing on areas for improvement. Future work could explore the responsibility of governing bodies versus individuals in terms of climate action, and the influence of 'charismatic' species on public engagement and education, since zoos often need to balance public attraction against species' conservation necessity.

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56. Catching the parasite: can rapid diagnostic tests reach the hidden population?

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Over 10,000 annual maternal deaths are attributable to malaria in pregnancy (MiP). Absent training opportunities in microscopy and inaccessible healthcare within rural Colombia delays perinatal diagnosis, resulting in neonatal death, prematurity, and maternal anaemia. Rapid diagnostic kits, sensitive to peripheral malarial antigens, have been trialled to overcome limitations in microscopic diagnosis. Therefore, this systematic review aims to establish the most effective method of diagnosing MiP in rural Colombia.

Literature searches were conducted through the PubMed and Web of Science databases. Papers published within the last decade, sampled from a natural region of Colombia, sourced from peer-reviewed journals, and with accurate English translations were included. This yielded nine papers.

No statistically significant difference was found in the diagnostic performance of light microscopy (LM) and conventional rapid diagnostic testing (cRDT) for symptomatic MiP. Nominal sensitivity was displayed by cRDT and LM for asymptomatic placental infection, suggesting limitations in their diagnostic thresholds for low-grade parasitaemia. Highly sensitive RDT showed improved sensitivity for asymptomatic Plasmodium falciparum infection, capable of placental colonisation, but failed to detect non-falciparum malarial species, representing ~50% of malarial cases.

cRDT displays a diagnostic performance comparable to LM, without being limited by secondary-care access or inter-regional variations in species prevalence. Where microscopic techniques face geographical limitations, RDT could act as an effective community-level substitute for antenatal MiP diagnosis with minimal training requirements, reducing perinatal diagnostic

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delays and adverse maternal outcomes. However, further research assessing the role of RDT in identifying asymptomatic placental infection is required to reinforce its diagnostic accuracy.

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57. Investigating the role of citizen science in identifying Antarctic Vulnerable Marine Ecosystems (VMEs)

Natasha Duxbury

University of Exeter

Antarctic ecosystems, which are highly endemic and fragile, require increased protection from anthropogenic threats. Identification of vulnerability hotspots, termed Vulnerable Marine Ecosystems (VMEs), via assemblages of benthic indicator taxa, is defined as a priority by the United Nations General Assembly. However, VME identification in Antarctica has been limited because the Southern Ocean benthos is highly inaccessible. To try and identify a solution to this knowledge gap, I investigated a novel approach for identifying VMEs, which relies on image data collected by citizen scientists (CS) using their personal devices during Viking expedition submersible trips. In the data analysis, I calculated VME indicator morpho-taxa richness and abundance (derived from percentage cover) per image and assigned a confidence score for each morpho-taxon identification between 1 and 3. I calculated vulnerability indexes per site from the richness and abundance data using a quantitative multi-criteria approach. Vulnerability indexes were compared across sites to determine if variation could be identified. Confidence scores were also compared across morpho-taxa to determine if there were any potential identification biases. The results identified significant variation in vulnerability of both indexes across sites. Damoy Point, Half Moon Island, Pleneau Island and Wordie House sites were identified as having higher relative vulnerability. Confidence values did not vary significantly across morpho-taxa. This shows that CS datasets can be used for scientific analysis and can identify potential VMEs. Although some improvements to data standardisation are required, CS represents a unique opportunity to increase valuable benthic data collection in Antarctica and requires further investigation.

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58. Co-producing with Netball Players to Develop an Infographic Promoting Pelvic Floor Exercises for Preventing Stress Urinary Incontinence

Katie Harris

University of Exeter

Uncontrollable urine leakage during high-intensity activities such as sprinting, jumping, and lifting , is often overlooked due to the shame and stigma surrounding the subject.(1) Known as stress urinary incontinence (SUI) this problem is under-reported and under-treated.(1) Despite significant negative impacts on quality of life and athletic performance, there remain common misconceptions that it solely affects older women and post-partum women. This means young women miss out on opportunities to prevent this problem, or they delay accessing professional support.(1) This is potentially harmful to young women's personal and social lives,(2) effects include decreased sport performance, avoidance of exercise and social isolation at a time when rises in obesity mean more women are likely to leak.(1) Yet research shows pelvic floor muscle exercises (PFME) are effective for both preventing and treating SUI.

This project involved focus groups with 8 netball players to co-design an infographic to communicate the importance of pelvic floor health and to encourage all players to integrate routine PFME into warm-up and cool-down regimens. By promoting PFME as a standard component of athletic training with correct information of how to do it, the risk of SUI could be reduced. The netballers also indicated the importance of having an environment where discussions about SUI are normalised and supported by coaches and peers. Ongoing questionnaire evaluation of the infographic will indicate if the netballers can understand and correctly engage their pelvic floor during high-impact sports and know when to seek professional guidance.

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61. Establishing a STAT3 knockout pancreatic cell line using CRISPR-Cas9 gene editing technology to investigate the role of STAT3 in pancreatic cancer

Elizabeth Sears

University of Exeter

Pancreatic ductal adenocarcinoma (PDAC) is a highly lethal cancer with a 10-year survival rate below 5%. Most cases occur sporadically, making prediction and early diagnosis difficult and by the time PDAC is detected, it is often too advanced for surgical intervention. This study aimed to investigate the role of Signal Transducer and Activator of Transcription 3 (STAT3) in PDAC. STAT3 is abnormally activated in up to 70% of cancers, but its role in PDAC remains controversial, with reports suggesting both pathogenic and protective functions.

To explore this, PANC-1 cells, a widely used PDAC model, were transfected with STAT3 knockout (KO) plasmids using the CRISPR/Cas9 system. However, generating a STAT3 KO cell line was unsuccessful, prompting further investigation. Western blotting revealed an increased amount of total STAT3 protein in the PANC-1 cells and a luciferase assay revealed that PANC-1 cells exhibit significantly higher baseline STAT3 activity than controls, suggesting a strong dependence on STAT3 signalling. Interestingly, PANC-1 cells also displayed a reduced response to interleukin-6 (IL-6) stimulation compared to control cells.

Cell death analysis of CRISPR-transfected PANC-1 cells versus an empty vector (EV) control showed no significant difference, leaving the reason for the failed KO unclear. Further studies should explore alternative transfection methods, among other strategies to establish a successful STAT3 KO model.

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64. Reimagining Accessibility: Generative AI and the Raised Type New Testament

Sara Bucheeri

University of Glasgow

Disability history is often overlooked in cultural heritage, yet the Raised Type New Testament reflects one of the early attempts at accessibility. Translated and printed by the New York American Bible Society, the object has raised letters for visually impaired people, a tactile system developed prior to Braille. This project examines the intersection of accessibility, generative AI, and religion, with a focus on how religious objects, particularly the Raised Type New Testament, can engage a wider audience. It builds upon Paine's critique that religious objects come to life through their use, offering more than mere aesthetic value. By using multiple generative AI tools, this project aims to make the Raised Type New Testament accessible in a multimedia format, to enhance its cultural, historical, and religious significance. It aims to present the text beyond its religious value but also as a cultural artefact, emphasising its role in accessible practices for people with disabilities.

Positioning AI technology as a collaborator, the project reimagines traditional creative processes and challenges our conventional understanding of art, focusing on idea exploration and deeper reflection rather than physical labour. Using digitisation, AI-generated narrations, and multimedia integration, this work strives to make the Raised Type New Testament more approachable while preserving its integrity as both a religious and cultural object. The collaboration also highlights how AI can provide innovative solutions in settings with limited resources, demonstrating its potential in galleries, libraries, archives, and museums (GLAMs) where funding constraints are prevalent.

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62. The Electoral Limits of Levelling Up: Clientelism and the Conservative Vote Share in 2024

Ryan Whitehead

University of Exeter

This research examines the impact of the Conservative Party's Levelling Up agenda on their vote share in the 2024 General Election, using clientelism as a theoretical framework. Levelling up was the Conservative's flagship policy aimed at addressing regional economic and social disparities, with the intention of directing significant public investment towards historically 'left-behind' and underfunded areas. This research employs a quantitative approach, analysing constituency-level data and funding allocations to understand if the

Preliminary findings suggest that higher levels of Levelling Up funding did not translate into electoral gains for the Conservative Party. In fact, constituencies that received more investment were more likely to see a decline in Conservative support compared to the national average. This challenges the assumption that targeted public spending secures voter loyalty and raises questions about how voters perceived the effectiveness and intent behind the Levelling Up agenda. The preliminary results indicate that while economic investment may be a key political tool, it does not necessarily function as an electoral strategy, particularly in contexts where other political and economic factors dominate voter decision-making.

By analysing the relationship between government spending and electoral outcomes, this study contributes to the broader literature on clientelism and distributive politics in advanced democracies. It highlights the limitations of state-led investment as a mechanism of political support and provides insights into the complexities of voter behaviour in the UK's evolving political landscape.

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65. Strategic Decision-Making And Political-Economic Dynamics In Aerospace Public-Private Partnership

Megan Howes

University of Glasgow

This dissertation investigates the political and economic factors that shape procurement decisions in aerospace Public-Private Partnerships (PPPs), focusing on non-competitive environments where a lack of competition can distort outcomes. It explores the role of principal-agent dynamics, auction mechanisms, and renegotiation strategies in optimising contract outcomes, drawing on case studies from NASA, the European Space Agency (ESA), and Roscosmos. By applying game theory, contract theory, and empirical analysis, the research examines how governments navigate procurement challenges in settings where competition is limited or absent.

The study first delves into principal-agent models, which reveal how asymmetric information and misaligned incentives between public and private entities can lead to inefficiencies. It then evaluates auction theory, exploring how transparent procurement processes can foster competition and reduce costs, while also ensuring that safety and technological standards are maintained. The research further considers the impact of renegotiation on long-term aerospace PPPs, demonstrating how evolving political, technological, and financial conditions necessitate contract adjustments, but can also lead to inefficiencies when overused in monopolistic environments.

Ultimately, this dissertation provides insights into optimising aerospace PPPs to ensure they are transparent, efficient, and sustainable. It offers policy recommendations for mitigating risks associated with market distortion and excessive renegotiation, contributing to the development of more effective public-private collaborations in the aerospace sector.

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66. How Well Does the Solow-Swan Model Capture Real Economic Outcomes? Evidence From OECD

Xinyue Wang

University of Glasgow

In recent years, there has been a growing demand for research on economic growth in OECD countries. This study employs the widely accepted Solow-Swan model to explore whether the traditional model remains a valid explanation for economic growth. Additionally, the study investigates the widely debated role of international trade in influencing economic growth in OECD countries. Using panel data, the study first tests the stationarity of the variables with the ADF test, and applies first-differenced values for non-stationary variables in regression analysis. The LM test confirms that a pooled OLS model should be the base for analysis, while the Hausman test suggests using Random Effects for the regression when introducing international trade. Furthermore, the study considers the lagged effects of various factors on economic growth, identifying the optimal lag of four periods using the pvarsoc command. To address potential endogeneity, a System GMM model is employed. The findings conclude that: 1) The traditional Solow-Swan model, which includes technology, capital, and labor, remains useful in explaining economic growth. However, the inclusion of education does not significantly correlate with growth, likely due to measurement challenges and data noise,which presents an area for future improvement. 2) International trade does not directly increase economic growth, but rather impacts other factors such as capital and technology, which in turn affect growth. This result may challenge mainstream literature and could be attributed to the study's limitations. This raises the question of whether to prioritize macroeconomics modeling or econometric results in shaping conclusions.

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67. Drug release studies on polymeric metformin-loaded 3D printed buccal film

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Buccal drug delivery offers an alternative to traditional oral administration, particularly for systemic medications like metformin. This study explores the design and development of 3D-printed buccal films for metformin delivery, focusing on optimising drug release properties. Buccal drug delivery targets the mucosal lining of the cheeks, providing advantages such as rapid onset, bypassing first-pass metabolism, and improved bioavailability. Buccal films, thin polymeric mucoadhesive strips, adhere to the mucosa, enhancing drug absorption while avoiding gastrointestinal degradation. Despite challenges like limited absorption surface area, buccal films improve patient compliance, particularly for individuals with swallowing difficulties.

3D printing enables precise customisation of buccal films, allowing for tailored drug loading, release kinetics, and formulation adjustments. Metformin, a widely used anti-diabetic agent, serves as the model drug. The study formulates and characterises polymeric gels, utilises 3D printing for buccal film production, and evaluates film properties through in vitro drug release studies. Mucoadhesive films were developed using metformin hydrochloride, HPMC, NaCMC, and glycerol.

Results from the metformin calibration curve showed a strong positive correlation, confirming reliability for quantifying drug release. In vitro studies indicated that the buccal film provides sustained and extended drug release, potentially simplifying dosage regimens. Future research could explore variations in drug loading to optimize release profiles. Overall, 3D-printed polymer-based buccal films for metformin represent a promising alternative to conventional oral dosage forms, particularly benefiting populations such as the elderly and children who struggle with swallowing tablets or capsules.

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68. Advances in injectable decellularized extracellular matrix hydrogels for spinal cord injury treatment

Zaw Wunna

University of Leeds

Spinal cord injury (SCI) affects 20 million people globally, leading to permanent disability due to the failure of axon regeneration across lesion sites. Current treatments provide limited functional recovery, highlighting the urgent need for alternative therapies. Injectable decellularised extracellular matrix (DECM) hydrogels offer a promising approach due to their non-invasive delivery, neurogenic potential, and anti-inflammatory properties. However, limited reviews focus on their application in SCI treatment.

This study critically analyses recent advances in injectable DECM hydrogels by reviewing literature from Google Scholar and PubMed, selecting studies from the past 10 years that include hydrogel, decellularised extracellular matrix, SCI, and injectability. Findings suggest that DECM hydrogels promote axon regeneration in vitro and in vivo due to their innate neurogenic, angiogenic, and immunomodulatory properties. However, their rapid degradation at the lesion site limits functional recovery, largely due to fabrication methods involving high concentrations of detergents and enzymes that weaken hydrogel structure.

These findings emphasise the potential of injectable DECM hydrogels in SCI treatment but highlight the need to address degradation issues before clinical application. Enhancing hydrogel stability could improve patient outcomes, benefiting individuals with SCI, their families, and healthcare systems.

Future research should focus on optimising hydrogel formulations to improve functional recovery, either by reducing detergent and enzyme concentrations during fabrication, incorporating cross-linking techniques, or a combination of both. Further studies are also needed to elucidate the molecular pathways of axon regeneration, which could inform strategies to maximise the therapeutic potential of DECM hydrogels.

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69. Structural and Functional Characterisation of the Baeyer-Villiger Monooxygenase EthA from Mycobacterium tuberculosis

Isha Alapati

University of Leicester

Mycobacterium tuberculosis (Mtb), the causative agent of tuberculosis (TB), affects approximately a quarter of the global population. Many current TB drugs are pro-drugs, which require activation by specific enzymes in Mtb to become toxic to the bacteria. EthA, a Baeyer-Villiger monooxygenase (BVMO), plays a key role in the bioactivation of ethionamide, a critical pro-drug used in TB treatment. This research project aimed to characterise both wild-type (WT) EthA and the clinically resistant R207G variant using biophysical and structural techniques.

WT EthA was first successfully over-expressed in E. coli, following optimised conditions for high yield. Purification was achieved using nickel affinity chromatography followed by size-exclusion chromatography, with protein purity confirmed by SDS-PAGE gel analysis. Enzymatic assays demonstrated that WT EthA was active with substrates such as 2-octanone and acetone. Michaelis-Menten kinetics allowed the determination of key kinetic parameters (Km, Vmax). Mass photometry further revealed that EthA can exist both as a monomer and in higher-order oligomeric forms.

For structural analysis, purified EthA was prepared for cryo-electron microscopy (cryo-EM). Following grid screening and data collection, initial data processing in CryoSPARC indicated that WT EthA primarily forms a hexamer. However, achieving higher-resolution structural models will require further optimisation. Additionally, we also successfully over-expressed and purified the R207G EthA clinical mutant, and ongoing studies will focus on comparing its properties to those of the WT enzyme.

Our findings enhance the understanding of EthA in Mtb metabolism and drug activation, with implications for the development of novel therapeutic strategies. This research highlights the critical role of structural biology in addressing antibiotic resistance in TB.

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72. Nutrient Enrichment vs Sediment Shading: Investigating the Impact of Subglacial Runoff on Bio-Productivity in a Greenlandic Fjord

Stepan Fedun

University of Sheffield

Buoyant subglacial meltwater at Greenlandic tidewater glaciers is key for entraining and transporting nutrient-rich waters to the nutrient-poor upper layers of a fjord, stimulating productivity (Oliver et al., 2023). However, such plumes can also carry sediments, forming turbid plumes at the fjord surface. By blocking sunlight, sediment can counteract nutrient provision by buoyant meltwater (Murray et al., 2015). Previous studies (e.g., Bhaskar et al., 2022) have focused on in-situ measurements in assessing the impact of suspended sediment on fjord primary productivity. However, our study utilises remote-sensing techniques to investigate this effect. Summertime Sentinel-2 images from 2017 to 2022 at a site in Upernavik fjord, northwest Greenland, were analysed in MATLAB to obtain plume area and average relative suspended sediment values for each image. These variables were combined to create a Suspended Sediment Load (SSL) index, as per Kavan et al. (2022). Regression analysis in MATLAB showed that SSL had a statistically insignificant effect on chlorophyll concentrations in the fjord, disputing Bhaskar et al. (2022). However, due to the high-altitude location and narrowness of fjords, Aqua-MODIS chlorophyll data was temporally and spatially sporadic, requiring a wide sample area (compared to the localised sampling of sediment and meltwater data), meaning that the variables were spatially decoupled. Using remote sensing to quantify the characteristics of sediment plumes may allow for a future larger-scale study of their effects on primary productivity in Greenlandic fjords. However, in situ chlorophyll sampling may be required until the quality of satellite-derived data at the fjord scale improves.

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73. Expression, Purification of NF-κB Transcription Factor To Model DNA Interaction

Lauren Fields

University of Sheffield

Inflammatory processes inside our body are critical for survival. This can be viewed from the role of inflammation in many diseases such as cancer, atherosclerosis, and microbial infections. A key regulator of inflammatory processes in our body is the nuclear factor kappa-B (NF-κB). The NF-κB is a family of transcription factors that bind to specific DNA sequences to activate gene expression. NF-κB is involved in many physiological processes and pathological inflammatory disorders. Therapeutic strategies for targeting NF-κB specific members remain blunt. Therefore, we aim to characterise the DNA interaction of NF-κB transcription factors to target it with high specificity.

For studying the modes of interaction between NF-κB transcription factor and DNA, we utilised recombinant protein expression technology in E.coli to produce different orthologs of the protein which are the mouse and the human versions. The expressed protein was purified using chromatographic techniques followed by investigation of its DNA binding specificities using electrophoretic mobility shift assay (EMSA).

We successfully expressed the two orthologs of NF-κB using two different methods called IPTG induction and autoinduction. We observed that using these methods yielded soluble human NF-κB proteins but insoluble mouse proteins. Subsequent analysis of the binding specificity of the human proteins revealed distinct binding profile towards a DNA recognition sequence. This suggests a biologically active recombinant protein that can be used in wide range of downstream studies such as drug screening and structural determination.

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74. Vision-Based In-Process Monitoring System for the Thermal-Crimping Process

Andrew Murugu

University of Sheffield

Ensuring quality in manufacturing is essential, yet many industrial processes rely on costly, time-consuming inspections. In electrical machine production, the thermal crimping process is widely used to join enameled copper wires to cable lugs in a single step. This method suffers from high tool wear, leading to frequent maintenance and increased production costs. Traditional quality control methods detect defects too late, resulting in unnecessary waste.

This research introduces a real-time computer vision system to enhance defect detection and improve manufacturing efficiency. A colour-based image processing system was developed using advanced filtering and edge detection techniques. Live data from an Intel RealSense Depth D405 camera was processed, with a software interface enabling real-time analysis. The system was tested on wire terminations, categorised as almost or fully round. Results showed that using a combination of colour channels improved detection accuracy, achieving a true positive rate (TPR) of 86%, while one colour channel alone reached 89.6% TPR for fully round terminations. The system also identified subtle shape variations linked to process quality.

By detecting defects earlier, this system has the potential to reduce rework costs, enhance sustainability, and improve automation in manufacturing. Future work will explore integrating machine learning for defect detection and applying this approach to improved hot crimping methods using inductive heating and nonconductive ceramic tools to reduce tool wear and maintenance requirements further.

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77. Comparing Child Protection Policy in the EU and the UK Devolved Nations Post-Brexit

Abi Pearson

University of Sheffield

The UK's decision to leave the European Union after the 2016 Brexit referendum marked the beginning of the withdrawal of all EU policy instruments from the UK, leaving the UK with only third-country access to its social programmes. This left the UK to rely on its own legal statutes and international treaties to inform domestic approaches to issues such as child protection, impacting children across the UK devolved nations. Despite this, concerns of how this political shift impacted the most vulnerable groups of children in the UK, namely migrant children and children looked after, have thus far been neglected. This research sought to address this knowledge gap by analysing child protection policy documents across the EU and the UK to identify disparities in policy provision and gauge how post-Brexit policy affects children differently. Discourse analysis was utilised as a methodological lens to investigate the implementation of child protection policy across different contexts, using tools such as the scrutiny of language to expose structural issues within child protection policy. The report's recommendations call for the UK government to address failures in child protection policy as a formative issue; it advises actions to repeal harmful statutes such as the EU Settlement Scheme and implement models more closely aligned with the EU. This research is significant in its efforts to highlight the importance of involving children in the production of child protection policy alongside demonstrating the damaging effects of child protection systems oriented towards crisis instead of continuity, as seen in post-Brexit UK.

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78. Photocurable, Antimicrobial Drug–Eluting Material Treatments to Mitigate Periprosthetic Infections: A Study of Injectable Hydrogel Microspheres and Long–Term Coatings

Izaak Walker

University of Sheffield

Periprosthetic Joint Infection (PJI) is a leading cause of total joint arthroplasty failure affecting 0.6%–1.3% of patients in Europe, with a five–year mortality rate of 26% – higher than that of breast and prostate cancer. Current treatment strategies, such as revision surgery and DAIR procedures, are costly, invasive, and often ineffective, particularly against biofilm–associated infections. The rise of antimicrobial resistance (AMR) further complicates treatment thereby necessitating novel therapeutic solutions.

This project explores the feasibility of photocurable, antimicrobial drug–eluting microspheres as an injectable treatment for PJI. These microspheres, based on poly(glycerol sebacate)–co–poly(ethylene glycol) (PGS–co–PEG) derivatives, are designed to deliver MetalloBio's metal complex–based antimicrobial drug directly to the infection site. Two copolymer derivatives, PGS–co–PEG–methacrylate and PGS–co–PEG–itaconate, are synthesised and compared in terms of their biocompatibility, mechanical stability, and drug–release kinetics; and rheological properties are assessed to determine their suitability as an injectable therapy, targeting biofilm–associated pathogens such as Staphylococcus aureus and Escherichia coli.

Polymer degradation and porosity effects are investigated under physiological conditions and controlled drug release is evaluated via UV–Vis spectrophotometry. This study aims to optimise microsphere formulations for prolonged antimicrobial efficacy, offering a minimally invasive and cost–effective alternative to current PJI treatments. By integrating biomaterial innovation with targeted drug delivery, this research seeks to address a critical clinical challenge in orthopaedics and as such contribute to the development of next–generation infection control strategies.

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81. Intraspecific geographic variation of rough-toothed dolphin whistles

Rosie Wharton

University of St Andrews

Intraspecific geographic variation in dolphin vocalisations has only been quantified for some species and it is often unknown which acoustic features are preserved across regions. The rough-toothed dolphin (Steno bredanensis) is a species in which the persistence of one feature (abrupt frequency steps in the whistle contour) across oceans has been suggested. We therefore investigated parameter and whistle type variation in rough-toothed dolphins to assess repertoire and feature stability across acoustic samples from the Tropical Pacific, the Southwest Atlantic and the Mediterranean Sea.

We used the ROCCA module in PAMGuard (www.pamguard.org) to extract 24 acoustic parameters from the fundamental frequency of randomly selected whistles from multiple encounters in each location. Kruskal-Wallis comparisons with Dunn tests were used to investigate whistle parameters across regions. We also conducted a neural network analysis of whistle repertoires to compare whistle types across regions.

With the exception of minimum frequency, all parameters showed significant differences between at least two regions (α=0.05). Ten of 24 parameters differed significantly between the Pacific and Atlantic sites, while almost all variables (20/24) differed significantly between the Mediterranean and the other two sites. Neural network analysis found 7 shared whistle types across all three oceans, with an additional 16 types shared between 2 of the 3 oceans. Twenty-eight whistle types were unique to one location (11 in the Pacific, 13 in the Mediterranean, 4 in the Atlantic). Whistles in all regions were mostly upsweeps or downsweeps that differed in specific parameters and showed few inflection points or steps.

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82. An examination of the entity solution to ethnic conflict and the implications for the protection of ethnic and minority rights in Bosnia and Herzegovina

Ivana Maria Ireson

University of Sussex

My project concerns an examination of the entity solution to ethnic conflict and the implications for the protection of ethnic and minority rights in Bosnia and Herzegovina. The Dayton Agreement, signed in 1995, ended the brutal conflict in Bosnia and Herzegovina and split the country into two entities, the Federation and Republika Srpska. The Federation contains a Muslim Bosniak and Catholic Croat majority, whilst Republika Srpska contains an Orthodox Serb majority. The Agreement stated that the country was a state of three constituent peoples – Bosniaks, Croats and Serbs as well as 'Others' who do not identify with these groups. The entity solution was designed to award the constituent peoples with equal political rights through ethnically defined political positions. However, there are 17 national minorities that form 2.73% of the population and face exclusion within the dual entity system. This project navigates significant minority rights challenges, such as the non-implementation of a European Court of Human Rights judgement, that found a breach of the ECHR. This was due to the exclusion of a Jewish and Roma citizen from the tripartite presidency and state-level House of Peoples. Moreover, this project assesses the impact of mechanisms designed to assist minorities, such as reserved seats in local government. That said, my research suggests that Polish and Ukrainian minorities experience fairly stable representation in local politics, whilst the Roma remain the most vulnerable. In conclusion, my research suggests that the Bosnian entity solution rewards ethnonationalist politics and minorities that assimilate more easily with constituent peoples.

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85. Generating miRNA-32 Knockout Cell Lines in Carboplatin Resistant Lung Cancer

Miran Saadoun

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Non-small cell lung cancer (NSCLC) remains a leading cause of cancer-related mortality globally, with carboplatin resistance significantly compromising treatment efficacy. This project investigates the role of microRNAs (miRNAs), small regulatory RNA molecules, in mediating drug resistance. Specifically, we focus on overexpressed miRNA-32 implicated in carboplatin resistance, aiming to suppress its expression and elucidate their contribution to resistance mechanisms.

To achieve this, we employed CRISPR-Cas9 gene-editing technology to generate miRNA-32 knockout NSCLC cell lines. Our approach involved designing single-guide RNAs (sgRNAs) targeting miRNA-32, transfecting cells with CRISPR-Cas9 plasmids, and selecting edited clones via puromycin resistance and clonal expansion. Validation using qPCR and sequencing revealed a heterogeneous mix of edited cells, with evidence of insertions and deletions.

By deepening our understanding of miRNA-mediated resistance, this research represents a step toward overcoming one of the most pressing challenges in cancer therapy and offers intentions for more effective, targeted treatments in the future.

Despite efforts, miRNA-32 expression persisted post-editing, suggesting challenges in achieving effective knockout and highlighting the complexity of targeting miRNAs for therapeutic intervention.

Future directions include optimising CRISPR protocols, performing Sanger sequencing to refine mutation detection, and conducting functional assays to elucidate miRNA-32's role in proliferation and carboplatin sensitivity.

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86. Sonic Hauntology: An epistemological tool interrogating Gen-Z's perception and engagement with the UK's contemporary cultural and socio-political spheres

Elizabeth Stevens

University of Sussex

In Derrida's Spectres of Marx, hauntology, a neologism that explores how socio-political and socio-cultural pasts return and persist in an array of cultural devices was coined. Sonic hauntology, predominantly theorised by late cultural and political theorist, Mark Fisher, is said to be a short musical expedition that occurred during the mid-2000s, in which music artists, such as Burial and The Caretaker, highlight the pervading spectrality of the UKs social, cultural and political history through their gloomy, spectral soundscapes. This project seeks to explore how sonic hauntology's brief expedition has the capacity to be used as an epistemological tool; one that can audially map the futilities of the UKs contemporary socio-political and socio-cultural spheres.

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87. Improving Partner-Involvement in Childbirth Experiences

Carl Von Uslar-Gleichen

University of Sussex

This project aims to explore the experience of childbirth from the father's/partner's perspective. Whilst childbirth is typically under-researched in terms of the overall experience, this is especially true for the partner's perspective. This is understandable, given that the partner does not seem to play a crucial role; yet research has started to reveal that all participants in the situation do in fact crucially contribute to it and that an increased involvement of partners has various positive effects.

By way of interview analysis, this project seeks to understand the experience of childbirth more closely from the perspective of the partner. We strive to map the emotional landscape of being present at childbirth and explore connections between communication and emotions. This thematic emphasis builds on previous work by Tanja Stähler, which centred on both, the experience of mothers and the role of midwives, and proved phenomenology to be well suited as a methodology for researching childbirth as an experience. The phenomenological focus on the experience of childbirth itself strives to describe and interpret experience in an as unprejudiced and unbiased fashion as possible. A further comparative component is added to the analysis regarding German and English childbirth settings, since interviews were held in Germany. Based on the findings, the project develops proposals to involve partners in meaningful and suitable ways in childbirth situations.

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88. Artificial Intelligence in Nuclear Medicine: Applications and Sustainability

Andrew Davison

University of the West of England

The sustainability of nuclear medicine practices requires a comprehensive evaluation across the five pillars of sustainability: economic, environmental, ecological, social, and human. Artificial intelligence (AI) and digital twin technologies, the latter concerning the creation of a digital replica of a real-world object, offer transformative potential in advancing these dimensions of sustainable practice. By streamlining data processing and analysis, AI can tackle challenges like data complexity and explainability, enhancing therpaeutic outcomes and diagnostic precision. Digital twins further contribute by simulating organ-specific drug interactions, enabling more personalised and efficient radiation dosimetry while minimising unnecessary radiation exposure, following current legislation about radiation exposure to patients.

In addition to these technical advancements, AI and digital twins hold significant promise in addressing social and human aspects of sustainability, such as healthcare inequity, automating repetitive tasks and alleviating clinician workloads. However, these innovations also introduce challenges, including ethical concerns, the need for robust regulatory frameworks, and potential barriers to widespread implementation.

This literature review explores the multifaceted applications of AI in nuclear medicine, discussing its integration into current practices and its potential to support their sustainability while addressing associated risks and ethical concerns. It highlights how these technologies can drive progress across the five pillars of sustainability for the development of more effective clinical and research practices in nuclear medicine.

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89. Epigenetic Consequences of Ionising Radiation: A Review of Mechanisms, Risks, and Future Directions

Andrew Davison

University of the West of England

Ionising radiation is a well-accepted mutagen whose serious consequences on human health and its effects on epigenetic regulation are under active investigation. This literature review discusses the current understanding of the impacts ionising radiation has on DNA methylation, histone modification, and expression of non-coding RNAs, including proposed mechanisms of radiation-induced epigenetic changes. Understanding such changes is very important for understanding long-term risk, including carcinogenesis, genomic instability, and transgenerational effects. With the increasing application of radiation in medical diagnostics and cancer therapy, this research is more relevant than ever. Furthermore, as there is growing concern about environmental and occupational exposure to radiation, a full understanding of epigenetic responses will be necessary to develop better radioprotective strategies and therapeutic interventions. This review summarises the main findings, points to gaps in the literature, and discusses future research directions in this fast-moving field.

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90. Equality in Vulnerability: Legal Acknowledgment of Rape Beyond Gender Biases

Kawal Bhimda

University of Warwick

Presenting my research, Equality in Vulnerability: Legal Acknowledgment of Rape Beyond Gender Biases, at BCUR 2025 is a crucial opportunity to address a significant gap in the UK's legal framework on sexual violence. My project critically examines the exclusion of male victims in forced-to-penetrate (FTP) cases under the Sexual Offences Act 2003, which defines rape exclusively as penile penetration. This restrictive definition marginalises male victims, failing to provide them with equitable legal protection. Through my research, I challenge the gendered misconceptions of victimhood, advocating for a gender-neutral legal definition of rape that ensures justice for all survivors.

BCUR 2025 offers an academic platform to engage with scholars, policymakers, and legal experts in constructive dialogue. By presenting my findings, I aim to highlight comparative legal frameworks, such as California's gender-inclusive rape laws, demonstrating their effectiveness in recognising all victims' experiences. This conference provides a space to refine policy recommendations, foster interdisciplinary discussions, and build momentum for legal reform.

Beyond awareness, this presentation is a call to action. By confronting the societal stigma surrounding male victimhood, I seek to challenge barriers that prevent victims from reporting assaults. The ultimate goal is to influence ongoing legal discourse and push for a re-evaluation of rape laws in the UK. BCUR 2025 is the ideal setting to amplify this conversation, connecting with academics and professionals dedicated to driving change in justice and equality.

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91. First steps towards mapping the 3D brightness and velocity distribution of Hot Jupiters using ground-based high-resolution spectroscopy

Daniyal Boriawala

University of Warwick

3D mapping of exoplanet atmospheres is yet to be explored using high resolution spectroscopy. In this study, we will present a framework to retrieve detailed information about exoplanet atmospheres from high resolution data of the secondary eclipsing of exoplanets. This framework enables the construction of a 3D map of the atmospheres of highly irradiated Jupiter-like exoplanets, revealing their globally varying wind circulation, temperature profile, chemical composition, and the location of hot spots. To accomplish this, we will set up a 2D polar grid and model the integrated flux of the star-exoplanet system in three regimes around the planet's secondary eclipse: Just before occultation, during ingress, and during egress. Using this model, we will analyse the Doppler shifts in the light curves during ingress and egress as it gets "scanned" by the stellar disk to derive the exoplanets atmospheric maps. We will test the model by starting with simple configurations and then inject more complex parameterisations. Finally, we will use Bayesian retrieval and model comparison on synthetic data with a range of signal-noise ratio to test the limits on the accuracy and precision of our extracted 3D maps of global temperature and wind profiles. The frameworks we will propose will demonstrate the power of using high resolution spectroscopy in the detailed characterisation of exoplanet atmospheres. With the upcoming ELT, this framework will pave the way for further advancements in modelling and observations for detailed characterisation of the atmospheres of smaller Neptune and Earth-like exoplanets.

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93. Queering Sociological Research: Using Live Methods to Explore Gender Diversity through Art

Julie Derenne

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This study evaluates the nascent queer research practice of Live Methods which challenges existing sociology methods to go beyond conventional norms of how to conduct research. This framework understands 'queer' as rethinking established norms of creating knowledge. Through more alternative, creative ways of interpreting data, this project questions the ability of queer methodologies to give a voice to trans* participants as researchers rather than subjects of study. By incorporating Live Methods into data-collecting processes, via crafts-based mediums, we allow research to be accessible to neurodivergent and genderqueer participants feeling more comfortable in collective art-focused interviews. Through a focus-group interview with a multi-media art activity, participants will engage in meaningful interactions about their gender diversity and how to translate it into art-making. The thematic analysis of the findings–via a video study of the interview and the participants' creative pieces–will be informed by multiple disciplines, as queer methods ask us to rethink knowledge-production practices in an interdisciplinary way in academia. We ask: 'What is trans* art?' 'Why do we make trans* art?' and 'How can trans* art be political?' to discover how trans* art and queer frameworks can shape research practices differently from current methods. By fostering new ways of researching, this project goes beyond the power dynamic between researcher and participants: both connect in a shared space to create knowledge for the queer community. Consequently, Live Methods ask us to change our way of studying humanity by accommodating those we want to represent and understand.

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96. Reconciling Development and Sustainability: Stakeholder Perspectives on Guatemala's Extractive Industry

Ana Luz Lelo De Larrea, Sofia Morales and Garcia Milagros

University of Warwick

The extractive industry in Guatemala is a contested space where economic growth, environmental sustainability, and social justice intersect. While mining is often seen as a contributor to national revenue, job creation, and infrastructure development, it also exacerbates socio-economic inequalities, particularly for indigenous communities. This research examines how different stakeholders, such as indigenous communities, government officials, and academics, perceive the industry's role in development.

Using qualitative methods, including semi-structured interviews and thematic analysis, the study identifies three key perspectives. Government officials emphasise economic benefits, foreign investment, and regulatory challenges, portraying mining as a driver of national progress. Indigenous communities, however, voice concerns over land dispossession, environmental degradation, and the erosion of traditional livelihoods, highlighting the industry's role in deepening social injustices. Academics present a more nuanced view, recognising the economic advantages while warning of long-term socio-environmental costs. The study finds that existing development models prioritise economic growth at the expense of marginalised communities, failing to account for their needs and rights.

The findings underscore the need for a redefinition of development that incorporates social and environmental sustainability. The study advocates for policy reforms that strengthen indigenous land rights, enhance community consultation processes, and ensure equitable distribution of mining benefits. It also suggests exploring alternative development models, such as Buen Vivir, which integrate economic, cultural, and environmental considerations. By fostering inclusive decision-making, Guatemala can move towards a more just and sustainable approach to resource extraction that benefits all stakeholders.

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98. How to build a photosynthetic cell: a role for chromosome structure

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Cyanobacteria are responsible for the oxygenation of the atmosphere ~2.3 billion years ago and contribute to 25% of total global carbon fixation today. They paved the way for life as progenitors of all oxygenic photosynthetic organisms, including plants. Model cyanobacteria like Synechocystis PCC6803 have a fully sequenced genome and are a vital resource for genetic engineering. Such characteristics offer enhanced carbon sequestering, fuel and bioplastic production, contributing to efforts in mitigating climate change. Despite this significance, the process by which photosynthesis is controlled and coordinated in cyanobacteria is unknown. Photosynthesis occurs at the thylakoid, a membrane with highly compartmentalised domains in which photosynthetic protein complexes are located at specific locations. How proteins reach these designated locations has been a proposed result of post-translational sorting, signal peptide information, vesicular transport, and, more recently, mRNA targeting, yet the evidence remains uncertain. Gene regulation in other prokaryotes, like E.coli and Caulobacter crescentus, involves both transcriptional regulation and spatial organisation, demonstrating chromosomal boundaries of 4 macrodomains ori, ter, left and right, with additional organisation resulting from nucleoid-associated proteins (NAPs) and structural maintenance of chromosome proteins (SMC) involved in chromosomal compaction. Similarly, NAPs have been observed to influence gene expression in cyanobacteria, like cyAbrB2's regulation of hydrogenase during fermentation. Given these similarities, we hypothesise that structural conformation might have a role in the regulation of photosynthesis in cyanobacteria and propose that alterations of this structure could impact the localisation of thylakoid membrane proteins, and consequently photosynthesis.

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100. Possible CO_2 Sensitivity In Axolotl Connexins and their Relevance

Caiti Wardle

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Connexins are hexameric, ATP-mediated channels that allow the transfer of chemical messengers from one cell to the next and are an integral part of vertebrate neurophysiology. Recently, insights into CO2 sensitive connexins were made showing the relevance of CO2 in the body as a neurochemical messenger. Along this line, the axolotl is renowned for its regenerative ability both in its limbs and in parts of non-essential neural tissue, which has been proven to be increased by the upregulation of Connexin 26 in axolotls, a proven CO2 sensitive hemichannel in mammals. Following this, we tested an unknown connexin from an axolotl to see if it was CO2 sensitive, allowing us to blindly test the sensitivity with no bias. Competent E. coli were transformed with relevant plasmid DNA mCherry constructs and DNA was subsequently processed into seeded HeLa DH cells and transiently transfected with GrabATP sensor for expression. Cells were imaged with epifluorescence assays 48hrs after transfection following appropriate protocol. 35% CO2 infused mock-spinal fluid was introduced to cells to create a baseline, after which 70% was introduced and 50mmHg KCl as a control was introduced. 3µM of ATP was also introduced to calibrate for ATP usage by connexin using GrabATP sensor. Partial sensitisation of connexins to CO2 was seen on all accounts suggesting they are at least partially CO2-dependent. This could suggest that CO2-sensitivity gives an evolutionary advantage and may offer insight into potential regenerative technologies for limbs and tissues within the body.

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101. Testing the limits. Can nitrate levels be used to safeguard the health of UK rivers?

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The aim of this study was to address the influence of nitrate on the health of UK rivers. Although the effects of excess nitrate on river ecosystems is well studied in the literature, specific legislation to effectively safeguard UK river health has remained limited. This study therefore examined the need for introducing environmentally-focused nitrate limits, in order to conserve river biodiversity. This was an observational study designed to assess the correlation between changing nitrate concentrations and riverfly abundance along three rivers: the Wye, Great Ouse and Dart. Water samples were collected and nitrate concentrations determined. Results from the River Wye and Great Ouse showed a strong correlation between higher nitrate levels and more tolerant riverfly species, whereas the results from the River Dart were not significant. Given our further understanding of these species' threshold nitrate concentrations, the introduction of specific limits could benefit wider species abundance. These results could also contribute toward policy development to help tackle the pollution of UK waterways. This small study has demonstrated the feasibility of my approach although further, larger, studies will be required to enlarge the evidence base. The experimental method that was utilised may additionally facilitate the development of an accessible, yet stringent framework for identifying environmental nitrate limits along all UK rivers, helping to advise future policies regarding pollution and conservation.

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102. Image Denoising via Neural Network Techniques

Hongxin Zhen

University of Warwick

My research is to implement a popular technique to image denoising using LISTA framework, which combines a deep learning model with a mathematical algorithm. Image denoising is a crucial to fields from photograph to medical imaging, where existence of noise may significantly degrade quality of images. Derived from traditional Iterative Soft-Thresholding Algorithm (ISTA), LISTA achieved an excellent performance on reconstruction of images while reducing a huge computational cost. By unrolling ISTA into a convolutional neural network, my model achieves a surperier results with significantly fewer iterations. Explanations will be given on the LISTA approach using visualisations from my implementation in PyTorch on the BSD500 dataset, and the effectiveness of the model via numerical Peak Signal to Noise Ratio (PSNR) and Normalised Mean Squared Error (NMSE). In addition to implementation, there will also be some insights about regularisation and Proximal Gradient Descent (PGD) in model optimisation, as well as key architectures in neural networks.

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103. Students at the forefront of CRISPR-led innovations for sustainable development

Kalpana Surendranath

University of Westminster

Young researchers are integral to global progress in achieving the Sustainable Development Goals (SDGs) through scientific innovation, policy influence, and technological advancements. Data from Innovate UK indicates that only 29% of funding applicants identify as female, highlighting the need for targeted initiatives. Addressing this gap, the Gene Editors of the Future programme has, since 2020, trained over 700 students-predominantly women-through hands-on experience in CRISPR/Cas9 gene-editing technology. By providing free access to participants across all educational levels, from entry-level undergraduate to PhD, as well as academic staff and international candidates, the initiative actively promotes gender equality and reduces inequalities (SDGs 5 and 10). In collaboration with leading academics and industry partners, the vertically integrated programme fosters innovation and infrastructure development (SDG 9) by offering access to state-of-the-art laboratories and cutting-edge equipment. Beyond research training, the programme equips students with career-enhancing opportunities, strengthening their prospects in academia and the employability landscape. As emerging CRISPR experts, graduates can contribute to advancements in healthcare, climate resilience, clean water solutions, food security, and biodiversity conservation (SDGs 3, 6, 13, 15). Integrating education, research, and industry collaboration seamlessly, the initiative embodies Partnerships for the Goals (SDG 17), positioning students as leaders in genomic innovation and sustainable development.

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105. A cross-cultural examination of recently developed "pet parenting styles" in dog owners, and the potential effects upon areas of dog behaviour

Lucy Barker

University of Portsmouth

There is no doubt that we have developed as a society to care and love for our canine pets as companions, but to what extent? Research in cultures strongly influenced by western cultures, such as the UK itself, have established that in a large majority of our society we are viewing our dogs as an extension of our families, with COVID-19 research even hinting some couples view their canine pets as children, in place of having a human child. Yet this is not necessarily generalisable, as research in less westernised cultures, such as South Africa, is almost non-existent. Some potentially outdated research suggests dogs in many households are viewed as guards and protectors over companions- yet the changing cultural landscape of South Africa may challenge such findings. Establishing if this familial view of canine pets is important due to recent findings of "pet parenting styles", derived from Baumrind's (1966) classifications: "Authoritative", "Authoritarian", and "Permissive", which imply the way owners "parent" their dog's mirrors that of a parent-child relationship, with a potential to also mimic child behavioural consequences.

This project utilised Brubaker's (2019) pet parenting survey, to analyse any potential links between parenting styles and three measures of dog behaviour: aggression, anxiety, and separation anxiety, all of which most owner's today class as major issues with dog training and behaviour. This was also examined across cultures, to see if any major cultural differences between the UK and South African pet parenting style could be established, and if any implications came from this.

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106. Mapping De-Extinction Actors and Networks

Livia Zhu

University of Sussex

De-extinction is the process of recreating an extinct species, wherein the resulting animal phenotypically resembles the extinct one, but it is not genetically identical. Recently, CRISPR-Cas9 technologies, stem cell engineering, and other gene editing techniques have allowed de-extinction to creep closer to reality. De-extinction has the potential to be a revolutionary conservation tool, but as the science and technology that makes it possible marches forward, it becomes more important than ever to consider its other outcomes. The assisted reproductive technologies that enable de-extinction projects have profound implications for human and animal reproduction, and the mammoth remains trade demonstrates exploitation in the search for genetic materials. Here, we use web scraping and GIS mapping tools to analyse and examine the actor networks that form between museums, resource extraction sites, laboratories, venture capitalists, and research institutions funding and carrying out the de-extinction of the Woolly Mammoth, Thylacine, and Northern White Rhinoceros. In doing so, we find emerging evidence that contemporary biotechnological pursuits bear a neocolonial tinge and that de-extinction projects' conservation narratives may obscure the many other consequences of biotechnological advancement.

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107. Education for Sustainable Development: Scoping Animal Welfare Policy and Legislation Across Africa

Azelina Ferrigan

University of Leeds

One of the greatest threats to research involving animals is a lack of reproducibility and reliability due to the absence of appropriate ethical review processes. The extent of laws in Africa governing the use of animals in scientific research is currently unknown. This research project aims to redress this issue by establishing the scope of animal welfare policies across the continent - a crucial step in the promotion of global ethical standards and sustainable research. Secondary data was extracted into Excel following a systematic literature review of PubMed for each country in Africa. 29 of 54 countries showed evidence of ethical review processes, 8 did not require ethical reviews for the studies conducted, and 1 had no evidence of ethical review processes. Of 198 relevant papers, 79% had evidence of an ethical review process. These findings can be used to refine professional education courses and support African researchers in undertaking high quality research. The refinement of these courses will ultimately aid in the improvement of both human and animal wellbeing through the enhancement of novel medicine development, animal conservation efforts, and animal welfare. This research has provided an excellent base of understanding that can be further built upon to provide a more well-rounded picture of the extent of animal welfare policies across Africa. It is hoped that new perspectives on animal welfare legislation will be offered through further research, and will in turn enhance and promote different and innovative methods of research in the United Kingdom.

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108. Effect of the COVID-19 Pandemic and isolation measures on the Mental Health Well-being of sixth form grammar school students in Cumbria

Medhini Varma

Newcastle University

COVID-19 affected many countries globally, including the UK, to which the UK responded by placing lockdown measures throughout the country. This meant that many people were restricted in their everyday lives, including students. This study is used to understand the impact of these measures on sixth form students.

The Warwick-Edinburgh Mental Wellbeing Scale was sent to students in a sixth-form grammar school in September 2021 to assess students' mental well-being. A semi-structured proforma was then also sent in May 2022 to compare students' experiences and mental health before and after the lockdown measures.

On the well-being scale, 47.1% of sixth-form students scored below 44 (average to low mental well-being), while 31% of the 1st year sixth-form students and 27% of the 2nd year sixth-form students scored 40 and below (lower than average mental well-being).

In the semi-structured proforma, 73.90% of students (n=69) experienced quarantine since the pandemic started. 69.10% of them felt that the quarantines negatively impacted their mental health. In response to the question 'In your own words, what was the most difficult thing that you experienced during the COVID pandemic?' (n=55), 5 general themes were identified: Isolation, not socialising, loneliness, loss of teenage life/youth, and online learning.

The study showed that the mental well-being of sixth-form grammar school students in Cumbria was mostly negatively affected by the lockdown measures. The authors concluded that more accessible and approachable support should be provided to students in case of a similar

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event. More research is needed to understand the long-term impacts of such measures on students' school and social lives.

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109. Investigating the Impact of Geomagnetic Storms on Cetacean Navigation and Strandings

Jed Cornwall-Jones

University of Exeter

Geomagnetic storms, caused by disturbances in the Earth's magnetosphere, have been hypothesised to impact cetacean navigation and potentially lead to strandings. This study aims to investigate the potential correlations between geomagnetic storms and both cetacean navigation disruptions and strandings, in-order-to improve conservation strategies in the future. We used large datasets containing cetacean coordinates, UK stranding data, and Kp index data, carrying out multi-scale analysis techniques to visualise and quantify the relationships between these variables. Our findings highlight notable changes in cetacean navigational patterns, as well as deviations in turning angles that coincide with geomagnetic activity. However, from our statistical analysis, we conclude that the overall impact on cetaceans is low. Therefore, we believe that additional factors, such as environmental variables and human activity, may play a more prominent role in these events. This study, conducted as a group research project, underscores the complexity of cetacean navigation and highlights the importance of considering other potential causes of mass strandings.

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110. Zebrafish as a Potential Model for DNA Repair and Ageing: A Study on Ercc3 Gene Knockout

Malek Elhafed

University of Sheffield

This research investigates whether zebrafish embryos serve as a model for studying premature ageing and DNA repair by creating a knockout of the Ercc3 gene using the CRISPR/Cas9 system. Impaired Ercc3 function in mice and humans leads to premature ageing.
Current vertebrate models for studying molecular ageing are often costly and complex, highlighting the need for additional approaches. Zebrafish offer a practical and cost-effective solution due to their genetic similarities to humans and ease of manipulation.Our aim was to design CRISPRs to disrupt gene function and use molecular and function assays to test the success.

To disrupt Ercc3's DNA repair function we designed two CRISPR guides: Rank 8 located in exon 6 and Rank 5 in exon 2, which were then injected into zebrafish oocytes. After microinjecting these guides into zebrafish oocytes, we performed PCR analysis, which confirmed the success of the knockout. On day 5 post-injection, we documented phenotypic changes with microscopic imaging and analysed the results using ImageJ (FIJI). We then assessed how various factors such as yolk reduction and UV exposure influenced the Ercc3 knockout phenotype. And we used a loss of heterozygosity (LOH) reporter to assess levels of DNA damage.
Our findings showed that the CRISPR guides effectively knocked out the Ercc3 gene, resulting in observable phenotypic changes. Yolk reduction did not affect the phenotype, while UV exposure caused the death of injected embryos, which could not repair UV-induced damage due to the Ercc3 knockout. Wild-type zebrafish survived UV exposure. Additionally, embryos with LOH reporter and injected with the guides exhibited increased LOH in their body.

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These results suggest that our Ercc3 deficient zebrafish might become a valuable model for studying mechanisms of premature ageing.

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INSTALLATION:

"Black Fine Art Student Experience in the Northeast and their contribution and involvement to the Northeast Art Network"

Afiya Ballard-Debois

Newcastle University

This project focuses on the Black fine art student experience, specifically those who have graduated or are currently studying in the Northeast within the last seven years. It aims to explore Black students' challenges and barriers in art departments, from admissions to career success, and investigate their involvement in the regional art network. The research will examine the feasibility of art institutions supporting Black students, the policies that affect their success, and their experiences exhibiting work. As a passionate advocate for representation and recognition, I have noticed a lack of Black students in the fine arts department, and this gap motivated my research into where Black artists are within the art community within the Northeast and how they contribute to the local scene.

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BCUR 2025 ABSTRACT BOOK – POSTERS

INSTALLATION:

Techniques for using cast glass to represent aspects of water pollution

Penny Riley-Smith

University of Sunderland

Not available

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