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FREDERICK DOUGLASS CENTRE, NEWCASTLE UNIVERSITY

Book of Abstracts

Presentations

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1. Crystallisation of the “uncrystallisable”: High-throughput in situ chemical derivatisation of amine containing molecules for crystallinity upregulation

Alex Johnson

Newcastle University

Crystals exist in everyday life in many forms; the sparkle of the sugar in your kitchen cupboard is due to its crystalline nature. Such crystals are made up of individual molecules that are arranged in a regular, ordered 3D pattern. Exposing a single crystal to an X-ray beam, results in diffraction of the X-rays, and the interpretation of the resulting X-ray diffraction pattern allows the structure of the component molecules to be understood. This detailed understanding of molecular structure is key to designing modern chemicals, such as new medicines.

However, many molecules do not form crystals, making it impossible to use X-ray diffraction analysis. We have addressed this challenge by using high-throughput nanoscale robotics to enable new chemistry capable of modifying a molecule of interest, such as a drug molecule, to increase its crystallinity. Our new approach uses benzoyl isothiocyanates to perform in situ addition reactions with amine containing target molecules, resulting in crystalline derivatives. These newly formed derivatives have been shown to grow micrometre sized single crystals, which we have subsequently analysed by X-ray diffraction to solve the structures of the original molecule of interest.

This project has broad implications, especially in the design of new medicines, by aiding in rapid structural analysis.

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2. Hadrian's Wall – Its Forts and their Vici, a Demographic Study

Reece Garrett

Newcastle University

It was Francis Haverfield in his 1905 paper 'The Romanization of Roman Britain' who first put forth a model for explaining the interaction between the native Britons and the conquering Romans. Despite 'Romanization' being the accepted model for decades, scholarship of the 21st century has identified it as a defective paradigm. Roman Britain was far too complex of a society to neatly pigeon-hole into categories of a superior conqueror and an inferior conquered; Roman Britain was a complex negotiation of cultures, not just the Romans incorporating new peoples and cultures into their empire, but also natives and foreigners stationed in Britain, from as near as Gaul to as far as the Near East, accepting and rejecting Roman cultural elements while also retaining many elements of their own cultures, resulting in the creation of a new, hybrid society, which today we are still trying to fully understand. This research will attempt to gain a deeper understanding of this melting pot society in the context of Hadrian's Wall: the demographics of its forts and surrounding vicus settlements. The majority of this research will be undertaken through extensive use of the Roman Inscriptions of Britain database to identify elements of culture and patterns such as ethnic/geographical identifiers and regional deities. This will give us a greater understanding of the people who lived around Hadrian's Wall, their origins and culture, as well as helping us identify how the many cultures interacted around Hadrian's Wall and any signs of cultural hybridisation.

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3. Metagenomic study of River Cam sediments using amplicon sequencing to understand the bacterial community composition

Kantriou Or Kadriu

Anglia Ruskin University

Bacterial communities play essential roles in maintaining ecosystem operations in river sediments. Understanding the composition and diversity of these communities is vital for assessing the impact of human activities on ecosystem health. This study aims to investigate microbial taxonomy and phylogenetic diversity using amplicon metagenomic sequencing in river Cam sediments. A high throughput identification of the bacterial communities in the sediments was conducted based on Illumina sequencing by targeting the V3-V4 regions of the 16S rRNA gene. The data generated was examined by DADA2 pipelines, with additional analysis performed via QIIME2 platform. Results revealed a diverse spectrum of bacteria, with Gammaproteobacteria and Alphaproteobacteria phyla contributing 24.76% and 13.80% of the total microbial population respectively. The Vicinamibacteraceae family appeared as the most widespread which plays a key role in organic matter degradation and nutrient cycling within the ecosystem. A vast number of unclassified taxa in genus and species level unravels opportunities in the discovery of novel bacterial species which may contribute to nutrient cycling and bioremediation of the sediment ecosystem. The alpha diversity indices showed a complex and diverse microbial ecosystem in the sediment. Findings highlight the influence of anthropogenic activities on microbial community composition and phylogenetic diversity in river Cam sediments. The study advances our understanding of microbial taxonomy in aquatic environments and provides a foundation for further exploration of river ecosystems and microbial functions.

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4. Ecotoxicological effects of e-cigarettes and e-liquid on the performance of perennial ryegrass (Lolium perenne)

Louise Tovey

Anglia Ruskin University

Disposable e-cigarettes have spiked in popularity over the past decade and are becoming increasingly common as litter globally. E-cigarettes typically contain a lithium-ion battery used to power a metal heating coil, which vaporises e-liquid. As the effects of littered e-cigarettes are poorly understood, this study was designed to test how e-cigarettes impact the terrestrial ecosystem. Perennial ryegrass (Lolium perenne), a common European grass species, was grown for 31 days. The grass was irrigated using different treatments to test how the components of e-cigarettes affect its growth and physical characteristics. The irrigation treatments consisted of e-cigarette leachate with or without a battery, as well as e-liquid on its own. Whilst shoot length was not measurably affected, biomass was significantly reduced by 30% when e-liquid, and 24% when leachate from intact e-cigarettes was present compared to control plants. Early senescence of leaf apices was observed for plants grown with leachate or e-liquid, as well as increased chlorophyll content. Additionally, the root biomass of treatments was significantly less (29–46%) compared to the control. The findings of this study suggest that stricter regulations should be implemented to prevent this increasingly common electronic litter item from reaching the soil ecosystem, where it can be detrimental to the performance of plants.

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5. Investigating the Effects of Socioeconomic Status on Sexual Violence at Durham University

Grace Anderson

Durham University

This study explores whether socioeconomic status (SES) impacts attitudes towards sexual violence, focusing particularly on students at Durham University. Prior research has highlighted factors such as personality, demographic, and situational factors which contribute to rape myth acceptance (RMA) but the impact of this alongside SES has limited exploration in a university setting. To measure RMA, participants indicated their levels of agreement to statements from the Illinois Rape Myth Acceptance Scale (IRMA) as well as statements specific to sexual violence at Durham University, where they were asked about their beliefs towards assault, victims, and women. SES was measured via a self-report scale of social status, which incorporated school type and perceived class. This study aimed to determine whether SES had a significant impact on IRMA scores, and statistical analysis revealed no significant relationship. This could indicate that SES does not substantially contribute to RMA, and other factors such as education or socialisation have more of an influential role in shaping RMA beliefs. The results of this study contribute to the broader discourse on factors which influence RMA and emphasises the need for future research to explore alternative predictors.

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6. Quantifying the Vulnerabilities: Assessing the Impact of Quantum Computing on Blockchain Security

Md Sohazur Islam Sozib & Shanzila Ahmed

Zayed University

Blockchain technology is increasingly adopted in finance, healthcare, and supply chain management, with entities like HSBC and the UAE government relying on it for secure data storage. Despite its strong security reputation, rapid advances in quantum computing threaten blockchain's cryptographic underpinnings—particularly RSA and Elliptic Curve Cryptography—which could be vulnerable as early as 2030. Recent breakthroughs, such as Google's new Willow quantum chip completing a complex task in just minutes that would take a supercomputer billions of years—highlight that quantum capabilities may emerge sooner than expected.

This research examines discrepancies between perceived and actual readiness for quantum threats in the blockchain industry. A quantitative survey of 32 professionals—including quantum and blockchain researchers, developers, security experts, and industry analysts—was conducted in the UAE and MENA. While 67% of blockchain experts anticipate quantum-resistant solutions within 3–5 years, half of the quantum experts foresee a 10-year or longer timeline. Secondary research points to developments like PsiQuantum's work—reducing the computational resources needed to break ECC by a factor of 700—further underscoring the urgency of this threat.

Findings show fewer than 60% of blockchain initiatives are actively pursuing quantum resilience. Experts warn that compromising RSA or ECC encryption could lead to catastrophic data breaches, extensive financial losses, and critical infrastructure disruption. Consequently, this study stresses the immediate need for industry-wide collaboration and regulatory measures to expedite post-quantum cryptography and ensure blockchain's security against imminent quantum threats.

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7. Temporal Exploration in Directed Graphs

Khawaja Bazil Raza Shah

Durham University

A temporal graph is defined as a series of graphs <G_1, G_2, ..., G_L>, where each G_t is a static graph at time step t within a given lifespan L. We study the temporal exploration problem (TEXP) in the context of directed temporal graphs. As with static directed graphs, temporal directed graphs pose unique challenges due to their unidirectional edges. We restrict our research to the strict variant of TEXP; each edge e_i in a walk sequence is traversed at a distinct time step, forming a strictly increasing sequence of active time steps t_1 < t_2 < ...< t_L. We show that, in general, a directed temporal graph where the graph at each time step is strongly connected can be explored in O(n^2) time steps, but by applying restrictions on a graph, some graphs may be explorable in fewer time steps.

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8. Comparative Analysis of Native Trees Species in UAE: Assessing Biochar Yield and Adsorption capacity of organic contaminants

Alya Hussain Alhannaee, Huda Mohammed Alammadi & Shamma Ahmed Bahumaid

Zayed University

By leveraging the biomass of native tree species, biochar emerges as a sustainable solution for environmental challenges, offering long-term carbon sequestration and pollutant adsorption to combat climate change. This study evaluates and compares the biochar yield, physicochemical properties such as thermal stability, carbon content, aromaticity, porosity, surface area, and organic contaminants adsorption capacity of biochar derived from four native UAE tree species: Al Ghaf (Prosopis cineraria), Date Palm (Phoenix dactylifera), Sidr (Ziziphus spina-christi), and Al Qardh (Acacia nilotica). Waste biomass from these species was processed via pyrolysis, and the resulting biochar was characterised using Thermogravimetric Analysis (TGA), Scanning Electron Microscopy (SEM), Energy Dispersive X-ray Spectroscopy (EDX), and Spectrophotometer. Among the biochar studied, Al Qardh exhibited the highest yield at 29.66% and a high adsorption capacity, with balanced stability, reactivity, and a highly irregular, porous surface. Sidr achieved a yield of 27.51% and the best contaminant removal capacity due to its uniform micropores, moderate stability, and higher reactivity. Al Ghaf had a yield of 27.22% and high aromaticity but lower thermal stability and moderate adsorption, supported by its rough surface. Date Palm produced the lowest yield at 23.99%, the highest thermal stability, and balanced reactivity, though its semi-rough surface and minimal porosity limited its adsorption capacity. These findings highlight the potential of biochar from native UAE tree species for tailored applications, with Al Ghaf recommended for carbon sequestration and Date Palm and Sidr for pollutant adsorption. This paper aims to serve as a guide for selecting biochar types based on specific environmental needs. Future research should optimise pyrolysis conditions and explore real-world biochar applications, contributing to UAE's sustainability goals and global climate change mitigation efforts.

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9. Dehumanising disabled people: a comparison of administrative objectives and lived experiences in Newcastle's workhouse, 1850-1910

Emma Stephenson

Newcastle University

The paper aims to demonstrate the disconnect between the aims of the Poor Law authorities of the Newcastle-Upon-Tyne Union and the experiences and needs between the disabled pauper population institutionalised in the workhouse loosely between 1850 and 1910, to demonstrate change and continuity. It will highlight the intersection between class and disability in institutionalisation and the ideas that outside groups, specifically the Poor Law Guardians, held about the so-called pauper lunatics.

Using a selection of meeting minute books, newspaper articles, and other administrative documents, this paper delves into issues of the perception, institutionalisation, and dehumanisation of the disabled within the workhouse. The sources show that the focus of the administration was on the financial, administrative, and governmental issues of institutionalising and maintaining institutionalised paupers. Disabled paupers increasingly proved to be a specific issue of administration beyond other paupers as they began to fill the workhouse infirmaries.

The administration generally did not consider the specific needs and the autonomy of the individual, whose needs and stories are subaltern and difficult to find outside of specific registers and short items within minute books, treating them as one case among many difficult people. Where some newspaper reports do offer insight into the individual people involved and the sympathy increasingly expressed by mental health professions, they more generally reveal a negative public view and morbid fascination with the disabled, focusing on violent events. Touching on themes of personhood, it compares administrative aims with the experiences of the institutionalised.

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10. Investigation into the effects of anti-epileptic drugs on the developing foetal ovary

Kirsten Mathews

University of Edinburgh

One in 200 pregnant women suffer from epilepsy and need to continue treatment. Anti-epileptic drug (AED) therapy prevents seizures which can cause more harm to the mother and foetus than continuing medication. Sodium valproate (SV) is associated with endocrine and menstrual disturbances and teratogenicity. Its effects on the developing foetal ovary are, however, poorly understood.

This project investigated SV's effects on the developing foetal ovary using an in-vitro mouse model. Ovaries from embryos at E12.5 were cultured for 3 days with 10 µg/mL SV or 0.1% DMSO. Ovaries from embryos at E13.5 were cultured for 12 days, with 10 µg/mL SV or 0.1% DMSO added during the first 6 days of culture only. This study showed exposure to SV prior to follicle formation does not negatively affect subsequent follicle formation, development, or health. Double immunohistochemical analysis of a marker for DNA double stranded breaks and for germ cells, was carried out to investigate whether SV affected the DNA in germ cells. Preliminary results showed no major differences in y-H2AX staining between control and treated ovaries. Further work should aim to investigate SV's effects in an in-vivo model to account for metabolism and its passage through the placenta, and to explore potential effects on ovarian organogenesis.

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11. Language as Resistance: Usage of French and Alsatian in Alsace under German Rule (1871-1914)

Samuel Congleton

Newcastle University

This research aims to explore the usage of the French and Alsatian languages as tools of resistance in the Alsace region (1871-1914). In 1871, the culturally Germanic Alsace, ruled by France since 1697, was made part of the newly formed German Empire; the new German rulers implemented policies to promote the standard German language at the expense of both the French language as well as the local Alsatian language. Speakers from these two communities resisted these attempts at linguistic homogenisation through various means. This took different forms, such as the continued use of French in speech and in cultural productions by the upper classes, the production of periodicals and dialectal theatre to promote and preserve Alsatian, and smaller levels of resistance by local politicians, the Catholic Church, and schools. A theme throughout the research is the importance of Alsatian regionalism: this resistance was not done due to a desire to remain a part of France, but rather to maintain a specific transcultural, cross-border Alsatian regional identity. These findings are supported by the fact that similar resistance against the French occurred both before and after the period of this study, demonstrating that in Alsace, the preservation of Alsatian identity is prioritised over national allegiance to any specific state. This dissertation looks at how, by whom, and under which contexts,linguistic resistance was undertaken in the pre-World War I period, and links into wider studies of language as a tool of resistance, language preservation, regionalism and regional identity.

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12. “Desiring Safety Without Men”: Prefigurative Politics, Leisure, and the Good Life in Women’s Hostels in southwest China

Xinyi Xu

University of Edinburgh

Women’s hostels have gained popularity with the rise of the "her economy" (Yang, 2023) across Chinese cities and tourist destinations. Drawing on two months of ethnographic fieldwork and six follow-up semi-structured interviews in Dali, a tourist hub in southwestern China, this dissertation examines the political potential of women’s motivations and desires to create, inhabit, and envision women’s hostels and co-living spaces. Specifically, it explores how the desire to escape work burnout, family pressures, and fears surrounding unsafe public spaces renders women’s hostels inherently political, despite lingering questions about their inclusivity.

Applying the concept of "prefigurative politics" (Graeber, 2002) through the lens of the "politics of desire," this dissertation demonstrates how women resist a politics of deferral by "living the future now" (Swain, 2019: 55), even in the absence of explicit activist language. By emphasising the transformative potential of desire, this dissertation expands the anthropological understanding of prefigurative politics beyond liberal contexts of civic actions. It shows how women's hostels can be seen as a convergence of feminist politics and market values in post-socialist China.

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13. Exploring the transfer of fibres in a forensic context under standardised pressure

Chloe Mortley and Emma Watts

Teeside University

Within criminal prosecutions forensic fibre evidence can play an important role. The value of fibres, in an evidential context, is underpinned by research including that which concentrates on how fibres are transferred. This research examines the transference of four fibre types (cotton, wool, polyester and acrylic) under a set pressure of 9 Newtons.

The research was carried out collaboratively between two researchers using a shared experimental method. Acrylic fibres transferred in the greatest number (1098 fibres across 50 experiments), whereas polyester transferred the least fibres (309 fibres across 50 experiments). Cotton transferred 663 fibres and wool transferred 707 fibres over 50 experiments. Acrylic was found to transfer in the most inconsistent manner with a standard deviation of 10.033 compared to 3.538 for polyester, 4.818 for cotton and 5.792 for wool.

When the fabrics surface was examined, there was found to be a correlation between surface topography and fibre transference. Acrylic, transferring most fibres, had a large weave combined with a looser fibrous surface. In contrast polyester, transferring least fibres, had a regular, tightly woven structure. This suggests surface topography is directly related to fibre transfer, with structures more regular and tightly woven transferring fewer fibres than those that are more open.

Within a forensic context, fabrics which transfer fibres in lesser numbers are deemed to provide higher evidential value than those that transfer more readily. This research suggests that polyester fibres are potentially more significant in aiding an investigation than acrylic, cotton and wool when examining fibre transfer alone.

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14. Exploring Bedtime Procrastination Influenced by Purpose in Life and Future Self-Continuity

Jeffrey Darsono

City University of Hong Kong

Bedtime procrastination is one of the many reasons that lead to sleep deprivation. The lack of resting time brings risks to a person's physical and mental health. A cross-sectional study and survey will be done to collect data from university students in CityU to measure their bedtime procrastination, purpose in life, and future self-continuity. Two-way ANOVA statistical analysis will be conducted through SPSS to seek how variables are related to each other. Thus, this study pursuit contributes to the existing knowledge about bedtime procrastination. Additionally, provides a different perspective for future intervention during the designing stage for a program.

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15. The effect of perceived difficulties of learning materials on learning outcomes with multiple variables as mediators

Leija Sun

City University of Hong Kong

Students' learning outcome is determined mainly by how effectively they master the subject. Yet, learning efficiency is not solely influenced by individual factors such as intelligence or effort. It involves a broader framework of the whole educational system, including the way learning materials are designed and instructed. Perceived difficulty of the learning material affects the learning outcome but the relationship does not seem linear. In some cases, it has been recognised as an indirect factor in predicting students' learning outcomes as it arouses worry and impairs performance. In other cases, students had significantly better test scores due to stronger motivation. Individual factors such as motivation for achievement seem to affect the relationship between perceived difficulty and outcomes. In this study, participants need to answer a questionnaire that includes scales measuring constructs, including emotional intelligence, academic locus of control, academic self-efficacy, and achievement motivation. Participants are then separated into two groups and given learning materials with cues in the cover's instruction that help arouse cues for high and moderate perceived difficulty. Then, questions are given to test how well they master the materials. The result does not show a significant difference between the performance of the two groups. Individual factors do not seem to mediate the relationship between the variables strongly. Participants do not differ in difficulty perception across groups except that those in the difficulty-perception group surprisingly perceive the questions to be less difficult compared to the control group, possibly due to the discrepancy from the expectation.

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16. Factors Influencing the Intentions of Seeking Mental Health Help from AI Chatbots and from Traditional Mental Health Professionals for Counseling And Psychotherapy via UTAUT2, Loss of Face and Perceived Privacy Risk

Lee Yuet Yi Sophie

City University

Integrating Artificial Intelligence (AI) in mental health services necessitates understanding user acceptance and behavioural intentions. This study extends UTAUT2 by examining how loss of face, attitudes towards mental health professionals and AI, and perceived privacy risk affect Hong Kong students' preferences between AI chatbots and professionals for mental health support. The constructs of the theory and factors are modified into two sets to test how well these constructs can predict AI intention and face-to-face intention, respectively, and compare the patterns of prediction between the two outcomes. It hypothesises that constructs like performance expectancy, effort expectancy, social influence, price value, hedonic motivation, and habit will influence intentions to use AI chatbots more strongly than face-to-face psychotherapy. Conversely, loss of face and perceived privacy risk are expected to negatively impact behavioural intentions, with stronger effects for face-to-face counselling.

This cross-sectional quantitative study involves Hong Kong university students completing a web-based questionnaire, utilising validated instruments such as the DASS-21, Loss of Face Questionnaire, UTAUT2, Attitudes Toward Seeking Professional Psychological Help Scale, and a Perceived Privacy Risk subscale. Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM) will test hypothesised relationships and model fit. Preliminary results indicate a trend towards higher behavioural intention and preference for professional help over AI chatbots, with greater perceived privacy risk associated with AI. Despite non-significant findings, the study offers insights into technology acceptance complexities in mental health, underscoring the need for further research in the Hong Kong context.

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17. Application of artificial intelligence to the identification of oral tissues

Jivanthika Venkatakrishnan

University of Sheffield

Oral cancer affects locals in Yorkshire greater than the average person in England, highlighting the importance of detection in early stages and treatment resources. Pathologists' subjective interpretations of cancer cell scans indicates the need for automated analysis. However, developing such systems requires large, diverse datasets, which are challenging to collect ethically. Tissue engineering of oral cancer cells offers a potential solution. Lab-grown cells can serve as testbeds for pathologists and biomedical scientists to study cancer development and test therapies or diagnostic methods. Currently, there's limited research on oral tissue cell classification by comparing human to tissue engineered and few publicly available datasets. This study aimed to determine if a machine learning algorithm could differentiate between human biopsies and tissue-engineered models. For a more detailed comparison, both sample types were divided into three oral tissue layers: basal, prickle, and superficial. The methodology involved using 20x magnification whole slide images, from which 180x180 pixel images were extracted. Approximately 1000 images per class were obtained for both human and tissue-engineered cells, then split into test and train sets with a 80-20 split. Results showed 97% overall accuracy in distinguishing between human and tissue-engineered cell structures. The prickle layer demonstrated the highest discriminative ability between the two classes, with 99% accuracy. These results suggest that a machine learning algorithm can distinguish between human vs tissue-engineered cell structures so more research is required to replicate the shape and structure of the human tissue.

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18. The Changing Colours of Unilever: Examining the political strategies of foreign corporations in Malaysia under decolonisation

Keerthi Sujith Menon

University of Sheffield

Following the end of formal colonialism, many developing countries engaged in a political process called decolonisation to obtain more economic and social independence. This blog post explores how some British firms managed to maintain their influence within Malaysia's palm oil sector during a period of increasing nationalisation (c.1950-80). Some key policies enacted by the Malaysian state to achieve more local economic participation included the Malaysia Companies Act and the New Economic Policy.

Drawing on archival records, this qualitative project focuses on three adaptive strategies employed by Unilever that highlight their chameleon-like ability to blend into changing surroundings. Corporate expansion and divestment as a strategy meant diversifying from palm oil- much like the characteristic long tongue of a chameleon that helps it catch more prey. Colour-changing skin as a feature can be ascribed to Unilever's ability to acclimatise using joint ventures and subsidiary formations. The final strategy explored in this project are the managerial and workforce changes enacted by Unilever to better suit the socio-political needs and attitudes of a decolonising Malaysia, similar to the unique telescopic vision that chameleons possess.

Overall, this project can help us understand how the contemporary palm oil industry has continued to be shaped by multi-national corporations. In a wider sense, this research contributes to studies on political processes of decolonisation and its economic implications, both for state and non-state actors. Finally, it also helps contextualise the historical specificity of power dynamics between post-colonial governments and the continued presence of foreign firms in the global South.

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19. Why are some types of breast cancer resistant to tamoxifen?

Rebecca Williams

University of Sheffield

A significant proportion of breast cancer tumours are resistant to Tamoxifen, a selective oestrogen receptor modulator widely used for treatment. Tamoxifen appears to activate G-protein coupled oestrogen receptor (GPER) signalling, which may be responsible for this resistance. GPERs are expressed in many tissues, including the breast, as well as in estrogen-dependent diseases such as breast cancer. Preliminary results show that GPER interacts with receptor activity-modifying proteins (RAMPs). The research group's aim is to uncover more GPER/RAMP interactions and contribute to RAMP-targeted drug development. This study contributes to the question of whether RAMPs modify GPER localisation in triple-negative breast cancer cells. My research focused on optimising the RAMP2 immunofluorescence protocol. Once optimised, this protocol can be used on breast cancer cells to help to determine if RAMP2 modifies GPER localisation. Each week, I conducted tissue culture, cell seeding, immunofluorescence, and fluorescent microscopy. I used fluorescent microscopy to analyse the results weekly and improve the protocol for subsequent attempts. Fluorescent microscopy is used to detect changes in protein interaction and subcellular localisation of GPER/RAMP. Optimisation of the protocol is essential in order to observe these changes effectively.

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20. Corridors: an affective exploration of liminality and communal creativity

Maria Efthymiadou

London School of Economics and Political Science

Whilst Turner (1970) defined liminality as an in-between transitionary state where one does not exist in their usual norms and structures, my paper argues that the intersection between liminality and creativity in corridors reveals it to be a transitory dwelling place. I argue that corridors foster creativity due to their fluid and dynamic nature, and whilst they retain their liminal role in higher education, this can be contested depending on one's lived experience. Further, the potential which corridors have for triggering creativity is directly related with their allowance for social connectedness and collaborative culture by extension, particularly pertaining to student creativity. To prove this, I draw on corridor observations around the LSE, interviews with students, teaching and non-teaching staff as well as past literature. In doing so, I fulfil Hurdley's (2010) call for paying closer attention to how people interact with corridor spaces through small everyday actions.

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21. Aristotle, Conservatism and Brecht: An investigation of Epic Theatre's response to the implicitly conservative, illusory "intellectual narcotics traffic" (Brecht, 1961) of Aristotelian, conventional tragedy

Nathan Harris

University of Glasgow

Despite the longstanding theoretical connection drawn between the representative, cathartic drama of Aristotle and Bertolt Brecht's cerebral Epic Theatre, there is relatively little published scholarship regarding contemporary interpretations of this bifurcation. This paper, through research-driven performance analyses of the Berliner Ensemble's 2023 production of The Threepenny Opera and Tim Crouch's An Oak Tree, discusses the manner in which modern, non-mimetic performance continues to work against the implicitly conservative theatre born out of Aristotle's Poetics. Combining first-hand experience of the two performances analysed, and the synthesis of a host of pertinent scholarship, the essay argues that Brecht's theatre continues to be an effective tool in the problematisation of the conservatism intrinsic to the Aristotle's drama. The Berliner's Threepenny adeptly interrogates archaic conception of the tragic hero, whilst toying which the notion of theatrical duration. An Oak Tree succeeds in propelling Brecht's theatre into the 21st century, effectively employing technology to question conventional theatrical ideas of space, privilege and the role of the audience. Both performances, and the research conducted surrounding them in this paper, successfully demonstrate that there exists a contemporary, Brechtian response to Aristotelian drama, and that this mode of performance shatters the illusion present throughout mimetic performance to a great extent.

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22. Underpopulation: Inevitable Crisis or Catalyst for Change? Reimagining Population Theories in Contemporary Spain

Jacob Dolan

University of Glasgow

As whispers of underpopulation grow louder across the Global North, Spain finds itself at the heart of this demographic debate. My research challenges the dominant neo-Malthusian narrative that frames underpopulation as an unavoidable economic catastrophe. Through a critical discourse analysis, I reveal how underpopulation in Spain is constructed to serve capitalist agendas, marginalising key groups - particularly immigrants and the elderly - while obscuring deeper socio-environmental issues like resource mismanagement and ecological degradation.

Drawing on the works of critical geographers like David Harvey and Doreen Massey, this study critiques the reductive statistical lens often used in population studies. It explores how policies and public rhetoric perpetuate inequalities, commodify immigrant labour, and dismiss rural communities as relics of the past. But this research goes beyond critique. By engaging with frameworks such as peasant ecology and the radical principles of the Red Deal in the context of Spain, I propose that underpopulation is not a demographic doom but an opportunity for systemic transformation. These alternative models advocate for sustainable, community-driven solutions that address both environmental challenges and social inequities.

Ultimately, this dissertation invites geographers and policymakers alike to rethink underpopulation ,not as an economic threat, but as a unique chance to reshape societal values, prioritise equity, and build resilient, inclusive and empowered communities.

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23. Does the time of diagnosis of a learning difference impact students' confidence and academic performance in Higher Education?

Sophie Misslin

University of Glasgow

There is an increasing awareness of neurodivergence in higher education, with more neurodivergent students disclosing their disabilities, receiving support, and succeeding academically. However, there remains a significant dropout rate among neurodivergent students, accompanied by reports of underperformance and low confidence within the community. Despite the growing body of research highlighting the benefits of receiving a diagnosis, no studies have examined the impact of the timing of diagnosis on confidence and academic performance. This study aims to address this gap by investigating whether a correlation exists between the timing of diagnosis for learning differences and both academic performance and confidence levels.

The study sample comprised 50 university students diagnosed as neurodivergent, who were recruited through convenience sampling. Confidence and academic performance were assessed using the Academic Self-Confidence Scale and a sliding scale measuring satisfaction with academic performance via an online self-report questionnaire. Multiple regression analysis was employed to determine whether a correlation existed among the variables of interest while controlling for other potential factors such as age and year of study.

In line with our hypothesis, the timing of diagnosis was found to be predictive of both academic performance and confidence. These findings highlight the importance of early diagnosis in enabling individuals to thrive in university. They also underscore the need for universities to provide tailored support services and to educate educators, doctors, and parents about the significance of early screening and diagnosis of neurodivergence in children.

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24. Transformations Towards a more ‘Democratic’ Anthropology; a Consideration of ‘Play’ in Higher Education

Sasha Rozanov

London School of Economics and Political Science

Are we truly valuing understanding in higher education? What if the way we approach learning suppresses understanding? This paper explores how the undervaluation of ‘play’ in university classrooms mirrors a deeper crisis in how knowledge is constructed and legitimised. My fieldwork at the LSE Anthropology Department reveals that the barriers to ‘play’ (and therefore to deepened understanding) in the classroom extend far beyond oft-cited distractions such as smartphones, and results-based pressures; that is, within the ideological frameworks of the discipline itself.

Drawing on classroom observations, interviews with students and faculty, and insights from musical education, I examine how ‘play’—as a form of experiential learning —can foster deeper understanding, heighten presence, and incur 'aha' moments. Yet within Anthropology, I found a paradox. While the discipline prides itself on reflexivity and open-ended inquiry, the feeling is that there are implicit limits as to how freely perspectives can be explored, especially when arguments are rooted in studies of vulnerable communities. A culture of intellectual caution can stifle the very kind of perspectival ‘play’ that social sciences, in theory, seek to encourage. I argue that a move towards a more 'playful' learning is a move towards ‘democratising’ anthropology’s frameworks, and the conditions of understanding.

I posit that, at a time when anthropological voices struggle to be heard in mainstream discourses, reclaiming 'play' could help nurture a more assertive, communicative anthropology. Inspired by Victor Turner's work on liminality, I propose a framework for integrating 'play' more effectively into classroom learning.

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25. Developing phage therapy for Escherichia coli infections

Jessica Parkin

University of Edinburgh

Urinary tract infections (UTIs) are some of the most common infectious diseases and are mainly caused by uropathogenic Escherichia coli (UPEC). Sequence type (ST) 73 UPEC strains are one of the most common STs and are often drug-resistant. Due to the increasing rates of antimicrobial resistance phage therapy could be an effective alternative treatment for these infections. Phage are viruses that target bacteria and often have a small host range determined by the complementary receptor on the bacteria surface. Bacteria can evolve resistance mechanisms against phage, therefore making a cocktail of phage with different receptor targets can overcome the bacteria being resistant to all the phage. This study focuses on developing a phage cocktail that uses different mechanisms of infection against ST73 strain HU329. One phage that infects HU329 was isolated from wastewater samples. 96 known phage were screened against HU329 and 41 infected HU329. A mutant strain against the phage isolated was generated and screened for phage activity using the same 96 known phage, and 45 of these infected the mutant strain. A phage that infects both the mutant and wild type strain should be chosen, and another mutant should be generated from this phage. The new mutant should be screened for another phage and added with the two other phage to make a cocktail of phage with different mechanism of infection. This cocktail could then be tested against other strains and STs to determine host range and used in combination with antibiotics to test phage-antibiotic synergy.

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26. Patient and Public Involvement and Engagement for digital innovation to improve Infantile Spasms Syndrome Diagnosis

Prithi Natarajan

University of Edinburgh

Diagnosis is often delayed in Infantile Spasms Syndrome (ISS); EEG is required for diagnostic confirmation, with variable timely availability. We aim to co-develop a remote EEG and AI detection in partnership with clinical, engineering, AI experts and patient groups. Here we report our initial PPIE work.

We conducted a survey of families with lived experience of an ISS diagnosis through the UKIST members and parents attending the Edinburgh Children's hospital (February-August 2024). This included questions (structured and free text) regarding positive and negative experiences within the healthcare setting surrounding diagnosis and thoughts to improve experiences. Free text information was analysed qualitatively.

Of the seventy participants, one in three patients had a diagnostic delay of over 30 days. We received rich qualitative data. Prominent common themes were dismissal of parental concerns, misdiagnosis, lack of EEG facilities and lack of access to experts. Themes for the desired remote monitor solution are compact, quiet and lightweight device, ability for longer record while maintaining daily routine and maximise comfort. Suggestions included adjustable electrode or wireless cap requiring a single fitting.

Thirty-three respondents expressed willingness to participate in focus groups to further shape our research.

From the parents experience we confirm there is often a delay in diagnosis of ISS. Parents feel a need for better solutions which must be co-developed with individuals who have lived experience. There is willingness to participate in further exploration; themes that are derived will be taken forward for designing our product and further study design.

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27. Colonisation through a window: How forensically important insects colonise cadavers kept outdoors or indoors, with or without an open window

Cara Dixon

University of Leicester

Blow fly development and observations related to insect succession on cadavers can be used to estimate the postmortem interval (time since death) of an organism. However, data from forensic studies used to estimate this interval are often difficult to transpose onto certain cases. This is because there are many variables that affect insect colonisation, with each forensic case being unique. For example, the colonisation of cadavers placed in buildings has seldom been studied, as has the simple change of leaving a window open or not, which makes the analysis of indoor scenes more difficult. Here, we documented decomposition and insect succession on pig carcasses kept in cabins with open windows, cabins with closed windows and carcasses placed outdoors. We tested the prediction that decomposition and insect colonisation would be faster on carcasses placed outdoors, then on those kept in cabins with open windows, and then on those kept in cabins with closed windows. Results indicated that there was a delay in decomposition and colonisation in cadavers kept indoors compared to outdoors, with carcasses kept indoors with closed windows being even more delayed than those kept indoors with open windows. However, although delayed, the cadavers kept indoors with closed windows showed the most aggressive colonisation, with the highest numbers of individuals, as insects had trouble exiting the cabins after they had entered. This study underscores the necessity of considering the degree of environmental enclosure in forensic investigations involving human remains.

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28. 'Notions and nobility: The portrayal of authorial intent, class and literary legacy through language in the Nobel-winning works of Seamus Heaney and Annie Ernaux.'

Orla Cowan

Durham University

Ostensibly an initially incongruent pairing – Seamus Heaney an Irish poet and Ernaux a contemporary French writer – this dissertation seeks to illuminate the multiple thematic similarities and shared philosophical preoccupations that emerge from comparing a range of Heaney's poetry with Ernaux's genre-defying Les Années. Both recipients of the Nobel Prize in Literature, Heaney in 1995 'for works of lyrical beauty and ethical depth, which exalt everyday miracles and the living past' and Ernaux in 2022 'for the courage and clinical acuity with which she uncovers the roots, estrangements and collective restraints of personal memory' this essay begins with the writing process and is rooted in language.

Drawing on the polysemy of 'notions' and 'nobility' for its framework; the first chapter interrogates how Heaney and Ernaux establish authorial intent and the manifestation of desire in their writing, the second focuses on the interrelationship between language, class, home and belonging and the final chapter examines the place of their oeuvres in the literary canon, (in the specific context of the Nobel Prize) to elucidate the wide-ranging affect of their literary legacies. As well as engaging with specialists in the field such as Elise Hugueny-Leger, Edna Longley and Ciaran Carson, an overarching, accompanying analysis of Barthes' Le Plaisir du Texte hopes to solidify and excavate further that Ernaux's prose and Heaney's poetry, as paradigmatic 'textes lisibles', engage all of their readers' notions, (a 'sujet historique') regardless of nobility.

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29. A Lost Art? Digital and experimental investigations of a Mesolithic engraved pebble assemblage from Rhuddlan, UK

Archie Robson

Durham University

The symbolic record of the European Mesolithic is often considered a radical departure from the preceding Upper Palaeolithic, with figurative cave art replaced by sporadic markings on stone, bone, antler, and other materials, in tandem with a shift from large aggregations to smaller bands dispersed over warming and unpredictable landscapes. In Britain, a small number of engraved objects, burials, and depositions are among the only evidence of symbolism across this five-thousand-year period. A significant site is Rhuddlan (Wales, UK), where rescue excavations between 1969 and 1973 recovered six pebbles with abstract incised designs alongside hundreds of stone tools, two from deposits radiocarbon dated to the earlier Mesolithic. This study builds on previous analyses by applying RTI (Reflectance Transformation Imagery), photogrammetry, profilometry, and experimental replication to investigate the manufacture and meaning of the designs, with reference to recent discoveries in Britain and the continent.

The multi-proxy synthesis of digital and experimental work, in light of the spatial context of each object, suggests that the pebbles were associated with distinct 'communities of practice', part of a tradition shared across Northern Europe. Sequences of engraving and use were identified with RTI and photogrammetry, while the profilometry and experimental work provided insights into the technological and behavioural context of their production. The objects appear linked to the earliest occupation of Rhuddlan and bound within domestic activities; a way of place-making with clear parallels in the regional archaeological record. Future research directions, including applications of this approach to comparable material, are also discussed.

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30. The effects of probenecid on early neural activity and angiogenesis in the developing retina

Abbie Suresh

Newcastle University

Early spontaneous neural activity and angiogenesis are crucial for the development of the neurovascular unit (NVU) in the central nervous system (CNS). Microglia, the resident immune cells of the CNS, dynamically contribute to these processes by clearing apoptotic cells, pruning synapses, and remodelling tissue. In the neonatal mouse retina, the superficial vascular plexus (SVP) expands from the centre to the periphery, aligning with spontaneous waves of electrical activity in the retinal ganglion cell (RGC) layer. Simultaneously, RGCs undergo significant apoptosis, with 50% lost during the first postnatal week.

Recent electrophysiological and imaging studies from our lab indicate that apoptotic RGCs in the avascular retina trigger these waves via pannexin-1 (PANX1) hemichannel activity, releasing ATP to attract microglia, which then phagocytose the apoptotic cells. Notably, this process is mediated by a subpopulation of HMOX1-expressing microglia. We hypothesise that apoptotic RGCs, located just beyond the growing SVP, initiate retinal waves, inducing localised hypoxia that promotes angiogenesis to supply oxygen to active areas.

This study explores the interplay between retinal waves, angiogenesis, and microglial dynamics using immunohistochemistry and pharmacological manipulations. Specifically, we assess how prolonged PANX1 hemichannel blockade with probenecid influences interactions between apoptotic RGCs and HMOX1 microglia, providing insight into the role of microglia in coordinating neural activity with vascular development.

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31. Comparison of Container performance against Virtual Machines using two free type 1 Hypervisor solutions

Jeffrey Adams

Blackpool and The Fylde College

The continuing adoption of Virtualisation and Containerisation in cloud and enterprise environments, has also witnessed an increasing interest in enhancing workload performance through scalability, flexibility and fault tolerance. However, comparative and critical research, on the performance of such technologies when applied to open type 1 hypervisors, such as Proxmox, and Kernal-based Virtual Machines (KVMs) is sparse. Existing research in general, concentrates on proprietary solutions, or fail to make direct comparisons, by utilising the same hardware, software, and resource assignments. This research seeks to bridge these voids, by methodically evaluating the performance of Virtual Machines (VMs) and Linux Containers (LXCs), under identical conditions, offering not only honest metrics, but also providing understanding of their effectiveness and suitability for various workloads.

To produce true and honest results, two identical HPE ProLiant ML110 Gen9 servers were deployed, each as a type 1 hypervisor. Server utilised Proxmox (version 8.3), while server two used KVM (via Ubuntu 24.10 server). By using positivist methodology, this research eliminated elements that can cause bias, like hardware or configuration differences. The use of a systematic experiment provided empirical and reproducible data collection, through identical VM and LXC configurations. The performance metrics gathered were CPU load, memory consumption, disk access, network throughput, and startup times. Through a combination of standardised benchmarking tools, and customised scripts, the metrics were recorded by Prometheus, and Grafana display them graphically in real-time. By maintaining this rigorous benchmarking methodology, it provided an objective and quantifiable basis to determine the performance of VMs and containers on Proxmox and KVM.

VMs advantage over LXCs is they provide robust isolation and flexibility. LXCs are considerably more light weight in nature by sharing the host kernel, producing lower overhead, but notably, also increases security risks. Due to this, the expectation of this study is that containers will provide faster execution of tasks, compared to their VM counterparts. The findings will provide quantitative insight into the performance and trade-offs between these technologies Proxmox and KVM type 1 hypervisors. Providing

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this empirical data will not only contribute to the growing body of knowledge on efficient virtualisation strategies, but help system administrators and researchers, to make informed decisions for workload deployment going forward.

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32. The Influence of Social Media on Christmas Sales

Rebekah Allen

Blackpool and The Fylde College

This study investigates the influence of social media on Christmas sales, focusing on Instagram, Facebook, and TikTok as key platforms. Providing an examination of Influencers, demographics, and product types. The research aims to determine whether social media is the most powerful tool for influencing Christmas sales, and whether success rates depend on demographic segments and product types. The study also explores psychological factors, such as the rise of influencers, and evaluates content theories like Maslow's Hierarchy of Needs, Self-Determination theory, Prospect theory, Social Identity theory and the Stimulus-Organism-Response model in line with consumer behaviour. The findings suggest that younger demographics are predominantly influenced by social media for their Christmas sales, and that businesses should prioritise social media for holiday marketing. The research provides insights into which products excel with social media influence and identifies gaps in existing research. The study's outcomes are crucial for businesses seeking to optimise their marketing strategies and boost sales during the festive season.

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33. Colour Coded Canines: Exploring Public Views on Dog Temperament Based on Muzzle Colours

Lauren Beckingham

University Centre Reaseheath

Dogs are required to wear a muzzle in specific situations and under legal requirements in multiple countries. Despite their practical benefits, muzzles are often viewed negatively, a perception intensified since amendments to the UK's Dangerous Dogs Act 1991. This has fuelled debates around muzzles and increased stigma to muzzled dogs. Additionally, some companies use colour, commonly yellow, to convey messages to the public about a dog's needs. Despite this, limited research exists on how muzzles communicate messages to the public. This study aimed to explore whether specific muzzle colours were associated with particular temperaments by identifying correlations and exploring how factors such as gender affect this.

A survey gathered information on the publics views of muzzles in six colours: blue, black, white, red, orange and green. Distributed via social media, predominantly Facebook, the survey received 395 responses. Participants rated each colour on perceived temperament (aggressive to friendly) using a Likert scale. Results revealed significant differences between the different muzzle colours and their perceived temperament. Red muzzles were most frequently associated with aggression (n=168), while blue muzzles were most frequently selected for friendly (n=36). Gender trends were also observed, with females most commonly selecting red for aggression and males selecting black.

These findings suggest that colour plays a crucial role in shaping societal attitudes toward muzzled dogs. Understanding these biases may inform practical applications for reducing stigma and improving education. However, the strong association between red and aggression and the generalised negative perception of muzzles highlights potential challenges in promoting their positive use and acceptance.

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34. Decoding Dog (Canis Familiaris) Bite Trends: The difference between demographic situations and dog bite occurrence within England

Erin Bourne

University Centre Reaseheath

Dog attacks in England are gradually increasing, posing a public health concern, especially with many reported attacks on children. According to Waters (2023), the cost to the NHS for initial treatments in 2017-2018 was over £25 million.

The study examines whether regions with higher bite rates had lower average household incomes or fewer residents with bachelor's degrees, focusing on socioeconomic status and education level. Data was collected from various sources, including Wikipedia, police databases, census records, and governmental websites. England was divided into nine regions, and towns were randomly selected to avoid bias. The study included statistics on canine attacks resulting in injury or fatality.

Statistical analyses revealed few significant outcomes. Year and age group significantly affected bite rates, while income and the proportion of residents with degrees showed a weak to moderate negative correlation with bite rates per population. No other significant correlations were found. The data suggests that bite rates fluctuated from 2019 to 2023, with temporal factors having a greater influence on bite rates than the socioeconomic conditions of the towns. These fluctuations may be attributed to the impact of the COVID-19 pandemic on both bite rates and dog ownership trends. The original hypothesis was not supported by the results.

Future research should investigate the extent to which the pandemic influenced bite rates and altered dog behaviour.

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35. An Investigation into the use of Immersive Room Technology and its Impact on Recognising Dog (Canis Familiaris) Body Langauage

Niamh Macloughlin

University Centre Reaseheath

Understanding canine body language and stress signals is essential for improving dog welfare and reducing the risk of aggression-related incidents. The canine ladder of aggression illustrates a progressive sequence of threat-averting behaviours that dogs display in response to stressors, escalating when initial appeasement signals fail to achieve the desired outcome. This study examines the impact of immersive room technology on improving the recognition of canine stress signals among students and staff at Reaseheath College and the University Centre Reaseheath.

Participants (aged 18 and above) were divided into four groups, with two experimental groups receiving explanations of dog behaviours between 360° video clips and two control groups viewing the videos without explanations. Two questionnaires, adapted from Shepherd (2012), were given to participants to assess the impact on education on the interpretation of canine stress behaviours- participants are given 4 multiple choice answers to choose from for each video. The two questionnaires contain the same questions and answer options.

Results indicate that there was some change in success following education, however, not significant ($p=0.149$). Equally, there was not a significant difference between post and pre-scores in the test group ($p=0.228$) compared control group ($p=0.492$). These findings may be as a result of limitations in the study design, as hypothesised results were expected to show greater improvements in recognising canine stress signals in comparison to those in the control groups. Future research should repeat this study, using a wider range of participants with different areas of background knowledge.

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36. Cross-National Development of a Competency-Oriented Assessment Instrument in Engineering Mathematics

Ilanthiraiyan Sivagnanamoorthy

Queen Mary University of London

This poster outlines the development of a mathematical skills inventory for engineering students, addressing the research gap on threshold concepts within engineering education. Threshold concepts are discipline-specific concepts that act as learning bottlenecks due to their troublesome nature. While much research has focused on mathematical threshold concepts like proofs, calculus, and complex numbers, for mathematics students, there is a noticeable gap in literature investigating how engineering students navigate these threshold concepts within their curriculum. Where engineering education research does exist, it typically focuses on discipline-specific concepts (namely electrical and mechanical) such as frequency responses, and Newton's laws, often overlooking the underlying mathematical concepts that support engineering learning and problem-solving.

This gap also extends to concept inventories (CIs) assessing core mathematical concepts. Existing tools, such as the Calculus, and Function CI, are designed for students in mathematics degree programs, and are centred on evaluating content knowledge. However, they do not effectively measure the specific competencies, thinking patterns, and cognitive abilities that provide a more precise assessment of students' conceptual understanding. Further, these tools lack the engineering perspective and contextual relevance, making them less suitable for use with engineering students. This highlights the need to develop a more skills-based approach that better addresses the specific needs of engineering programs. In this work, we examine and contextualise the essential mathematical skills needed to master the function concept, drawing from core competencies identified in literature. This work lays the groundwork for developing a skills inventory—a competency-oriented assessment instrument tailored to undergraduate engineering students.

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37. A critical review of the feasibility of applying Cognitive Behavioural Therapy (CBT) in working with people with intellectual disability (mild grade of ID) for emotional wellbeing

Choi Ying Li

City University of Hong Kong

It is believed that emotional wellbeing is essential for everyone, particularly for some people with intellectual disability (ID) who may face marginalisation in accessing appropriate support or professional interventions. Although society inputs more resources and effort for those with mental health issues, people with ID may encounter different barriers that limit the intervention to improve their emotional wellbeing. Cognitive Behavioural Therapy (CBT) is a common intervention approach for various mental illnesses but there is limited research on its applicability to the people with ID because of the assumption that people with ID may not have enough capacity for abstract thinking.

An eight-session intensive casework of social work intervention by applying Cognitive Behavioural Therapy has been implemented as practice research in a unit of Supported Employment Training to improve the emotional wellbeing of the client with ID. While facilitating the client with a mild grade of ID to better control his emotions, the author has applied various CBT skills and psychoeducation to work with the client. The evaluation with the structural questionnaire, the worker's observations and the client's reports showed positive changes, and the client became more able to control and express his emotions appropriately.

This paper aims to review the feasibility of applying CBT in working with people with intellectual disability (mild grade of ID), identify the gaps in current practice, and share the practice wisdom for using CBT in working with people with ID.

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38. Challenges of community education on sexual and reproductive healthcare among migrant domestic workers in Hong Kong

Lok Yi Tse

City University of Hong Kong

Community is an essential channel for delivering sexual and reproductive healthcare knowledge. However, many female migrant domestic workers (MDWs) in Hong Kong encounter significant barriers to accessing this information, even in their community context.

This paper investigates the challenges of community education regarding sexual and reproductive healthcare for MDWs in Hong Kong.

The study employs a theoretical framework of structural vulnerability to analyse the challenges of community education. Data were collected during the author's internship with a local NGO advocating for the maternity rights of MDWs. The author organised and attended community education sessions to gather data through direct observations and qualitative insights from interactions with MDWs and NGO staff.

MDWs face barriers to accessing community education due to structural, cultural, socioeconomic, and informational barriers. Structural barriers, like a contractual limitation on the "live-in" rules, restrict their mobility; cultural stigmas often discourage them from seeking information about sexual and reproductive healthcare; socioeconomic challenges like family financial responsibilities lead many to value work more than education; while informational gaps, such as unawareness of rights, reduced their access to relevant services.

The concept of structural vulnerability illustrates how various factors—including contractual limitations, cultural norms, and employer restrictions—converge to form structural violence, leading to internalised vulnerability among MDWs. Additionally, the sustainability issues faced by relevant NGOs reflect a lack of institutional commitment to long-term solutions,

perpetuating the marginalisation of MDWs. These challenges highlight the need for targeted interventions to support the health and well-being of MDWs.

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39. Microbial Coexistence with Resource Toxicity

Thomas Shaw

Durham University

There are many examples within Biology where different living things need to coexist. One example of this is bacterial microbes as they feed off different metals which help them to grow - this is 'Microbial Coexistence'. Sometimes these bacteria interact with one another in such a way that it causes some of them to die out.

Some metals are particularly interesting however in that once the bacteria have consumed too much of it, this resource becomes toxic. This is like with humans with oxygen: when we breathe in the concentration of oxygen in the atmosphere, we need it to survive, but if we increased the concentration, we would die. This is the idea of 'Resource Toxicity'.

Sometimes when bacteria feed off metals that become toxic at high concentrations, these bacteria are able to coexist, when previously, if the metal were only beneficial to them, they would die. During my Summer Research Project at Durham University, we combined the two ideas of 'Microbial Coexistence' and 'Resource Toxicity' and tried to model this phenomenon mathematically using a series of differential equations.

In this talk, I discuss the models that we created, our analysis of them using traditional pen-and-paper mathematics and scientific computing, and explain what behaviour they demonstrate. If you're interested in Applied Mathematics and/or Biology, this is the talk for you!

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40. An Investigation into the effects of Rumination and Mindfulness on Subjective Vitality

Aidan Fairholm

Durham University

Subjective Vitality encompasses a state of energetic and positive actionable affect, facilitating engagement in meaningful activities, and is a key contributor to Eudaimonic Wellbeing, whereby an individual leads their best life whilst living in accordance with deeply held beliefs and values. Rumination and Mindfulness both impact Subjective Vitality, but they operate on it in different ways, with the former reducing it and the latter increasing it. This study aimed to be the first to concurrently measure Rumination and Mindfulness within the same participants and deduce there effects on Subjective Vitality. This was achieved using a sample of 275 participants recruited from Qualtrics, tasked with completing measures of Rumination, Mindfulness and Subjective Vitality, alongside demographic questions. Using a multiple regression to analyse the results, the overall model was a significant predictor of Subjective Vitality. Mindfulness was found to be a significant positive predictor of Subjective Vitality, whilst Rumination was found to be a significant negative predictor of Subjective Vitality. These results confirm past research elucidating the effects of both Rumination and Mindfulness on Subjective Vitality and confirms that an increase in Rumination predicts a decrease in Subjective Vitality, while an increase in Mindfulness predicts an increase in Subjective Vitality. These results are valuable because they inform us that any interventions targeted at decreasing Rumination or increasing Mindfulness would likely be efficacious in increasing Subjective Vitality and in turn Eudaimonic Wellbeing. Therefore, given our knowledge of Eudaimonic Wellbeing these interventions could lead to positive physical and mental health outcomes in participants.

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41. Cricket and Belonging in Qatar's South Asian Migrant Workers

Abdul Hannan

Georgetown University

Cricket, deeply embedded in South Asian culture, has become a symbol of identity and community for diasporas worldwide. This study explores how cricket fosters belonging among South Asian migrant workers in Qatar, where the sport thrives informally despite limited institutional support. While Qatar invests heavily in sports like football, cricket is primarily played in vacant spaces, reflecting broader social hierarchies. This research asks: How does cricket create a sense of belonging for the South Asian diaspora in Qatar? It also examines Qatar's response to informal cricket through sports initiatives and its place within the broader Gulf context. Existing literature on Gulf migration focuses on labor and economic conditions, often neglecting the social dimensions of leisure. Addressing this gap, this study highlights cricket as a crucial space for social interaction and cultural continuity among migrant workers. Using a qualitative approach, including interviews and participant observation at cricket matches, the research analyses how these gatherings are organised, considering timing, funding, and locations. Findings reveal that Qatar's social stratification extends beyond income and occupation to leisure opportunities, with disparities shaping migrant workers' experiences. By highlighting the disparities in leisure opportunities and experiences for people in different social demographics in Qatar, the study not only exposes the deeper layers of social stratification but also highlights the need for more inclusive approaches to leisure programming and infrastructure development.

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42. How effectively does the French education system address the needs of children with Developmental Language Disorder (DLD) throughout primary education in comparison to the elementary education program of Quebec?

Martha Nestor

University of London

Until 2019, when the OOAQ (Orthophonistes et Audiologistes du Québec) translated the English term Developmental Language Disorder (DLD) into French as Trouble développemental du langage (TDL), multiple terms coexisted to describe children presenting with TDL (e.g., disordered language, language needs, speech-language impairments). This ambiguity, coupled with the lack of a comprehensive definition of TDL across France—and particularly within the French education system—has led to generations of silenced children. Often referred to as “the most common childhood condition you have never heard of” (Norbury et al., 2016), DLD affects two children in every classroom, or approximately 7% of the general population (Conti-Ramsden & Botting, 2008). DLD is a significant learning difference that impairs an individual's ability to use and understand language. In the classroom, it influences students' ability to communicate with peers and teachers, process information, follow instructions, and participate in extracurricular activities, ultimately affecting their academic attainment, social interactions, health, and overall well-being.

This dissertation examines how the delayed adoption of standardised terminology related to TDL in the French education system has shaped public discourse, influenced educational policy, and impacted the provision of specialised educational support. A comparison of the accessibility and quality of support services—such as speech therapy, educational adjustments (PAPs), and teacher training—between the elementary education systems of France and Quebec underscores the need for greater institutional recognition of TDL in French elementary education to ensure equitable access to education for all students.

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42. How effectively does the French education system address the needs of children with Developmental Language Disorder (DLD) throughout primary education in comparison to the elementary education program of Quebec?

////FRENCH TRANSLATION////

Dans quelle mesure le système éducatif français parvient-il à répondre de manière efficace et adaptée aux besoins des enfants présentant un Trouble développemental du langage (TDL) tout au long de leur parcours à l'école primaire, en comparaison au programme d'enseignement primaire du Québec ?

Résumé

Jusqu'en 2019, lorsque l'OOAQ (Ordre des orthophonistes et audiologistes du Québec) a traduit Developmental Language Disorder (DLD) en Trouble développemental du langage (TDL), plusieurs termes coexistaient pour décrire ce trouble (trouble primaire du langage, retard de langage, dysphasie, etc.). Cette absence de terminologie standardisée, combinée à un manque de définition claire dans le système éducatif français, a limité la reconnaissance et la prise en charge des enfants concernés. Décrit comme « le trouble de l'enfance le plus fréquent dont vous n'avez jamais entendu parler » (Norbury et al., 2016), le TDL touche environ 7 % des enfants, soit deux élèves par classe (Conti-Ramsden & Botting, 2008).

Le TDL est un trouble primaire du langage qui entraîne des limitations importantes et persistantes sur le plan de l'expression orale et en ce qui concerne la compréhension du langage oral. En classe, le TDL affecte la capacité des élèves à communiquer avec leurs camarades, à suivre les instructions et à participer aux activités extrascolaires, ce qui a un impact sur leurs performances scolaires, leurs relations sociales et leur bien-être.

Actuellement, le terme TDL reste peu intégré au discours public et est souvent mal interprété. Par conséquent, le ministère français de l'Éducation n'a pas encore mis en place un soutien éducatif spécifique, efficace et spécialisé pour les enfants avec TDL. Cette étude compare

l'accessibilité et la qualité des services de soutien – orthophonie, adaptations pédagogiques (PAP, PAI, PPRE) et formation des enseignants – entre les systèmes éducatifs de la France et du Québec afin de souligner l'impact de l'absence de terminologie claire sur la reconnaissance et la prise en charge des élèves atteints de TDL.

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43. Empowerment or Endangerment? The Impact of Women's Employment on Domestic Violence in India

Sakhra Riyaz

Georgetown University

Female employment is widely regarded as a pathway to empowerment and financial independence, potentially mitigating domestic violence. However, its actual impact remains contested. This study examines whether women's labor force participation in India influences their vulnerability to domestic violence, using IPUMS DHS data from 1992 to 2019. We analyse two categories of domestic violence: severe physical violence and control issues, which measure restrictive behaviors by male partners. Our findings indicate that employed women face a 0.525% higher likelihood of severe domestic violence and a 0.954% increase in control issues compared to non-employed women. Employment shows a positive association with both forms of domestic violence, while age and education exhibit negative correlations. This suggests that older and more educated women face lower risks. Furthermore, urban-rural differences emerge, with urban employed women experiencing higher coefficients for both severe violence and control. These results challenge the assumption that employment necessarily enhances women's autonomy and safety, highlighting that economic participation can provoke backlash in the form of heightened domestic violence and controlling behaviors. The findings align with theories suggesting that shifts in traditional gender roles can generate resistance from male partners, particularly in contexts where male dominance is culturally ingrained. Given these risks, employment policies aimed at women should incorporate complementary measures, such as legal protections, financial literacy programs, and social support systems, to mitigate potential adverse consequences. This study contributes to the broader discourse on gender, work, and domestic violence by emphasising the complexities surrounding female labor force participation in India.

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44. Redefining Poetry: The Impact of Human and AI Collaboration on Traditional Poetic Structures

Kerry Sim

University of Glasgow

Historically in the Western world, poetry has been used to tell culturally significant stories and myths, while simultaneously conveying emotion and evoking feeling in its readers. This has become a key part of poetry whose definition, like its content, is up to the individual reader. The growing omnipresence of artificial intelligence (AI) will push poetics to adapt to our modern and evolving digital world, a fact which will undoubtedly alter the definition of 'poetry' itself. I will explore the effects of AI mimicry on traditional poetic forms by well-known English poets, explore the possibility for authorial collaboration with AI, and offer insight into the perceived lack of originality in computer-generated poetry. This piece argues for the use of AI as a tool in poetry, investigating the current human close-mindedness regarding the 'soullessness' of AI poetry, and explores what a human and AI partnership could bring to the modern world of poetics. The dangers of sole AI authorship to writers and artists across all disciplines is undeniable, but human and AI collaborative poetry offers a utilisation of human skills in a surely inevitable integration with AI, pushing an evolution in this ever-broadening form. This redefining of poetry, like other modern poetical works, would also continue to blur barriers that historically confined this genre to the Western elite, making accessible a form that seeks most prevalently to speak to the human soul.

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45. Assorted speech: Differences in /ɟ/ production between immigrant adults and their children in a Hungarian-speaking household

Teodora Varga

University of Warwick

Immigration makes linguistic differences in the home environment relevant. The study was inspired by my observations of production differences between parents and children – children fail to reproduce certain consonants exactly in everyday speech despite having Hungarian as L1. Acoustic differences in /ɟ/ were investigated using Voice Onset Timing (VOT) and Centre of Gravity (CoG) measurements. VOT measurements show differences in vocal cord vibration, and CoG can indicate place of articulation. Audio recordings of a list of Hungarian words were analysed using the software Praat and grouped into three conditions: parents, children, and adjusted child group. The results showed mean parental CoG was significantly less than in the adjusted child group in word medial /ɟ/, and mean parental VOT was significantly less than both child groups. These provide evidence for production differences between parents and children, and evidence of /ɟ/ production being closer to [d͡ʒ], in line with my observations and related literature. These show production differences arise in children despite their L1 and that they will not reproduce their parents' production exactly. The implications of the effect of L2 on L1 are relevant because results may be due to children's L2 fluency and usage of their more fluent articulatory domain. It suggests some sounds are naturally more difficult to pronounce than others and gives insight into the human language faculty. This study builds on a line of inquiry within bilingualism and informs research on bilingual processes and possibly language evolution.

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46. Inertial Fusion Energy with High Power Lasers at the Central Laser Facility

Aaron Callaghan

University of Sheffield

Since the first successful demonstration of ignition in 2022 with the NIF laser system at Lawrence Livermore National Laboratory in California, the high power laser community has taken strides towards further developing laser-driven inertial fusion energy (IFE) as an alternative source of secure, sustainable, clean and carbon-free energy.

In 2024, the UK Programme for Laser Inertial Fusion Technology for Energy (UPLiFT) commenced at the STFC Central Laser Facility (CLF). One aim of this four year project is the development of a laser driver design for a nuclear fusion power plant, with the end goal of producing a scalable prototype.

In this work, laser gain media energetics and wall-plug efficiency were modelled to inform prototype design choices. The presentation will begin with a short introduction to the CLF and the basics of lasers and fusion before covering the UPLiFT project and the work undertaken.

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47. Higher Growth: Supporting Decentralisation & Establishing Municipal Bond Markets in the UK

Alexander Johnson, Alexander Cloke, Danny North & Elias Sanches

University of Leeds

With a combination of high 10-year gilt yields and downgraded GDP forecasts, the British government is constrained by rigid fiscal rules. While Labour have introduced new rules to manage public finances, they fail to acknowledge that sustainable debt management hinges on the interaction between real growth (g) and interest rates (r) as per Blanchard's r>g condition. An OLS regression model tests this view and demonstrate that when r>g, additional borrowing undermines fiscal sustainability. With UK yields remaining elevated due to higher term premia levels, we verify that Britain's debt dynamics remain in a precarious position. As such, we present two flagship policy proposals. First, the government to adapt its fiscal rules to reflect the ebb and flow of changing growth and interest rates, opting to balance the primary deficit only if r>g. Second, we look on the other side of the coin – growth – where boosting growth prioritises fiscal sustainability. To achieve this, we evaluate the viability of municipal bond markets in the UK. A secondary regression model on the U.S. reveals that debt issuance on the municipal bond level has a greater marginal effect on GDP than Federal borrowing. Consequently, we recommend decentralised municipal bond markets as a key proposal to foster economic expansion. We believe this approach will be essential in strengthening local governance and intra-regional resilience while enhancing local fiscal autonomy. By identifying the factors underpinning low growth and assessing government responses, our paper provides recommendations to unlock decentralisation's full potential while mitigating fiscal instability and debt unsustainability.

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48. Melatonin Synthesis in S.purpuratus

Jingyi Guo

University College London

Melatonin, often referred to as the "hormone of darkness", is an evolutionary conserved molecule across the phylogenetic tree and plays a pivotal role in regulating sleep in vertebrates. However, the presence of melatonin and its potential link to the circadian clock and sleep-like states in deuterostome invertebrates, such as the Echinodermata phylum, which is sister group to chordates, remains largely unknown. While the genome of the sea urchin Strongylocentrotus purpuratus contains melatonin receptors, no clear orthologues of arylalkylamine N-acetyltransferase (AANAT), the canonical rate-limiting enzyme in melatonin synthesis, have been identified. We therefore used liquid chromatography-mass spectrometry (LC-MS) to test for melatonin synthesis in S. purpuratus larvae and to examine whether diel differences in melatonin concentration exist in this species. Our preliminary results from fed and unfed urchin larvae provide evidence of melatonin in S.purpuratus, challenging the previous assumption that endogenous melatonin synthesis is absent in this species. We are now using phylogenetic and protein-folding analyses to search for candidate alternative melatonin-synthesising enzymes in the S.purpuratus genome. This work provides a foundation for understanding the evolution of melatonin synthesis and its potential relationship to the larval sea urchin circadian clock and behavioural patterns.

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49. Exploring the Monstrous-Feminine within Modern Opera

Sydney Minor

Royal College of Music

How is the portrayal of women in modern opera similar to their depiction in horror films, and what does this reveal about ongoing societal views of women? In 1993, Australian film and cultural analyst Barbara Creed published The Monstrous-Feminine: Film, Feminism, and Psychoanalysis, a work that revolutionised film studies in relation to gender and sexuality. In this book, Creed examines the archetypes through which women are represented in horror films. Drawing on critical theories from figures such as Freud and Kristeva, connects these portrayals to concepts such as abject theory and castration anxiety, shedding light on societal fears surrounding women.

This project will apply Creed's theories to the opera Salome to explore why the title character is often written, portrayed, and analysed in a 'horrifying' light. To achieve this, I will begin by reviewing various sources on film studies, critical theory, and gender and sexuality studies. I will then analyse the original story of Salome and two contrasting productions of the opera through the lens of Creed's theories. Furthermore, I will compare my findings with current scholarly research on the opera to uncover what these portrayals reveal about contemporary attitudes toward gender and sexuality within musicology.

While film studies is a relatively new field compared to musicology, it has made significant progress in its exploration of gender and sexuality. Through this project, I aim to help bridge the gap in the literature between these two disciplines.

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50. Modelling of anti-cancer drug kinetics and therapeutic effects in relation to tumour volume data, performed in conjunction with GlaxoSmithKline

Gabriela Surowiec

University of Warwick

Understanding how drug combinations impact tumour volume is crucial for advancing personalised cancer treatments, particularly for breast cancer. This research focuses on the pharmacokinetics (PK) and pharmacodynamics (PD) of two drugs, carboplatin and venetoclax, both alone and in combination, addressing the need for predictive models that enhance treatment efficacy. Using Monolix software, I developed a PK/PD model using the framework presented in James Yates's paper "How Translational Modelling in Oncology Needs to Get the Mechanism Just Right". Tumour volume data from the PDXnet portal, alongside dose levels and initial tumour volume as regressors, revealed that combining carboplatin and venetoclax reduces or maintains tumour volume, offering a quantitative framework for optimising cancer therapies and aiding in clinical decision-making.

These findings contribute to translational oncology by improving predictive modelling accuracy, supporting personalised medicine, and potentially advancing therapeutic outcomes for patients. This work aligns with the objectives of mechanism-driven drug development, providing insights that could bridge preclinical and clinical research.

Future research will explore optimal dosage regimens and frequency to sustain tumour control while minimising toxicity. Expanding the model to incorporate patient-specific variables, such as age and comorbidities, and validating findings with clinical datasets are crucial next steps. This research has the potential to transform cancer care by refining treatment strategies and enhancing therapeutic precision.

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51. Everything is romantic : Examining how young people in England feel about romantic love and relationships today

Topè Adebayo

University of Warwick

The available literature surrounding the topic of love leads me to believe that being in love and/or a romantic relationship is something that tends to evoke feelings of embarrassment and vulnerability within individuals. As a result, we tend to shy away from openly discussing our feelings in relation to love and romance.

My dissertation project will investigate how young people today (18–24-year-olds) feel about love and romantic relationships. Through one-to-one, semi-structured interviews, participants will be given the space to openly share their thoughts and beliefs relating to this topic.

My study aims to discover:

A. If young people think romantic relationships are repressive or beneficial for individuals

B. If being in love/a romantic relationship is important to young people

C. If entering a romantic relationship is a current priority for young people.

Participants will be asked questions relating to the importance of love in our society today. Over the course of this research, themes of power, existential nihilism, capitalism and the digital age will be examined and analysed.

This research project may shed some light on the ways in which we as humans can interact with one another to ensure that we are a society of more loving people. This research project will also provide us with some insight into the current state of love bonds, relationships and dating in the 2020s.

This project is currently being undertaken and as a result, I have not yet obtained research results from this study.

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52. Integration of Artificial Intelligence in healthcare: Liability for medical error caused by AI

Ana Patni

University of Warwick

In the health care system where the permissible margin of error is slim, deploying artificial intelligence heralds a transformative era. This hints at increasing accuracy of diagnosis, efficiency of the health care system and mitigating human biases. However, this promising frontier is stacked with legal hurdles, including accountability and establishing causation. Whilst it is notoriously difficult to prove causation traditionally in tort law, the advent of AI will magnify it more for the policymakers, when errors stem from 'poorly or incorrectly labelled data' causing wrong predictions or inherent algorithm bias. In such cases, the end-users of these technologies are left vulnerable without any legal protection making them the unwitting test subjects of an unregulated, evolving system.

The machine learning algorithm, subset of AI, operates by generating outputs by recognising similar patterns, without explicit programming ('Blackbox algorithm'), so the onus of liability cannot fall onto the programmer. The question of who bears the responsibility becomes equally intricate, with several players including system designers, healthcare professionals, AI developers, shaping the liability atmosphere. First, the information fed to the AI can possibly be the records of a particular hospital. Second, in the case of the doctor not following the advice of the AI and the operation going wrong as a result, the question here would be if it is a malpractice. Additionally, in case of different advice from doctor and AI, whose advice will override. All these issues add to the perplexity of the equation.

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53. How elite UK universities reproduce racial inequality: An insider study exploring black students sense of belonging at HE

Sharon Berhane

Durham University

My research, conducted with 10 black students at a primarily white elite institution, used qualitative methods to investigate what factors impact their sense of belonging in these spaces. Existing literature reflects on diversity, safe spaces and racism as the main issues impacting belonging for black students. However, my study discovers that institutional responses to racism and the perception of adequate racial support, have had just as consequential an impact on belonging as specific racist incidents for some participants. Similarly, the setting of Durham University highlights different aggravating factors specific to the North East, like the hypervisibility of black people, the difficulties accessing black hair care, beauty and food supplies, and racism from some local residents in the aftermath of the 'race riots' this summer. Therefore, this study offers universities and the HE sector different recommendations created by participants for strategies to support black students in uncertain times. These findings have been thematically analysed and coded enriched by the insider approach to data collection as it is investigated by a black student at the same university.

Keywords: Sense of belonging, elite universities, primarily white institutions, black students, insider research

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54. The impact of the Covid pandemic on Influenza vaccine uptake and identifying geospatial differences

Anouka Perera

Newcastle University

Vaccination campaigns are an important public health priority to reduce disease morbidity and mortality. The research discusses the analysis of COVID-19 which is performed by examining the Influenza vaccine uptake in various areas in England prior and during the COVID-19 pandemic thereby also doing geospatial analysis and statistical analysis. Data is taken from Public Health England of 65 years and older individuals. STATA software but also MS Excel were used. Statistical tests such as mean calculation, histograms, box plots, Kruskal Wallis rank test, linear regression, etc were done to investigate the correlation between % Influenza vaccine uptake and IMD quintiles in both rural and urban areas while also individually. 7143549 people were vaccinated in 2018 and 8409035 people were vaccinated in 2020. Generally, the trend seen was that the mean vaccine uptake in both rural and urban areas was higher in 2020 than in 2018. The mean vaccine uptake in rural areas was higher than in urban areas individually in 2018 and 2020. More research needs to be done as to how Individuals in rural or urban areas have a higher % Influenza vaccine uptake and how it is linked with the IMD quintiles 1 to 5. While there's a general acceptance of % Influenza vaccine uptake to be higher in increased IMD quintile areas and lower vaccine uptake in lesser IMD quintile areas, this still needs to be analysed further including factors such as income, education, quality of environment, access to healthcare and employment along with geospatial differences.

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55. Overcoming feelings of alienation in German literature from between 1905 and 1938

Connie Duggan

Durham University

This research is primarily focused on shifting perspectives in German literature which took place between the years 1905 and 1938. Through analysing works by Rainer Maria Rilke, Walter Benjamin and Erich Kästner, a progression of thought becomes clear; frustration with the state of society forces the writers into a search for hope, necessitating a change of their perspectives on the world. At the beginning of the century, concerns over society becoming disconnected from the natural world are a literary focus. The goal of this research is to assess how these concerns develop through the events and aftermath of the First World War. Previous critical literature concerning these writers has often focused on their pessimism regarding changes in society in the early 20th century, with all three expressing feelings of alienation and dissatisfaction. It is important to consider these feelings as a starting point, as they reflect general social attitudes of displeasure at the time. However, the events from 1905 to 1938 act as a lens through which we may observe an important literary shift. Therefore, the main aim of this research is to assess whether the writers are able to create a sense of hope for the future in their works, and to what extent this is possible in the postwar years.

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56. Law and Order: Litigation as a Social Tool in Early Modern England

Saffron Hunter

Durham University

Early Modern England experienced some of the most profound social and cultural shifts seen in the nation's history, especially exemplified in the changing nature of law and litigation. With the intense growth in the use of the law, a consequence of economic commercialisation, early modern Englishmen developed great legal knowledge. From this, society gained a wider 'culture of law', and, more particularly, conceptions as to how they could utilise litigation to their benefit. Litigation in Early Modern England was commonly perceived as a social tool, in various and conflicting ways. It was utilised by the community in order to enforce social harmony and peace, maintaining neighbourly values that had existed for centuries. However, the individual also used litigation to fight against the exploitation and discrimination they faced, asserting their agency against common hierarchical practices. These contrasting attempts to both maintain and undermine social tradition accurately represent the intense instability of early modern English society, where ancient community structures clashed with rising modern individualism – with both of these parallels making use of litigation to achieve their ends.

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57. PHA-based Cardiac Patches for Post Myocardial Infarction

Yukta Kaushal

University of Sheffield

Cardiovascular disease (CVD) remains the leading cause of mortality worldwide, accounting for the death of over 17.9 million people globally in 2019. Myocardial infarction (MI) is one of the primary manifestations of CVD and contributes majorly to the global disease burden.

Due to the very limited regenerative capacity of cardiomyocytes, myocardium repair following MI continues to pose one of the biggest challenges in the medical industry with full recovery still not achievable even with employment of leading microsurgical techniques. Tissue engineered cardiac patches are now being explored as a potential alternative for improved treatment for post-MI patients.

In this study we aim to explore the construction of cardiac patches using medium-chain length (MCL) polyhydroxyalkanoates (PHAs), a natural material, chosen for their biocompatibility, biodegradation and their mechanical properties.

3D modelling software was utilised to create various potential designs for the scaffold that would be most suited to match the biomechanical properties of the heart tissue, and a simulation model was created for testing the designs in silico.

After selection of design the patches were manufactured using Melt Electro Writing (MEW; an additive manufacturing technique that can construct scaffolds of micro to nanometre precision from polymer melt using electro-hydrodynamic fibre attraction) and 3D Extrusion Printing. The 3D printing and MEW parameters were optimised to achieve the best scaffold properties and the differences between the two techniques was analysed.

Current and future work includes cardiomyocyte cell culture which will be seeded onto the patches to check their biocompatibility and bio-functionality.

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58. From In-Person to At-Home: Investigating Generation Z's Intentions to Adopt Live-Streamed Music Concerts

Lulu Le Page

University of Plymouth

Generation Z is the first generation fully immersed in the digital world, shaping their expectations for event experiences (Priporas, Stylos, & Fotiadis, 2017). With the rise of livestreaming technology, this study examines Generation Z's intention to engage with livestreamed music concerts and its potential as a revenue-generating model for the event industry.

This research integrates the Technology Acceptance Model (TAM) (Davis, 1987), Social Presence Theory (SPT), and Uses and Gratifications Theory (UGT) to explore key factors influencing adoption, including perceived usefulness, ease of use, and social presence. As Generation Z becomes a dominant event-attending demographic, understanding their preferences is crucial. However, limited research exists on their engagement with live events, as they are only now reaching full consumer influence.

A quantitative survey will be distributed via social media, targeting up to 250 Generation Z participants. Data will be analysed using SPSS, focusing on descriptive statistics (mean, standard deviation) and inferential analysis to identify trends.

Findings will provide valuable insights for event organisers and technology companies. The study will determine whether livestreamed concerts are a viable approach to increasing revenue by removing capacity constraints. Additionally, insights into Generation Z's livestreaming preferences will help technology firms enhance digital concert experiences. This research contributes to the growing discourse on digital event experiences, offering strategic implications for the future of music events in an increasingly digital landscape.

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59. Cold water interventions and mental health: Evidence of cold shower and diaphragmatic breathing having a positive effect on mental health

Veronika Hoskova

Newcastle University

This intervention study aimed to investigate the effects of cold-water showers on somatic symptoms of mental health (SSS) as well as stress overload (S-SOS), depression (PHQ-8), mood (PANAS) and wellbeing (SWEMWBS). Recent research indicates a positive relationship between cold-water swimming/ immersion and stress-related mental health conditions. However, there is insufficient literature to evaluate this same relationship with cold showers (CSH). This study examines the effects of cold showers on various aspects of mental health and whether incorporating diaphragmatic breathing enhances these benefits.

Healthy volunteers (n = 49) were randomly assigned to a standard or diaphragmatic breathing group and underwent a three-week-long CSH intervention consisting of three showers/week, gradually increasing exposure time from 15 seconds to 3 minutes.

Improvement in mental health was driven by the diaphragmatic breathing group, with a significant reduction in somatic symptoms related to mental health [$F(3, 75) = 5.956$, $p = 0.003$], stress overload [$F(3, 75) = 5.786$, $p = 0.001$], depression symptoms [$F(3, 75) = 6.656$, $p < 0.001$] and negative affect [$F(3, 75) = 9.073$, $p < 0.001$]. Notably, wellbeing showed improvement in the standard [$F(3, 75) = 1.793$, $p = 0.156$], but not in the diaphragmatic breathing group [$F(3, 75) = 1.793$, $p = 0,156$].

The results suggest that cold showers can benefit mental health, especially when combined with diaphragmatic breathing, frequently used in mindfulness techniques. This indicates that the breathing element may simulate the calming effect of nature observed in cold-water swimming.

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60. The effects of oscillatory fluid flow on collagen production by osteoprogenitor cells on aligned and non-aligned electrospun scaffolds

Jessica Harrison

University of Sheffield

Osteogenesis imperfecta (OI), also known as “brittle bone disease”, is a genetic skeletal disorder that causes bones to fracture easily, due to a genetic mutation affecting the protein collagen, which is the main structural protein of bone. In this project we will investigate the differentiation of mesenchymal stem cells (MSC) from bone marrow into osteogenic (bone-producing) cells. These cells could be used to treat diseases such as osteogenesis imperfecta, but it’s important that they are guided to produce collagen in the correct way. It has previously been shown that stem cells can be grown on fibres with parallel alignment and that this guides differentiation in laboratory conditions (in-vitro). Other studies have shown fluid flow (OFF) can upregulate bone-like differentiation of MSCs and increase collagen matrix production. To the best of our knowledge, there is no research having combined these two approaches. Aligned and non-aligned polymer scaffolds were fabricated using a technique which creates ultra-fine fibres, called electrospinning. Mesenchymal stem cells were cultured on non-aligned scaffolds and then placed on an oscillating rocker platform to create a fluid-flow mechanical stimulus. A protein that indicates bone formation - alkaline phosphatase was modified by the culture conditions. Collagen deposition and organisation will be investigated, as well as the tensile strength of the scaffolds. This data will provide information on the best way to stimulate strong bone formation by stem cells which will be useful in the design of treatments for osteogenesis imperfecta.

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61. Being home educated in the city of London: A Participatory Research with Children

Gruff Madrigal

The Open University

Participatory studies with electively home-educated (EHE) children are under-researched in the UK. Recent literature determined that the EHE experiences of children can be influenced by the support they receive regarding their learning, socialisation, sense of self, and consent (Schalkwyk and Bouwer, 2011; Jones, 2013; De Carvalho and Skipper, 2019; Puga, 2019; Neuman, 2020; Fensham-Smith, 2021; Neuman and Guterman, 2022). This study investigated four EHE children's views and experiences in London, UK, informed by Van Manen's (1990) hermeneutic phenomenology. It explored findings from a creative, participatory approach using artefacts and semi-structured interviews that discovered the participants' spatial, social, temporal and embodied experiences, which enabled them to illustrate their choices in varying activities and spaces, interaction with others, and changing and ongoing educational perspectives and practices which influenced their experiences of EHE in an urban environment. The three key themes found in this study were: 'Exploring different options,' 'Forming chosen social bonds,' and 'Adapting to interests.' The findings supported existing literature. It concluded that gaps in research focusing on the EHE experiences of children in the UK still require further investigation.

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62. Limited influence of sleep on drawings made from memory

Samuel Rosenthal

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It is well known that memory worsens the longer it has been since encoding (Ebbinghaus 1885), and that memory is better after a period of sleep than the same period awake (Ellenbogen et al., 2006). While this is widely known to be true for recognition-based visual memory (Wagner et al., 2007), it is less clear for visual recall. To assess this, we conducted two experiments. First, Prolific participants (N=188) encoded 4 scene images before undergoing a 10-hour delay, during which they were either awake or asleep. After the delay, the participants drew the 4 images from memory. Participants also encoded and immediately drew 4 scene images, to replicate prior effects without a delay (Megla et al., 2024). Following this, separate Prolific participants (N=393) rated which objects were present in the drawings. As expected, participants recalled significantly more images, and more objects from those images, immediately after encoding than after a delay. However, we surprisingly found no significant difference in memory quality between the sleep and wake conditions. In the second experiment designed to increase interference, participants (N=175) encoded 8 scene images, in which 4 were from the same scene category (“within”) while the remaining 4 were of different categories (“between”). Participants recalled significantly more images from the “within” scene category, but significantly more objects from the “between” scene category. However, despite increasing interference between images, we found no significant difference between sleep and wake for either metric. These results challenge the commonly held belief that sleep benefits all memory.

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63. Coping with Loss: Children's Perspectives on Parental Death

Remi Martin

The Open University

In the UK, there is a notable lack of information regarding the views, thoughts, and feelings of children who have experienced bereavement. Whilst approximately 25,000 children aged 5 to 16 years have been bereaved of a parent or sibling in Scotland (Childhood Bereavement Network, 2016), this number is not systematically recorded, leaving an incomplete picture of bereavement experiences. Existing research on children's experiences of death and grief often excludes their direct input, relying instead on adult proxies to report on children's emotional responses. In this presentation I will address this gap by using non-probability, convenience sampling to engage children (aged 7-9) who had previously received support from a bereavement service in Scotland. Over a three-month period, creative participatory methods were employed to gather data, with children also participating in the analysis. Key findings reveal that children express a strong need for the opportunity to say goodbye to their loved ones. Additionally, pets play a crucial role in both understanding death and providing comfort during the grieving process. Participants also emphasised the importance of being informed about significant deaths in a prompt and timely manner, as well as the need for their grief to be acknowledged sensitively within their social and school environments. This research suggests that, despite the sensitive nature of the topic, children and young people are willing and able to discuss their bereavement experiences. It advocates for their inclusion in conversations and decision-making processes related to death, from rituals to post-death considerations.

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64. Is the ‘best interests’ assessment sufficient in determining children’s medical care?

Leah Christoffersen Potter

University of Southampton

This research disseminates the findings of a doctrinal research study analysing the effectiveness of the ‘best interests’ assessment in complex child medical law cases. This study analysed case law from 1982 to the present where a judge determined whether treatment was in a child’s best interests.

The study found that the use of the ‘best interests’ test is adequate in establishing what medical care should be provided to children, although there are various additional factors that should lend support in complex cases. For example, this research argues that in complex cases more weighting should be placed on the following additional factors, such as the medical, emotional and all other welfare issues surrounding the child’s circumstances. I deduce that although alternative tests, such as the ‘significant harm’ test are available, the most appropriate and comprehensive test remains to be the ‘best interests’ test.

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65. Novel approach methods (NAM's) and novel approach technologies (NAT's), including invertebrate and non-regulated vertebrate animal models, their use in pre-clinical drug discovery and development and their applications to both research and undergraduate education

Grace Aoun

University of Leeds

Animals in research allow for studying diseases, testing treatments, and understanding biological processes. There is increasing public pressure to replace the use of animals in research with Non-Animal Technologies (NATs, replace animals) and New Approach Methodologies (NAMs, methods not developed explicitly to replace animals). This scoping review aims to map the extent, of literature on NATs and NAMs, including invertebrate and non-regulated vertebrate animal models, with a focus on their applications in PCDDD, and undergraduate education. NAMs and NATs are recognised for addressing ethical challenges, reducing costs, and improving research, but their adoption in education is underexplored. Systematic searches of bibliographic databases (PubMed, Scopus, Web of Science) and grey literature will be undertaken. Eligible studies will include peer-reviewed articles and grey literature on NAMs and NATs in PCDDD. Data will be extracted and organised such as types of NAMs and NATs, their specific applications, and reported challenges or limitations.

The review is expected to highlight applications of NAMs and NATs in preclinical research, such as disease modelling and personalised medicine.

The focus will be on identifying gaps in the literature, their applications in the PCDDD and undergraduate education. Findings will assess the state of the field and research opportunities.

Anticipated challenges include a lack of standardisation of NAM's and NAT's their current limited validation, and underrepresentation in education. Through this review, we aim to emphasise the transformative potential of NAMs and NATs in preclinical research and education. Recommendations will address gaps and propose strategies for improving research and undergraduate teaching.

This review will be conducted without external funding or financial support.

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66. Investigating Methylation-Related Gene Expression Variation Between Temporal Populations of Daphnia magna Affected by Different Environmental Stressors

Naomi Musto

University of Leicester

Changes to environmental conditions have been shown to have direct effects onto species inhabiting affected habitats. Literature contains various studies observing the effects of environmental stressors, but they are limited to observing spacial populations. Epigenetics can play a role in both adaptation and plasticity in face of environmental stressors, with possibilities of DNA methylation being involved in genetic adaptation. Therefore, in my study I hypothise that epigenetic disparities between populations could have been an adaptation to environmental stressors, which caused hereditable epigenetic changes including their life history traits. I utilised Daphnia magna, shown to be an excellent model for observing genetic variation over time through the use of resurrection ecology. I analysed raw RNA-seq data to identify any differentially expressed methylation-related genes between three temporal populations of D. magna from Lake Ring. The results of this study could lay the foundation in understanding the importance of methylation in adaptation to environmental stressors.

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67. Enhancing Early Dyslexia Screening: Smartphone-Based Eye-Tracking Technology

Umair Khan

University of Warwick

Dyslexia affects over 400 million people worldwide, yet early diagnosis remains challenging due to the high cost and time-intensive nature of traditional assessments. Many existing screening methods rely on expensive infrared eye-tracking systems, restricting accessibility, particularly in low-income communities. This research builds upon previous efforts in developing a dyslexia screening app by improving the feature detection algorithm, enabling accurate and cost-effective eye-movement analysis using smartphone-based technology.

Expanding on prior studies, this research refines the detection of key eye-movement patterns—saccades, fixations, and regressions—which are strongly linked to dyslexia. The system processes video data to extract and analyse these features, generating a prediction score that quantifies reading difficulties. This refined algorithm is integrated into a structured user interface, ensuring usability and real-time feedback. Manual validation of collected video data further optimises the model's accuracy and effectiveness.

The findings have broad implications for both education and healthcare. The platform's portability, combined with the device's cameras and data processing, enables efficient, low-complexity screening across diverse environments. This continuous monitoring facilitates long-term tracking of reading difficulties, allowing for earlier interventions. By eliminating the dependency on costly infrared-based tracking, this research advances equitable access to dyslexia assessment tools, particularly benefiting underserved populations.

Future work will focus on merging the feature detection algorithms with the existing app interface to develop a comprehensive end-to-end dyslexia screening application. Additionally, integrating machine learning models will allow for automated dyslexia prediction, further improving detection accuracy. Expanding the platform's capabilities to identify other neurological conditions could revolutionize early screening for learning difficulties, making early diagnosis more accessible and transformative worldwide.

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68. Masculinity in Customary Law and the Constitutional rights of women in South Africa

Merveille Nkamba

University of Warwick

The South African Constitution is one of the best in the world because it was a vested effort in undoing the legalised oppressions of the Apartheid regime. Non-sexism is a constitutional value that mandates gender equality in all facets of life. However, South Africa is one of the most dangerous countries to live in as a woman because women experience economic disadvantage and violence at disproportionate rates to their male counterparts. Through primarily desk-based research and the support of an interview with Customary Law expert Ms. Ebrezia Johnson of Stellenbosch University, this research seeks to understand this state of affairs. This research found that gender equality legislative enactments have fallen short of their goals in the face of centuries of masculinity being shaped by colonialism and Apartheid and their economic, social, and political features. This has resulted in South African men being in a crisis of masculinity. In their struggle to reclaim their precolonial manifestation of masculinity and reject their adopted white supremacist-shaped masculinity, women are collateral. Zulu masculinity was the focus of this research because the Zulu are the largest ethnic group in South Africa and thus can speak to the prevailing form of masculinity in the country. This research found that there is a gradual positive shift of masculinity happening with the encouragement of constitutional courts and traditional leaders. The centring of the philosophy of 'ubuntu' or guardianship is key in the construction of a new masculinity that aims to improve gender relations in South Africa.

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69. Understanding the Full Potential of Food Provision Programmes and Homelessness: A Scoping Review

Niki Wan Yui Yu

University of Warwick

Food insecurity is prevalent in the homeless population, with lasting physical, mental, and social consequences. Food provision programmes are a common intervention as primary food sources and a referral point. These programs often target the underserved, and are delivered by charities, churches and welfare policies.

Despite a range of literature documenting the outcomes of food programs for individuals experiencing homelessness, their nutritional adequacy and potential as a platform for social connectedness remains unclear. We conducted a scoping review of studies across six electronic databases to map the range of food programmes and types of studies conducted among the homeless in high-income countries to provide a comprehensive overview and identify evidence gaps, thus promoting understanding in this area.

From 1023 articles, 19 eligible studies revealed that the food programmes address immediate hunger but remain suboptimal to nutritional standards; leaving uncertainly about whether this exacerbates medical conditions, thus potentially compounding healthcare systems burden and perpetuating cycles of poor health.

There is also an under-utilised social opportunity, with promising implications for fostering inclusion, reintegration and well-being. Resource constraints frequently limit these initiatives to provide short-term solutions, representing a missed opportunity.

Rising living costs are worsening homelessness, with rates projected to increase further. Our findings call for reimagining food programs as sustainable interventions that address nutritional needs and social wealth. Further research warrants streamlining these programmes with existing resources, such as incorporating social spaces and nutritional planning. Engagement with policymakers and providers is crucial to translating these insights.

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70. Ram Air Turbine

Mohamed Waziri

Blackpool and The Fylde College

In the aviation industry, safety remains a top priority, especially in the event of total engine and fuel failure. One key backup system in modern commercial aircraft is the ram air turbine (RAT), a wind-driven device designed to provide emergency hydraulic and/or electrical power. While the RAT is known to be a critical last-resort safety component, there is limited publicly available data on its operational effectiveness and varying designs under varying real-world flight conditions. This research project investigates the performance limitations and deployment reliability of RAT systems during different emergency scenarios. The central research question explores: How effective is the RAT in maintaining essential flight functions when all other power sources have failed? To answer this, the study uses a mixed-methods approach—combining CAD simulations, 3D printing, and practical testing of electrical power output using a generator in a wind tunnel. In the modelling, different blades geometries were designed and printed for the practical testing. Results obtained were plotted into graphs and analysed. The findings aim to inform potential improvements in RAT design, deployment thresholds, and integration with other emergency systems. Ultimately, the study seeks to enhance the overall safety and survivability of commercial aircraft in critical failure situations.

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71. Adaptive Dungeon Crawlers: Balancing Exploration and Combat Through Dynamic Player Experience in UE5

M/S Wilson

Blackpool and The Fylde College

When the balance between fighting and exploration is not appropriate, player frustration can arise. This imbalance can have a detrimental impact on the Player Experience (PX), as too much battle may distract players who prefer exploration, whereas too much exploration might frustrate action-oriented players. Inconsistent pacing and gaming mechanics can create a fragmented experience, lowering immersion and overall user pleasure.

In Unreal Engine 5 (UE5), I'm creating a randomly generated dungeon crawler that responds dynamically to player actions. This game will include levels and difficulties that vary depending on how players interact with it, resulting in a unique experience for each playthrough. By introducing procedural generation, dungeon layouts, monster encounters, and loot will change, guaranteeing that players confront fresh and unforeseen difficulties each time they play. This technique seeks to increase replayability and keep players engaged by providing a continually changing gameplay experience.

By investigating whether a dynamic player experience that responds to individual behaviour is more appealing to a variety of play styles, we may be able to determine whether it is beneficial for players who prefer exploration, combat, storytelling, or puzzles. By looking at how personalisation increases engagement and satisfaction, we may be able to learn more about the potential benefits of adaptive game mechanics, which could make games more inclusive and entertaining for a wide range of players.

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72. “Composer’s Block”: Navigating Musical Creative Cognitive Processes through Compositional Warm Up

Finnian Mattingly

Royal College of Music

How can composers warm up effectively to maximise their creativity within a composition session? While there exists a large body of research regarding performance psychology and its implementation in practice, and while cognitive creative processes relating to composition have been studied, there is a lack of research on the implementation of these forms of cognition in the creative process. Performers are regularly taught effective practice techniques, but there is no equivalent pedagogical approach for composers. Research indicates that composition lies at the interplay of two metacognitive behaviors: “intuitive metacognition” (the act of free generation) and “reflexive metacognition” (the act of self-critique and revision). General creativity is thought to be inherently linked to associative thought processes, with more creative people able to maintain stronger connective ideas between distinct concepts, which provides a strong basis for compositional process research. This project, through a combined psychological, practice-based, and neurological approach, addresses that gap in research. The thesis first explores the current warmup strategies of a sample group of composers, using auto-ethnomethodological analysis, a series of structured interviews, and qualitative thematic analysis. After the effectiveness of various warm up routines are analysed, a combination of these findings and contextualisation within the existing literature around creative cognition will be used to propose a new model warm up for composers. This research not only has implications within cognitive and creative research, but in a substantial pedagogical field in which composers are rarely taught how to effectively warm up within a session.

NOTE: This project is in progress, and initial interviews will be completed by early February 2025. Thus, results can be presented by conference date.

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73. The Future Of Influencer Marketing: How Digital Platforms are Revolutionising Influencer And Brand Interactions

Raghav Goyal

University of Westminster

Digital platforms have changed the influencer marketing landscape by simplifying the partnership between influencers on social media and brands. However, they also limit these partnerships. This research explores the factors influencing the success of digital platforms, focusing on technological advancements, and analysing data from different ranges of academic articles, journals, books, and other online resources. The results reveal that digital platforms with integrated AI-driven tools, user-friendly interfaces, and transparent use are more likely to succeed in facilitating brand partnerships with influencers. The dissertation also highlights the importance of adaptability and innovation for these digital platforms to remain relevant for being the go-to digital platform in influencer marketing. Recommendations for future research include expanding the research to primary data and examining ethical considerations. This research contributes to optimising the digital platforms for successful influencer-brand collaborations by addressing these aspects.

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74. Advancing Research-Integrated Education: The Gene Editors Network of Excellence for Multidisciplinary Student Innovations and Global Impact

Kalpana Surendranath, Harshana Chaurasia, Maha Mansha Akhtar, Mishal Mansha Akhtar & Sneha Latha Rangan

University of Westminster

The United Nations Educational, Scientific and Cultural Organisation (UNESCO) highlights higher education as an invaluable resource that "equips students with the skills to meet ever-changing labour markets" and serves as a "passport to economic security and a stable future" for vulnerable students. CRISPR-Cas9 technology dominates the UK's gene editing market, driving top revenue and rapid growth, increasing the demand for skilled researchers. The Gene Editors of the Future (GEOTF) program at the University is an innovative approach to integrating higher education with lifelong learning and professional development. Divided into 3 phases (basic, advanced, and research internships) over 8 months the program offers students an immersive learning experience in CRISPR gene-editing technology on an entirely free and extracurricular platform. Launched during the COVID-19 pandemic, GEOTF has grown annually by 22.96%, engaging over 700 students and researchers across all levels. Participant surveys indicate that 61.7% of participants seek research internships, 25% aspire to advanced training, and 13.3% aim for basic certification in gene editing. Importantly, the program has cultivated a networked and unified scientific community, where students engage actively and authentically with nuances of cutting-edge research. Recent data shows that women represent only 35% of STEM graduates and remain underrepresented in leadership roles. However, across the four iterations of the program, the number of female participants has increased exponentially at all levels, culminating at 83% in 2024. These students actively train and gain diverse opportunities, equipping them with the skills to pursue leadership roles within the scientific community and beyond.

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75. Investigating the effect of geothermal heating on deep sea circulation in the Panama basin

Oona Lonergan

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The Panama basin can be idealised to create a laboratory for investigating geothermal heating. Two walls representing the Carnegie and Cocos ridge extend to 2500m while Panama is represented by a wall extending up to the surface. A single inflow to the basin is the Ecuador trench reaching 3300m in depth, in three different idealised scenarios the effect of geothermal heating on deep sea circulation can be investigated. The first scenario comprises of more intense geothermal flux within the basin, this is the most realistic and based of measurements made during an OSCAR expedition in 2014/2015. The second is uniform heat flux inside and outside the basin, while the third has no geothermal flux. A maximum temperature difference of 0.064 °C was observed at 3500 meters depth between the final years of experiments 00 and 02, this difference was located within the Panama basin. While a maximum difference of 0.034 °C was observed between experiments 01 and 02, it was observed outside of the basin. The maximum difference between 00 and 01 was 0.033°C within the basin. Strong inflows occur into the basin through the Ecuador trench in all three scenarios but weaken over time, all scenarios have different patterns of deep water circulation which extend up to 2200m. It is vital to better understand these currents as they will heavily influence larvae dispersal of deep sea organisms. A better understanding of these life histories can help organisations implement better management and areas of protection.

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76. Tattoos, Gaze, and Resilience: An Analysis of the Tattooed Individual

Wing Lam Wong

City University of Hong Kong

This study examines the relationship between tattoos, gaze, and resilience among tattooed individuals in Hong Kong, a society containing traditional Asian values and individualism. The research applied Erving Goffman's Stigma Theory and investigated how gaze from others influences stigma victimisation and resilience. Through the quantitative survey methods, there have been 236 valid responses from tattooed individuals to explore key variables such as tattoo visibility, stigma perception, concealment behaviour, and resilience levels.

The findings indicate that individuals with more visible tattoos are linked to higher levels of stigma and discrimination; some conceal their tattoos in professional or social settings as a consequence. Resilience is negatively correlated with tattoo visibility but positively with experiencing gaze from others. Social interaction may be highly possible to influence resilience in individuals.

Moreover, the study found that age plays a role in resilience and concealment behaviour among the tattooed individual. The younger tattooed individuals (18–25 years old) demonstrate lower resilience, and older tattooed individuals (42–49 years old) perform the highest resilience, showing greater psychological adaptability.

The study focuses on tattooed people and how they deal with social stigma through concealment, resilience, and self-acceptance. The results contribute to the broader discussion about body art, identity negotiation and stigma resilience in contemporary society.

Keywords: Tattoos, Gaze, Stigma, Resilience, Concealment

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77. Investigating the use of 5-ASA to improve the treatment of colorectal cancer

Tayna Mohamed

University of Bristol

Colorectal cancer (CRC) remains a leading cause of cancer-related mortality, with limited preventive and therapeutic options. While early detection through colonoscopy and surgical resection of adenomas is effective, alternative chemopreventitive strategies are critically needed. 5-Aminosalicylic acid (5-ASA), commonly used to treat inflammatory bowel disease, has demonstrated potential in reducing CRC risk through its anti-inflammatory effects. However, its exact mechanism in CRC prevention remains unclear. This study investigates the impact of 5-ASA on metastasis-related transmembrane receptors, SEMA4D and PTK7 which are involved in CRC invasion and migration.

Proteomic data were analysed from two CRC cell lines (AAC1 and SW620) treated with and without 5-ASA to identify proteins involved in CRC invasion. Of 12 altered proteins SEMA4D and PTK7 were selected for further analysis based on their known roles in CRC progression. Cell line SW620 was treated with and without 40mM 5-ASA, and SEMA4D and PTK7 expression was analysed through western blotting (WB) and quantitative real- time PCR (qPCR). Our findings indicate that 5-ASA downregulates SEMA4D and PTK7 proteins but not their mRNA levels, suggesting that they are potential targets for protein degradation. These results align with the hypothesis that 5-ASA interferes with pathways driving CRC progression, particularly those linked to invasion and metastasis.

5-ASA is already well-tolerated clinically, its ability to modulate key metastasis-related proteins highlights its potential as a low-toxicity adjunct in CRC treatment. Further research into the molecular mechanisms of 5-ASA's action could establish its preventive or therapeutic role in CRC management, offering new strategies to combat disease progression.

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78. Non-binary pronouns in Dutch and the influence of English singular ‘they’

Dimitriy Yaroshchuk

University of Groningen

In contrast to singular ‘they’ in English, a pronominal system for referring to non-binary people has not yet crystallised in Dutch. Previous research, for example Vriesendorp 2024, focuses on inclusivity-oriented speakers and finds that speakers predominantly use ‘die’ (demonstrative pronoun) in subject positions, while showing more variation in non-subject positions between ‘die’ and ‘hen/hun’ (third person plural pronouns). Decock et al. 2024 finds that ‘die’ is much less conspicuous to Dutch speakers than ‘hen’ and ‘hun’. In ongoing work, we partially replicate Vriesendorp’s study with two additions: firstly, we use a broader participant base which also includes people skeptical of non-binary inclusion, and secondly, we elicit forms in both Dutch and English. By counterbalancing the order of languages, we can investigate a priming effect of English non-binary ‘they/them’ on Dutch pronoun production. Preliminary results suggest that the English-first participants produced more ‘die/diens’ forms in non-subject position compared to Dutch-first participants, suggesting a phonological connection between ‘they’ and ‘die’, rather than a grammatical/semantic connection between ‘they’ and ‘hen/hun’. No priming effect was found in subject positions, where ‘die’ was the dominant form in both groups, in accordance with Vriesendorp’s findings.

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79. Believability and Borderline Personality Disorder: How Complainants' Mental Health Influences Jury Verdicts in Rape Cases

Elizabeth Baranets

University of Glasgow

Jurors do not make decisions solely based on evidence; their prior beliefs inevitably shape outcomes. This is particularly concerning in rape cases, where ambiguity leads to a greater reliance on non-evidence. While rape myths are shown to influence verdicts, the role of specific mental health stigmas remains under-examined. Individuals with borderline personality disorder (BPD) experience increased rates of sexual violence, yet stereotypes around their relationship behaviours may affect their ability to obtain justice. This study explores whether a rape complainant's BPD diagnosis influences their perceived believability and trial verdicts.

In a between-subjects online experiment (N = 166), participants read one of two AI-generated vignettes about an ambiguous rape case, either featuring a complainant with BPD or one without diagnosis. Participants chose verdicts and rated the complainant's believability using the Juror Decision-Making Scale. Results showed no significant difference in guilty verdicts, however believability ratings were significantly lower for the complainant with BPD. Post hoc bootstrapping supported believability differences between groups, while simulations of full Scottish juries using participant data revealed a 10% higher guilty verdict rate in the control condition, adding nuance to the initial non-significant finding.

These findings suggest that stigma against BPD may shape jurors' perceptions in rape trials, but further research with more ecologically valid conditions may clarify the effect's magnitude. While individual jurors' biases may not always translate to clear verdict differences, their cumulative effects in group deliberation could impact outcomes. This has implications for jury selection and policy considerations in cases involving complainants with mental health conditions.

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80. Tolerability and adverse events during concurrent nintedanib and immunosuppression treatment for progressive fibrosing interstitial lung disease

Jerome Mathew

University of Bristol

Nintedanib received approval for the treatment of progressive fibrosing interstitial lung disease (PF-ILD) in England in November 2021. However, there is limited information regarding its tolerability when used alongside immunosuppressive therapy. This study assessed the tolerability and adverse effects of nintedanib in PF-ILD patients at two UK tertiary interstitial lung disease (ILD) centres, comparing the results to those of patients treated for idiopathic pulmonary fibrosis (IPF).

Patients initiated on nintedanib for PF-ILD between November 2021 and September 2022 were included, along with a comparison group treated for IPF during the same period. Data on demographics, pulmonary function, tolerability, and adverse effects were collected. Patients were categorised into three groups: IPF, PF-ILD with immunosuppression, and PF-ILD without immunosuppression.

Seventy PF-ILD patients were initiated on nintedanib, 62.9% of whom received concurrent immunosuppression. A total of 42 IPF patients were also included. The mean follow-up was 285 days.

Patients in the PF-ILD with immunosuppression group were more likely to be female and had a lower %predicted forced vital capacity (FVC) than the other groups. However, there were no significant differences in age, baseline lung function, nintedanib dose reduction, or drug discontinuation across groups.

Mortality rates within one year of nintedanib initiation were 7.1% for IPF, 20.5% for PF-ILD with immunosuppression, and 11.5% for PF-ILD without immunosuppression. Despite common

co-prescription, immunosuppression did not increase the likelihood of dose reduction or discontinuation. Careful assessment of patient prognosis is crucial to ensure the benefits of nintedanib outweigh the treatment burden.

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81. Can reality ever be conceptualised objectively, or is it subject to construal?

Isabelle Trubshaw

University of Exeter

Traditionally, formal semanticists viewed language as a denotation device to represent objective realities. However, more recent theorists argue that meaning arises directly from our sensory, embodied, and cultural experiences, which make up our vast repository of knowledge about the world. In this way, meaning behind words is “encyclopaedic” and inherently understood within a particular context. In this paper, I adopt the latter perspective positing that reality is subject to interpretation by virtue of higher order cognitive skills called “construal operations”. To illustrate this, I will analyse two recent conflicting opinion pieces on the topic of Medically Assisted Procreation (MAR) in France. Through analysis of three construal operations—framing, perspective, and metaphor—the study demonstrates how linguistic choices actively shape readers' interpretations of MAR. The analysis reveals how these cognitive mechanisms are deliberately employed to present contrasting conceptualisations of the same phenomenon, supporting the view that linguistic meaning is inherently interpretive rather than objective.

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82. The Lived Experiences of Displacement Amongst Salvadoran Migrants in Newcastle-upon-Tyne: Violence, Safety and Community'

Abigail Nicholson

Newcastle University

‘My sister, she told us you can come here, because we didn’t need a visa. I didn’t know where the UK was. But because I was desperate, I say, OK, I leave’. (Ana, 2025)

Asylum claims submitted by Salvadoran nationals in the UK increased by 1750% between 2017 and 2021. This increase, which has prompted the UK government to introduce a visit visa regime for Salvadorans in 2022, signifies the emergence of a new, yet so far under-examined migratory flow. Despite the growing significance of Latin American migration to the UK, the Salvadoran trajectory remains under-explored in the sociological literature on forced migration. Situated within this gap, this dissertation seeks to understand the lived experiences of displacement amongst Salvadoran migrants in Newcastle in the Northeast of England. Employing an interpretative, qualitative approach, this research draws upon 3 in-depth individual interviews and 1 group interview with Salvadoran men and women to examine how they make sense of their migration trajectories, especially in regard to issues of violence, and how they recreate communal bonds in Newcastle. Analysis of these conversations reveals not only the emphasis placed on the imagined continuity of violence in El Salvador, but also identifies a ‘new’ Salvadoran route to the UK informed by evolving considerations of safety and legality. In course, this research also highlights how Salvadorans who have claimed asylum prior to the 2022 restrictive changes identify a distinctly positive ‘welcome’ in the UK, but, as they settle, imaginaries of violence continue to affect their social experiences.

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83. Analysis of Trichoderma Koningiopsis as a potential biocontrol method for Papaya dieback disease

Lamita Abbas

University of Warwick

Papaya dieback disease is a bacterial disease caused by Erwinia mallotivora which affects papaya plants. It has resulted in a loss of millions of dollars for the Malaysian economy by creating significant damage to hundreds of papaya plantations. Synthetic pesticides are being used to manage the situation, but a sustainable alternative is essential. Trichoderma is a genus commonly used as a biocontrol agent with Trichoderma koningiopsis demonstrating a potential for controlling E. mallotivora as when grown near papaya trees it appears to protect them from the causative pathogen. The metabolites produced by T. koningiopsis were assessed to identify the compound responsible for the antibacterial activity, a 'one-strain-many-compounds (OSMAC)' approach was used to account for the variety of conditions it may grow in. Six different media types (liquid and solid) were used to grow three strains of T. koningiopsis. Metabolites were extracted then analysed on bioassay plates and through LC-MS. The plates illustrated whether the extracted compounds had any bioactivity against varying species and the results were compared with the LC-MS data to identify the compound of interest. Further analysis is required in order to fully characterise the novel compounds but there is clear potential as inhibition was evident.

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84. Effects of Menopause on Human Skin Ageing and Potential for Commercial Based Interventions

Grace Parker

Newcastle University

Menopause, affecting half of the population yet still significantly under-researched, is characterised by a natural decline in oestrogen production – a hormone vital for preserving skin health. As oestrogen levels drop, the skin undergoes profound changes: its barrier function deteriorates, it loses its firmness, and its elasticity diminishes, leaving it more vulnerable to environmental stress and premature ageing. One striking consequence of this hormonal shift is the loss of nearly 30% of skin collagen within the first five years of menopause – a dramatic reduction that accelerates skin thinning and the appearance of wrinkles.

Hormone replacement therapy (HRT) has emerged as a promising intervention, offering potential improvements in skin hydration, collagen content, and overall barrier integrity. Yet, HRT is just one piece of the puzzle. Emerging research is increasingly focused on topical treatments designed to complement systemic approaches. For example, formulations enriched with hyaluronic acid have demonstrated the ability to boost skin hydration by up to 50%, effectively restoring moisture and supporting the skin's natural barrier. In addition, compounds like niacinamide and ceramides are showing promise in reinforcing skin structure and enhancing resilience against environmental stressors.

My research involves analysing the intrinsic and extrinsic ageing factors, and the effect that menopause has on accelerating this process. This integrated approach of combining HRT with topical interventions marks a shift in the outlook on menopausal skin care – from treating aesthetics alone to improving overall skin health and quality of life, reflecting the cutting-edge of current dermatological science.

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86. The Utopian Body: Exploring metamorphosis and space in Marie Darrieussecq's Truismes

Ben Corbett

Durham University

This dissertation aims to prove and expand on the connection between Marie Darrieussecq's Truismes (1996) and the concept of biopower, coined by Michel Foucault. A "pyrotechnic succès de scandale" (Jordan, 2018), Truismes sent shockwaves into the French literary world, attracting a mixture of praise and disgust. The work proved polemic for audiences across the political spectrum but resonated particularly with feminist theorists and those concerned with body politics, drawing on the novel's central theme of metamorphosis. As previous scholarship has shown, the protagonist's transformation allows her to realise her own identity, and paradoxically, "become human" (Damlé, 2012). This research aims to study both the ways in which power is exercised in Truismes and how the process of metamorphosis, the main character's gradual transformation into a sow, is posited as a method for liberation from such power. Her body and the sites it occupies, when read in dialogue with Foucault's Des Espaces Autres (1967), will shown to be heterotopic spaces; spaces that invert society's drive towards utopia and instead provides contrast to the most normative of structures.

Much of Foucault's writing also deals with how human beings are "made subjects" (Foucault, 1982). Truismes helps to portray the affective experience of being such a subject, whilst simultaneously laying the grounds for subversion of this subjectivity as the narrator grasps hold of the workings of her machine for liberation: her metamorphosis. Comparisons with the work of Foucault will focus, among others, on his essays The Subject and Power and Security, Territory and Population.

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87. Masculinity: Young British Trans Men Attending University in the United Kingdom

Alex Huke

Durham University

Transgender men are often overlooked both in media and in academic research. Most literature focusing on trans men in Great Britain examines medical interventions. Consequently, there is limited research on how British trans men conceptualise and construct their understanding of masculinity. Drawing on Prosser's (1998) and Butler's (1994, 2004 and 2024) work on gender and embodiment, this research acknowledges the performative element of masculinity but sees masculinity as a 'tool' for society to recognise and treat someone as male. The purpose of this study was to explore how young (aged 18-25) British trans men attending university understand masculinity, specifically how they define, learn about, and enact masculinity. Defining masculinity focuses on what the concept of masculinity means and how they compare their masculinity to cisgender and trans men. Learning about masculinity looks at where, in person and online, participants feel they have gained their understanding. Enacting masculinity examines the various practices participants use to construct their masculinity. Using 4 semi-structured face-to-face and online interviews, this study aimed to produce qualitative data and take an inductive approach to explore trans men's relationships with masculinity. Three key themes arose: resisting hegemonic masculinity ('enacting' masculinity differently to cis men and criticising trans men who embrace hegemonic masculinity), negotiating other's perceptions of masculinity (aiming to be coded as male and 'adapting' behaviour to achieve this), and hard work (having to work hard to learn from others but finding this frustrating). The study will be completed and submitted by the 20th of March 2025.

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88. Mankind's Dilemma: The Inability to be Certain That Our 'Self' Is Valued and Important

Demir Gundogan

Durham University

This 10,000-word article, written for Boston's student-led philosophy journal, examines the biological and psychological imperatives that drive human behavior. It argues that our fundamental need for certainty dictates all of our beliefs and motivations. Since the inception of self-awareness, humanity has faced an inherent dilemma: our conception of the 'self' lacks intrinsic value, yet we relentlessly seek external validation to affirm its importance. This imperative for certainty shapes our will, driving us to follow what makes our 'self' feel valued and important.

The article traces this imperative to evolutionary mechanisms, particularly how our intellect developed in response to the persistence of selfish genes. Our genes have optimised survival by shaping our instincts to rely on instruction from others, as collective guidance best ensured our continuation. However, the expansion of our intellect led to the discovery of the 'self,' creating uncertainty about what this construct entails. To resolve this, we seek certainty through external validation, adhering to any belief system that provides direction and confirms the 'self's' importance.

The failure to account for this imperative in societal organisation has led to individual crises of fulfillment and large-scale dysfunction. Humanity gravitates toward whatever offers certainty, perpetuating consumerist and conflict-driven structures rather than fostering meaningful coexistence. The article proposes educability as the key intervention—integrating the study of our biological and psychological imperatives into educational systems to reshape our understanding of certainty. Only by addressing this core dilemma can we hope to establish a framework for a more cohesive and fulfilling future.

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89. An Empirical Investigation of the Interpretation of Philosophical Thought Experiments

Ivy Gough

University of Sussex

Analogical transfer is the ability to use the understanding of a source problem to solve a target problem. Previous research has investigated how the general population may use analogical transfer in puzzle-based experimental settings, and findings suggested that the skill is generally difficult to elicit from people, leaving cognitive psychologists with a clouded understanding of the phenomenon. Our study aimed to capture analogical transfer in a different context in order to better understand its nature; we explored this using philosophical thought experiments involving ethical decision-making. 20 participants, stratified across age, education level, and occupation, took part in semi-structured interviews where they were asked in depth about 3 thought experiments, before the data was analysed using thematic analysis. Key findings suggest that individuals are more likely to use analogical transfer unconsciously when approaching and communicating their understanding of problems, particularly through spontaneous comparisons to personal experiences and familiar scenarios, indicating that the skill primarily functions as a communicative problem-solving device. This finding opens new research directions in the fields of problem-solving, analogy, and insight, particularly regarding the role of analogical transfer as a discursive tool in problem-solving contexts.

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90. Cooking to Connect: Co-creating a male cooking intervention to combat student social isolation and loneliness

Luke Zollman Thomas

Newcastle University

Student life is a period of transition. For the majority of students who are leaving home for the first time, there is a need to learn new skills (e.g. social, academic, financial, health) and adopt fresh responsibilities, all the while without familiar support accessible. A major determinant of whether an individual feels equipped to handle these challenges is the level of connectedness they feel to fellow students and the wider university community. Growing demands on university wellbeing mental health services reveal a shift in the mental health landscape at British universities, and whilst lower levels of mental health conditions are reported for males, the male suicide rate is over double that of females.

For males at university, the current range of options that support the fostering of social connections include: clubs, societies, wellbeing services and unstructured peer groups. In response to research identifying that these fail to meet the needs of large groups of students, it is evident that fresh interventions are required. A collaboration between the local social enterprise – 'Men's Pie Club' and Newcastle University, this project aims to explore student attitudes toward the creation and facilitation of a male social cooking club in universities.

Through semi-structured interviews with 6 male students, ranging from stage 1 to alumni, personal experiences and attitudes were captured. These will be analysed using an inductive, critical realist, thematic analysis. Preliminary results reveal that students placed significant importance on the creation of a safe, non-competitive environment, attendees not feeling pressure to open up emotionally, and a 'just turn up' level of commitment.

Following this report, a second, higher volume research phase, using qualitative and quantitative methods will be conducted across York and Newcastle University. The results of both phases will steer the design of a cooking club that tackles loneliness and fosters connection among male students.

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91. Beats & Bots: Should AI Music Be Copyrighted?

Rania Bouzekraoui

University of Sussex

This study examines the evolving debate surrounding the copyrightability of AI-generated music, evaluating global approaches and their implications for the music industry. With the rise of artificial intelligence in music creation, questions about ownership, originality, and human intervention have become increasingly relevant.

The research completes a legal review of frameworks in the UK, EU, and China, highlighting the differing criteria for copyright protection. In the UK and EU, copyright law emphasises human effort, skill, and judgment, as seen in case law such as Infopaq and Painer, which require proof of human intellectual effort and creative choices. China adopts a more liberal stance, as demonstrated in Li v Liu, where AI-generated works are deemed original if they reflect human input through design settings, potentially encouraging AI investment.

Through interviews with musicians, an IP lawyer, and an AI software engineer, the study captures diverse perspectives on AI music ownership. While concerns about AI disrupting the music industry were raised, participants agreed that AI-generated music should be copyrightable due to the effort involved. However, opinions varied on who should hold the copyright—whether the user, the engineer, or the AI itself.

The findings suggest that while liberal copyright policies may foster AI innovation, they risk devaluing human creativity and displacing musicians. The study concludes that human effort and labour should remain central to copyright law, even as AI continues to evolve. To ensure this is prioritised regular conversations must be had with all stakeholders and copyright legislation must be future-proofed to ensure responsible AI.

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92. How Palestine was connected to other global south struggles?

Alexandros Ionnides

University of Sussex

This project, "How Palestine was connected to other Global South struggles," explores the historical connections between the struggles of Palestine and Cyprus under British colonialism from 1914 to 1983. Using the Tricontinental Bulletin—a Cuban-funded publication focusing on Third World anti-colonial movements—as a primary source, the research examines how Cyprus has shown solidarity with Palestine and how both regions experienced ongoing colonial legacies. The project investigates how British military bases in Cyprus, specifically Akrotiri and Dhekelia, continue to enable the transfer of arms and influence in the Middle East, challenging the notion of true independence for Cyprus.

A key element of this research is a personal connection to Dr. Vassos Lyssarides, a Greek Cypriot politician and family friend, who published an article in the Tricontinental Bulletin linking the Cypriot and Palestinian struggles. Lysarides emphasises the parallels between British colonial control in both regions and praises Cuba's commitment to anti-imperialism. This familial link adds depth to the analysis, situating the project within a personal and political framework.

Methodologically, the study draws from archival research and interviews with Cypriots of various generations, assessing how narratives of solidarity have evolved. Criteria for analysis included the representation of Palestine within the Tricontinental, the geopolitical implications of British bases, and the extent to which Cypriot voices aligned with Global South solidarity movements. Findings reveal that Cyprus is a critical case study of Britain's enduring colonial influence, extending beyond formal independence. This project contributes to contemporary discussions on neo-colonialism and the interconnectedness of global liberation movements.

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93. The impact of remote working on employee well-being in the healthcare sector

Naqida Zaqiya Khan

University of Central Lancashire

Remote work has transformed traditional ways of work environments, leading to significant changes in employee's well-being in the healthcare sector. This dissertation aims to explore the relationship between remote work and employee well-being, focusing on the psychological, and emotional impact of this work arrangement. The primary objective of this literature review is to assess how remote working influences work life balance and overall mental health. Due to the increase in remote work, this research is significant as it offers an insight into organisational practices and support systems for employee's well-being.

A systematic review of 15 existing qualitative research articles was undertaken to gain a deeper understanding of individual experiences. The findings indicate that remote work can lead to positive and negative outcomes for employee well-being. While some employees reported that the time saved from commuting to the office improved work life balance others reported that they found it difficult to separate work life from their personal life. Remote work was accelerated by the pandemic which meant employers were not prepared for the shift to remote work, and some employees reported that their physical health was impacted due to the lack of equipment provided. The implications of the research have highlighted that employers need to prioritise employee mental health, foster a culture of autonomy for those that work remotely and ensure employees are provided with the tools to maintain a healthy work life balance to improve employee well-being within the healthcare sector.

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94. Female Leadership in Hospitality - The HR Perspective

Fatima Haider

University of Central Lancashire

The purpose of this research is to contribute to existing literature regarding the barriers faced by women in career-advancement within the sector of hospitality and offer HR-led initiatives to both reduce the issues, and promote women into leadership. This research is especially significant due to the lack of women in management, despite them outnumbering men in hospitality employment. The methods used in this study include secondary, qualitative data of highly credible and relevant sources, obtained through precise inclusion criteria. The focal points of the criteria include women's lived experiences within hospitality and the HR practices employed by their organisations, a time frame of the last ten years in order to achieve the most relevant insights, and an overall application to British hospitality. The data was analysed through an interpretivist lens, which allowed an increased understanding of the complex nature of this topic and subsequently, achieved comprehensive results providing beneficial insights. The findings include transformational leadership as the most important strategy in fulfilling the aim of this research. This is largely due to the aspect of sensitivity surrounding the barriers women face such as family dynamics challenges, stereotypes and self-esteem. This form of leadership emphasises empathy in all workplace interactions. The culture of openness and inclusivity that this fosters enables HR strategies targeting female leadership to succeed, such as mentoring, a key initiative identified by this research. Therefore, the depth and nuances of women's career advancement issues can be holistically acknowledged, understood and overcome.

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95. The effects of Mind Wandering on Visual Attention and Inhibition: Can Mindfulness Help?

Ramneek Kaur Sandhu

University of Central Lancashire

Mindfulness, a practice of enhancing present-moment awareness, has been increasingly recognised for its role in improving attention, managing distractions and maintaining goal-directed behavior. By fostering the ability to notice when attention drifts and redirect focus back to the task at hand, mindfulness shows promise in enhancing attentional control, potentially by reducing tendencies to mind-wander (MW). This study sought to examine the effectiveness of a brief mindfulness practice on MW and attention. Attention was assessed using a modified flanker paradigm to measure visual attention and inhibition across congruent, incongruent and reversed trials, and thought probes were randomly embedded throughout the task to evaluate on-task versus off-task MW. Participants (N = 80, aged 18–47) were randomly assigned to either a 10-minute guided mindfulness exercise or an active control condition (i.e., a 10-minute audiobook). Results indicated that the mindfulness group reported more on-task thoughts and exhibited faster reaction times across all trial types compared to the control group, although no significant group differences were found for accuracy. Across both groups, higher on-task thoughts were associated with better performance on all trial types, with congruent trials yielding better outcomes than incongruent or reversed trials. These findings highlight the potential of brief mindfulness practice to enhance response time performance through a process of reduced MW. Analyses of congruency effects will also be discussed.

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96. How well do we really know celebrities? An electrophysiological investigation into famous face familiarity and recognition

Anya Grace Mitchell

University of Central Lancashire

We see several different faces we recognise day-to-day, with a large portion of these being familiar to us. Previous research has investigated the mechanisms behind cortical face processing, and how faces are represented in our brain so that we can recognise them efficiently in future encounters. The structure behind these representations is still not fully understood, including which facial features are required to activate them. The present study investigated through electrophysiological measures if individual and combination presentations of facial features of familiar and unfamiliar identities would activate these representations. Participants' brain activity was measured using electroencephalography (EEG), with their primary task involving assessing the gender of an intact face (either from 42 celebrity identities or 42 unfamiliar identities). Before the intact face was presented, participants were primed briefly with a face with only certain facial features visible (such as their eyes or their mouth) and the remaining face blurred. Participants' keyboard responses and reaction times were recorded. EEG data was also recorded with the aim to investigate face processing-specific event-related potentials (ERPs), such as the N170 and N250. We are expecting to observe significant differences in amplitudes in these ERPs in faces with different facial features blurred, with some features potentially being more favourable in recognition over others. Furthermore, we are expecting that the presentations of individual features alone will provoke a stronger effect in familiar faces compared to unfamiliar faces.

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97. Developing Research-Led Comprehension Paragraphs for Reading Therapy for People with Aphasia

Lucy Smith

Newcastle University

Aphasia is a communication difficulty acquired post-stroke. Aphasia can lead to paragraph-level reading difficulties which can impact the person's ability to participate in a range of meaningful activities. The project involved developing reading comprehension materials designed for speech and language therapists (SLTs) to assist individuals with aphasia who struggle with paragraph-level reading. In addition to texts, corresponding summaries and multiple-choice questions were developed to improve efficiency in clinical practice. The texts, developed from online news articles, are naturalistic, relevant to common interests, and their complexity is informed by research literature and views of SLTs working at the Tavistock Aphasia Centre. Each text ranges from 100 to 200 words, with a readability level suitable for ages 10 to 14. Two experimental studies with typical readers ensured the robustness of the materials - readers identified the main ideas and ensured people have to read the paragraphs to answer the questions.

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98. Architecture and Education: Exploring the Link Between Spatial Arrangement and Academic Performance

Michael Ogilvie

Oxford Brookes University

This dissertation investigates the relationship between classroom design and student engagement, focusing on how spatial arrangements influence academic performance, with an emphasis on South Africa's most disadvantaged schools (quintile 1–3). By examining case studies from high-performing state primary schools in England, such as Marlborough, Kingsgate and Mellor Primary, which are acclaimed for their classroom design, this study highlights key design principles - flexibility, environmental comfort and inclusivity - that contribute to enhanced learning outcomes. A comparative analysis reveals significant disparities between these well-designed schools and typical South African quintile 1-3 classrooms, characterised by overcrowding, rigid layouts and limited personalisation.

The research identifies practical, low-cost interventions that could be implemented within the constraints of existing South African schools, such as flexible furniture, adaptable layouts and culturally relevant displays. These strategies are designed to foster a sense of ownership, pride and community among students and staff while addressing systemic inequities left behind by apartheid. The findings underscore the transformative potential of strategic design to improve engagement and performance, offering a pathway to educational equity even in resource-constrained environments. The study concludes that by reimagining classroom spaces, South Africa can leverage design as a tool to bridge the gap in academic achievement and create a more inclusive and effective education system.

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99. Machine learning interatomic potentials for mapping the excited state potential energy surface

Adam O'Hare

Newcastle University

Most chemical processes occur on the ground state, the lowest energy level of a system. However, when molecules interact with light, an electron is excited into higher-energy electronic states. These photoexcited species can follow several different pathways, driving key phenomena in energy harvesting and conversion, such as photosynthesis, solar cells, and vision. Currently, ab initio techniques are used to model such processes, which, while accurate, are computationally expensive. In recent years, machine learning interatomic potentials (MLIPs) have been shown to greatly accelerate ground-state potential energy surface (PES) calculations while maintaining high accuracy.

Extending MLIPs to excited states presents new challenges. Excited-state PESs are inherently more complex, featuring multiple intersecting electronic surfaces and geometries far from equilibrium, posing significant challenges for machine learning models. This research investigates whether MLIPs can capture the excited-state PES landscape with a level of accuracy and efficiency comparable to ground-state applications. By addressing these challenges, we aim to develop ML-driven approaches for accurate and efficient excited-state simulations, offering a scalable alternative to ab initio methods.

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100. Identifying challenges that autistic students face at university

Freya Sharman

Oxford Brookes University

This project aimed to understand specific challenges that autistic students face, with regard to daily experiences at university. Previous research has revealed distinct challenges under two broad themes: 'Academic' and 'Social'. The research reported here was informed by theories of spatiality, and how it can exacerbate the types of challenges identified. First-hand accounts from autistic students were gathered through anonymous questionnaires focussing on the challenges they faced in different aspects of university life, such as 'getting to university', and 'social interactions'. 30 students at Oxford Brookes University who identified as autistic took part. Findings revealed that alongside 'Academic', and 'Social' challenges, 'Accessibility' was hugely important. A Virtual Reality experience was created using the findings in a novel 'day in the life' format to bring awareness to the university community about the challenges that autistic students face. This Virtual Reality product was showcased to Wellbeing and Support Services as a potential tool for staff training, with the ultimate aim to develop strategies to mitigate the challenges identified by autistic students. Further research could explore how other intersectional factors such as race, gender, and other sociodemographic factors can exacerbate the challenges faced.

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101. “Let her be burnt to ashes”: Witchcraft and Domestic Treason in the Trial and Execution of Mary Lakeland

Bek King

Newcastle University

This research examines the life of Mary Lakeland in the context of her witchcraft trial and execution by burning in Ipswich in1645. Known about primarily through a printed newsletter report of her ‘confession’, Lakeland is one of the few individuals to be burned at the stake for witchcraft in England, though, as this research shows, she was not, as is occasionally claimed, the only woman executed for witchcraft in this way. Her case is of interest for its method of execution and the social and political complexities that surrounded her trial. This research draws on early modern parish registers, manuscript court records and printed newsletters to fill the gaps in the limited modern scholarship about her life. It also identifies other instances of women being burned for witchcraft. This archival research established Lakeland’s family tree, her socioeconomic status, and the nature and range of the charges against her and her co-accused. This paper places these details of her life and trial in the sociopolitical context of the Civil Wars and the religious tensions of Ipswich. The findings expand our knowledge of why and when women were executed for witchcraft by burning and suggest that despite the unusual execution method, Lakeland’s trial aligns with broader patterns in English witch trials and accusations.

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102. From People-of-Colour, For People-of-Colour: A Listening Rooms Study into Ethnically Marginalised Professionals Experiences in the UK Corporate Workplace, and their Evaluations and Recommendations on Equity, Diversity and Inclusion Policies and Practices

Reem Elkosseer

University of Leeds

The experiences of ethnically marginalised professionals within the workplace is a research area that has gained popularity in the past decade as it helps advise how professionals feel to advance equity, diversity and inclusion (EDI) within the workplace. Yet, this popularity has not accounted for evaluating established practices. This research aims at providing insights into this gap using lived experiences of ethnically marginalised professionals to guide an evaluation of EDI policies and practices alongside explicit perspectives on EDI efficacy. It aims to do this through an exploratory study using the listening rooms method where ethnically marginalised friends working in the corporate workplace come together to discuss set prompts. The results demonstrated satisfactory current experiences at work, but highlights room for improvement as equity is not yet achieved. Ethnically marginalised professionals still reported insensitive comments at work, inability to participate, performance barriers, lack of leadership role models, and a new finding, employee resource group exploitation. EDI policies were reported ineffective through a lack of accountability or ill-suited policies, theorised as resulting from White policymakers and people in leadership. The research concludes that the structures UK corporates have been built upon are marginalising in nature, therefore EDI cannot reach full success without a restructure. It also provides insights on recommendations from people-of-colour, for people-of-colour, to centre them within the policymaking and initiative-creation space.

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103. Combatting Foreign Disinformation: Evaluating UK Government Responses to Modern Digital Threats

Shahzeb Tahir, Hashmitha Phani Ballem & Mariia Dmtyrk

University of Leeds

This paper examines the UK's preparedness to counter disinformation attacks by foreign actors, focusing on the emerging threats of Artificial Intelligence (AI) and Encrypted Messaging Applications (EMAs). It evaluates the UK's legislative and regulatory responses, including the Online Safety Act (2023) and the National Security Act (2023), alongside UK Media Literacy efforts, highlighting vulnerabilities these measures face when addressing sophisticated foreign disinformation campaigns.

The analysis sheds light on the significant risks posed by AI-generated propaganda, such as deepfakes and automated bots, which enhance the scale and effectiveness of foreign disinformation. Simultaneously, EMAs complicate counter-disinformation efforts by enabling covert communication and the rapid dissemination of harmful narratives. The convergence of these technologies amplifies their disruptive potential, challenging existing frameworks designed to counter foreign digital threats.

Findings indicate that while the UK has implemented foundational measures, its approach remains reactive and insufficient to meet evolving challenges. The Counter-Disinformation Unit (CDU) and UK Media Literacy campaigns show promise but require greater transparency, coordination, and integration with modern technological realities. Current efforts lack the proactive strategies needed to tackle AI-driven foreign disinformation and the encrypted environments of EMAs.

The paper advocates for strengthening legislative frameworks, fostering international collaboration, and modernising media literacy programs. Policy recommendations include integrating critical thinking skills into education, tailored interventions for marginalised communities, and the use of metadata and public channel monitoring on EMAs to curb disinformation. Such proactive and unified responses are essential to safeguard democratic integrity against the evolving threat of digital foreign disinformation.

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104. An investigation and policy recommendation into the potential development of nuclear energy infrastructure in the UK

Charles Alvey, Zara Saleem, Amber Kenny, Alice Hickman, Douglas Birkett, Euan Taylor

University of Leeds

The UK has made significant efforts to shift towards renewable energy sources in pursuit of net zero. Despite these efforts, the UK has had some of the highest household and industrial electricity prices globally, burdening households with the choice of ‘heating or eating’ while forcing businesses to shut at record rates with many industries relocating abroad. These failing policies place a significant financial burden on the population, particularly the poor, exacerbating the 'cost of living crisis'.

There are several perspectives on the different causes of the energy crisis, from de-industrialisation, de-carbonisation, ideological dogma, and net zero efforts. However, the proposed solutions, like the Department of Energy and Net Zero where a proposal of £3.9 Billion of government funds in Carbon Capture compared to only £157 million in funding to 'Great British Nuclear' seem limited to a small group of developing renewables and sequestration technology of variable cost and efficiency.

To fill the gap this report aims to assess whether nuclear energy technologies and their possible paths can significantly contribute to the UK energy budget. Specifically, we will identify whether the government poses significant and unnecessary bureaucratic regulatory obstacles to these technologies whilst favouring renewable technologies while disregarding empirical arguments against them. The report has done this by analysing government policies and regulations towards nuclear technology through FOI requests, and wider secondary research around the socio-psychological, economic and scientific perspectives of atomic energy to produce past and present statistical modelling of nuclear data and future regressions to predict future trends.

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105. Decreasing Spatial Frequency of Visual Snow Throughout Dark Adaptation Implicates Photoreceptor-Pathway Noise in Visual Snow Syndrome

Daniel Kelt

University of Sussex

Visual Snow (VS) and the associated Visual Snow Syndrome (VSS) are poorly nderstood

phenomena suggested to arise from the pathological 'amplification' of otherwise subthreshold spontaneous activity within the visual system, which could originate to some extent in photoreceptor noise. Similarly, 'eigengrau' has been described since the late 18th century as the perception of faint light or 'noise' which occurs in darkness and has been thought to arise from the spontaneous activity of the photoreceptors, though without much recent evidence. The present study aimed to investigate photoreceptor noise as a potential origin of eigengrau and VS. It was hypothesised that the spatial frequency of subjective VS/eigengrau would decrease as a function of dark adaptation time due to the different spatial frequency sensitivities of the cone and rod pathways. A computer simulation of VS/eigengrau was developed with which subjects could match the appearance, i.e. spatial frequency, of their perceptions throughout dark adaptation. For 4 of 6 participants with VS/VSS, there was a significant negative relationship between time spent dark adapting and the spatial frequency of the simulated noise. No such relationship existed for the 12 participants without VS/VSS. Thus, the present results are consistent with photoreceptor-pathway noise as the noise perceived in VS but not in eigengrau.

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106. The efficacy of body temperature as a diagnostic tool to identify novel respiratory infections

Haseeb Imtiaz

University of Edinburgh

Body temperature is a regularly measured physiological parameter used to indicate infection. Pandemic preparedness requires reliable diagnostic and screening strategies before disease-specific tests become available; the accuracy of body temperature as a diagnostic criterion for novel respiratory infections remains unclear.

To evaluate the diagnostic value of body temperature in early detection of novel respiratory infections.

Study design: Systematic review of observational studies.

We included studies reporting both temperature measurements and an objective tests for COVID-19, SARS, MERS or influenza. Screening and data extraction were performed independently by two researchers. Sensitivity was extracted from all studies, with specificity, PPV, and NPV included when available. Study quality was assessed using the QUADAS risk of bias tool.

Of 2,699 studies screened, 110 met the inclusion criteria. There was high heterogeneity in the sensitivity of body temperature for identifying respiratory infections, averaging a sensitivity of 53.2%, and ranging from below 10% to above 90%. Sensitivity did not seem to be associated with the temperature used to define fever. There did not appear to be an association with the type of respiratory infection or the country in which the study was conducted.

The quality assessment revealed inconsistent reporting in the studies, particularly regarding thermometer type and temperature measurement sites, both of which significantly impact accuracy.

Body temperature is widely used to screen for infection but its diagnostic reliability remains unclear due to the large variation in sensitivity. There is a frequent lack of reporting on how temperature is measured.

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107. Do UK citizens agree that the government should intervene with proactive physical exercise initiatives to protect the NHS?

Mark Badger

Newcastle College University Centre

The National Health Service has been a cornerstone of UK healthcare since its inception in 1948. However, ever-changing challenges in public health necessitate a shift towards more proactive interventions. Despite awareness, limited research has explored public perceptions of proactive government-led interventions. This study aims to determine whether UK residents over 18 support government implementation of proactive physical exercise initiatives, emphasising prevention rather than reaction to lifestyle-related illnesses.

Primary research was conducted using a quantitative survey incorporating a five-point Likert scale, and responses ranged from strongly disagree to strongly agree. Participants were recruited via social media, with a digital poster containing a link. The survey underwent expert review to establish face validity, achieving a p-value above 0.5. Power analysis identified a sample size of 328, ensuring a confidence level of 95% and an effect size of 0.2. This included a subset of 54 with an effect size of 0.5 and 24 with an effect size of 0.8. Cronbach's Alpha calculated a reliability of 0.925. Data will be collected through Microsoft Forms and analysed using SPSS, assessing response trends and relationships.

Results will address the research question, determining if UK residents value the NHS, agree that it must remain a free healthcare system, and clarify where responsibility should lie. The significance of these findings could influence UK culture and society.

The outcomes of this research will facilitate further investigations into the possibility of proactive health interventions, exploring specific policy mechanisms, funding structures and effectiveness of various strategies.

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108. Elucidating the mechanism of action of artemether for cancer treatment using a yeast model system

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Artemisinin-derived compounds, including artemether, are widely used as antimalarials due to their inhibition of the sarco/endoplasmic reticulum Ca^{2+}-ATPase (SERCA) pump in Plasmodium falciparum (PfATP6), disrupting calcium homeostasis and leading to parasite death. Artemether, a lipid-soluble derivative, has greater bioavailability than its parent compound. Beyond its antimalarial properties, it has been investigated for potential anticancer effects, though its mechanism remains unclear.

This study aimed to determine whether artemether's inhibitory effect on PfATP6 extends to its mammalian orthologue, SERCA1a, providing a mechanistic basis for its potential anticancer activity.

A Saccharomyces cerevisiae (K667) strain was transformed to express an empty vector (pUGpd), PfATP6, or SERCA1a. Calcium optimisation assays were performed with $CaCl_2$ concentrations from 5 to 150 mM. The system was validated using growth inhibition assays with cyclopiazonic acid (CPA). Yeast cultures were exposed to artemether at 1, 10, and 100 µM, incubated at 30°C for 48 hours, and growth was measured at 600 nm.

Artemether did not significantly inhibit SERCA1a at 1 µM ($P = 0.8494$) but did at 10 µM ($P = 0.0004$) and 100 µM ($P < 0.0001$). Inhibition of PfATP6 was stronger than that of SERCA1a. Compared to artesunate, artemether was 23.1% and 23.2% less effective in inhibiting SERCA1a at 10 and 100 µM, respectively.

Artemether's inhibition of SERCA1a suggests that disruption of calcium homeostasis may contribute to its anticancer effects. These findings support its potential repurposing as an anticancer agent and warrant further investigation.

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109. 'I'm not trained, I'm not qualified': a systematic review of the mental health literacy amongst British university academics

Alizeh Moin

University of Warwick

For most university students, their tutors or lecturers are their first contacts when they are experiencing mental health problems (MHPs), and these academics have a responsibility to support students during these difficult periods. This study aims to examine the current mental health literacy amongst university academics. This study undertook a systematic review of studies that explored the mental health literacy of academics at British universities. It follows the PRISMA guideline and is registered on PROSPERO (11th June 2024). Searchers were undertaken on six databases, accessed through EBSCO. The studies were limited to peer-reviewed, academic journals, published from 2014 onwards and in English. A further search of reference lists and related citations was conducted. The studies were assessed using the Critical Appraisal Skills Programme Checklist and a thematic analysis was conducted. Six studies were included in this systematic review. Four main themes were identified: the academics' ability to recognise MHPs, the academics' ability to manage MHPs, support that the university provides to the academics and adverse effects experienced by the academics from supporting students. This review has found that there is a lack of support from universities for their academics in managing students with MHPs through inadequate training and guidance. Therefore, academics struggle to recognise and manage MHPs in students while experiencing difficulties in managing their own workload and emotional wellbeing. This study recommends that universities should increase their support for academics through training and guidance.

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110. Why does adiponectin deficiency promote immunological dysfunction with ageing? Investigating the roles of bone marrow adiposity and skeletal health

Tamara Tubbeh

University of Edinburgh

Comprising 50-70% of bone marrow (BM) volume in adults, bone marrow adipose tissue (BMAT) is a unique fat depot that acts as an active endocrine organ with local and systemic effects. The BMAT-secreted hormone, adiponectin, influences cardiometabolic health, though recent findings suggest an emerging role in local regulation of BM immune function, evidenced by impaired immune cell recruitment to the BM in aged adiponectin knockout mice. This observation prompted our hypothesis that adiponectin signals from adipocytes to neighbouring BM cells such as immune cells and osteoblasts, instructing them to utilise the increased lipid reserves to fuel their functions. Thus, we expected adiponectin deficiency to exacerbate ageing-associated immune and skeletal dysfunction.

To test this, we studied BMAT and bone architecture in young (15-16-week-old) versus aged (20-22-month-old) wildtype and knockout mice using microcomputed tomography. Although ageingcaused an increased BMAT volume and bone loss in tibial trabecular and cortical regions, adiponectin knockout in aged mice did not exacerbate these effects. This study advances our understanding of the interactions between adiponectin, BMAT, skeletal health and immune function, laying the groundwork for further investigation. Such research is instrumental in developing novel therapies that support skeletal and immune function in elderly individuals deficient in adiponectin.

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111. Structural variation across the pangenome of flax

Esme Padgett

Durham University

The performance of modern crop cultivars is losing pace with mounting agricultural demands, leading crop breeders to adopt strategies to exploit natural genetic variation and fitness within crop wild relatives (CWRs) and landrace varieties. Plant genomes are being mined for the molecular bases of agronomic traits, many of them resulting from human-driven selection pressures. However, technological limitations to complex genome assembly and inferences currently restrict breeders' ability to engineer superior crop performance and stress resilience.

At the newest frontier of genomics, 'pangenomic' research has recently asserted that structural variation (SV) is an underestimated variable determining functional trait diversity. This project seeks to extend genome construction and analysis tools to explore emerging evidence that variation in the physical structure of genomes influences functional traits. As part of a morphologically and geographically diverse Linum genus, the first flax pangenome will be constructed using chromosome-level genome assemblies of several L. usitatissimum cultivars and the wild flax L. bienne.

Our results aim to generate a pangenome that is representative of L. usitatissimum cultivars across the Northern Hemisphere to address the following:

(1) Are there SVs associated with (post)-domestication selection amongst flax varieties?

(2) Are detected SVs functionally enriched for agronomic or domestication traits?

(3) Can the evolutionary history of L. usitatissimum, and the influence of selection pressures be reconstructed from genomic SV?

The mini-pangenome assembly will further characterise the genomic impact of crop cultivation using commercial and wild genomes and support pangenomic investigations of SV consequences on genome evolution and phenotypic variation.

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112. How Can the ”Sentient Emotion NPC System with Emotional Intelligence” (SENSEI) Model Achieve Emotionally Intelligent NPC’s in Video Games?

Henry Barker

Durham University

The video game industry exists as a powerhouse of entertainment, continuously evolving with cutting edge graphics and innovative game mechanics. Yet, amidst this development, the interaction between players and Non-Player Characters (NPCs) remains a domain less explored, lagging behind in the race towards more immersive experiences. This project introduces SENSEI, a model that aims to revolutionise NPC interaction by integrating psychological models alongside facial emotion recognition technology. SENSEI not only enhances NPCs’ emotional intelligence, enabling them to interact with the world around them in a more lifelike and responsive manner, but also paves the way for a new approach to gaming where players’ emotional states directly influence the game environment and the NPCs’ responses. By leveraging Costa and McCrae’s OCEAN model for personality, Mehrabian’s PAD model for mood, and the OCC model for real-time emotions, SENSEI dynamically adapts NPC behaviour based on predefined personality traits, evolving moods, and moment-to-moment emotions. Furthermore, the integration of real-time emotion recognition through deep learning models enables NPCs to perceive and react to the player’s facial expressions, fostering more organic and engaging conversations. This paper delves into the psychological foundations behind the development of SENSEI, alongside examining other models that similarly strive to enhance NPC interaction within video games. By exploring the integration of psychological insights and facial emotion recognition technology through SENSEI, this study aims to enrich the interactions between players and NPCs. The findings could offer valuable insights for future game development, suggesting ways to make virtual worlds more engaging and emotionally responsive.

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113. Meditation and Wellbeing, Does Context Matter? A Randomised Experiment Comparing Virtual Green Space, Blue Space and Urban Environments

Ruichen Yin

University of Exeter

Common mental health conditions, including depressive and anxiety disorders, are leading contributors to the global health-related burden. To counter this, there is increasing emphasis on prevention strategies, one of which, with promise is using nature-based interventions (NBIs). This study, as part of a group project, investigates the effects of virtual exposure to green and blue spaces on stress, rumination and mental wellbeing compared to an urban space. The above metrics are selected because they are known to be predictors of common mental health disorders. Based on existing literature, we hypothesise that virtual NBIs will result in significant reduction in stress and rumination, and improvement in wellbeing, compared to the urban control, with no differences between green and blue spaces. Participants will be randomly assigned to watch a video of walking through a woodland, on a beach or in a London underground passage, all accompanied by an auditory guided-meditation. Participants will report outcome measures before and after the intervention, and at a two weeks follow-up to assess for any sustained effects. A 3 (green vs blue vs urban) × 2 (before vs after) mixed measures ANOVA will be used to examine group differences over time. If the findings are consistent with our hypothesis, this will offer additional support for the efficacy of virtual NBIs and their potential integration into digital self-help interventions. This research could inform the development of prevention methods, particularly for urban populations with limited access to natural environments.

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114. Implicit Metadata for Studying Early Modern Texts

Charlie Stanbrook

University of Exeter

Behind every work there is a context, sometimes explicit in its references but more often than not implicit in its word choices. This is particularly the case with early modern texts which rest on the background of a societal make-up removed from our own, such as the medical system of bodily humours. This is what I call implicit metadata, impossible to extract and discount as important, and necessary to create a full comprehension of the text. Whilst there is an argument that the artist can be separated from the art, I will argue that this implicit metadate cannot. This presentation will aim to show how by looking at medical theory, prevailing philosophies and other source texts a deeper understanding of a text can be found. It will focus specifically on two French works, Jean-Jacques Bouchard's Confessions and François Maynard's poems with an exploration of how this method can be used in both English and French texts from the 16th and 17th centuries. In turn this will allow us to examine texts from different time periods and cultures and shine new light on the way we view and research historical periods.

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115. Harnessing The Power of GenAI in Sustainability Education

Grace Assheton

University of Leeds

Could Generative Artificial Intelligence (GenAI) be the tool we need to tackle climate change? In one of the first studies to apply to GenAI a method called “thing ethnography”: the understanding of interactions with and between “things” using tools originally intended for understanding cultural phenomena among humans, this research investigates the potential role GenAI could play to enhance sustainability education (SE) within higher education (HE). In-depth interviews with GenAI chatbots, thematic analysis, and critical discussions with educators at the University of Leeds, has uncovered innovative applications for GenAI tools in HE to make SE adaptive, accessible, and globally relevant, such as personalising curriculum materials, simulating the environmental impact of student actions, and benchmarking educational approaches to global sustainability standards. Findings are immediately applicable to HE institutions seeking to integrate GenAI into curricula, offering a framework to enhance sustainability competencies in students and develop actionable guidelines for ethical AI application. Crucially, this research contributes to meeting both SDG 4: Quality Education, and SDG 13: Climate Action, with the outlook to educate staff and students on effective ways to adopt GenAI in teaching and learning to meet sustainability initiatives. The next step is to implement findings into society; over the summer of 2025, educators across the University of Alberta will be equipped with the tools to integrate GenAI into their sustainability teaching, with an outlook to design a sustainability module that integrates GenAI tools.

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116. What is the effect of mandatory ESG disclosure regulations on the financial performance, considering factors such as profitability or stock returns, of publically listed companies and traditional banks?

Ryan Bunton, Adhiraj Kumar, Agastya Jha, Roshan Malhotran and Vaibhavi Shekar

University of Leeds

Environmental, Social, and Governance (ESG) has become a significant yet controversial topic in financial markets, especially in banking. Our paper explores ESG disclosure regulations' impact on financial performance indicators like Return on Equity (ROE) and stock returns, assessing whether they attract investors to greener energy. As financial markets adapt, banks must balance compliance costs with long-term financial benefits.

Our paper examines ESG's origins and its growing relevance in the 21st century. Despite the increasing emphasis, critics argue its broad scope leads to inconsistent application and difficulty measuring the financial impact on traditional banks. Reporting discrepancies and regulatory loophole exploitation further complicate ESG implementation, prompting regulatory responses like the UK 2018 Corporate Governance Code and the EU's Sustainable Financial Disclosure Regulation (SFDR).

The discussion is framed by theories such as Legitimacy Theory and Stakeholder Theory. Some argue transparency enhances banks' corporate image and aligns firms with societal expectations, while critics contend ESG-related costs detract from profitability. Case studies from the UK, EU, US, and China illustrate how different regulatory frameworks influence financial outcomes. Findings suggest ESG compliance boosts investor confidence and resilience in some markets, while others see reduced investor interest due to regulatory burdens.

Our paper offers policy recommendations to optimise ESG implementation, emphasising transparency and accountability. We conclude that a balanced approach to ESG disclosure is necessary to ensure financial stability while addressing environmental and social concerns.

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117. Measuring the Influence of National Content on Digital Citizenship In The UAE

Hessa Alkaabi

Zayed University

Digital Citizenship is a term that defines the user's online identity, shaped by their engagement with social, national, and political agendas. On the mediascape, understanding the formation of digital identities for Emiratis is significant; it provides insight into how their national identity is represented and how their contributions can be channelled toward national initiatives. This study aims to investigate the relationship between the practice of Emirati digital citizenship among digital natives and its influence on their willingness to engage in youth initiatives. It suggests that youth who were exposed to higher national content have similar digital identities and are more likely to contribute to the advancement of the UAE's national agendas across various sectors, both locally and on a global scale.

This research design follows a multi-method approach involving a survey and an interview targeting Emirati citizens aged between 18 to 35. The interview participants would be selected from the survey results, with two control groups to compare the participants' attitudes and behaviour online. The results would help us understand if the content that the users consume motivates them to carry out offline participation, such as volunteering in national events, forums, and conferences for the youth.

The findings of this study show that there is a strong relationship between the consumption of national content and digital citizenship among Emirati youths. Participants who had more exposure to content concerning their national and cultural identity had a higher sense of responsibility to advocate for Emirati heritage, correct misinformation online, and actively contribute to initiatives that closely align with the UAE's vision of fostering progress and excellence across different sectors.

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118. The South Sub Tram-Train

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Edinburgh is Scotland's fastest-growing region and the UK's third most congested city, with drivers losing over 50 hours annually to gridlock. To cut car journeys by 30% and reach net-zero emissions by 2030, the Capital must prioritise sustainable public transport. This undergraduate project presents a bold solution: repurposing Edinburgh's South Suburban Railway as a tram-train system, integrating it with the existing tram network to enhance connectivity, reduce congestion, and provide a low-carbon alternative to car travel.

Closed to passengers in 1962, the South Sub remains a freight route, with four feasibility studies ruling out the return of heavy-rail passenger services due to prohibitive costs related to capacity constraints at Waverley and Haymarket stations. This proposal offers a breakthrough: tram-trains. By bypassing these congested stations, and linking to the tram network, it makes passenger services viable again, delivering a cost-effective, low-carbon alternative that improves connectivity, reduces car dependency and encourages urban regeneration.

This proposal has gained immense media traction, with hundreds of survey responses, thousands of petition signatures, support from politicians, with invitations to present in the Scottish Parliament and at industry conferences.

What sets this project apart is that it is driven by passionate students, who, free from constraints, have imaginatively and independently developed this new solution. The project has proven that undergraduates can drive transformative change. The momentum continues to build, and the grand reopening of the South Sub may soon be timetabled to hit the tracks to connect underserved communities and create a more inclusive and sustainable Edinburgh.

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119. The Impact of Ramadan Fasting on Well-being and Productivity of University Students

Shamma Hukal

Zayed University

Observed by 2 billion people worldwide, fasting during Ramadan is a significant religious practice. This study explores its impact on university students' health, productivity, and overall well-being. Fasting can range from 12 to 18 hours depending on location and season, which can greatly affect students' sleep, habits, and productivity. Understanding how these changes affect students is crucial for developing strategies to promote their well-being and academic success during Ramadan and beyond. Despite fasting's significant impact on daily routines, its effects from students' perspectives remain underexplored. This study aims to fill this gap by examining students' experiences and identifying strategies that can help maintain well-being and academic performance during Ramadan. An online survey collected data from 81 students from Zayed University, exploring their experiences with fasting and its effects on health, productivity, and well-being. Results revealed that fasting impacts students in multiple ways, affecting productivity, well-being, and social experiences. While many participants found fasting spiritually enriching, others faced challenges such as reduced productivity and struggles with mental and physical well-being. Despite awareness of fasting's health benefits, balancing academic responsibilities with fasting demands was challenging for many. Students highlighted the need for flexible schedules, reduced class timings, delayed deadlines, and online learning options. Our findings indicate that fasting presents both challenges and opportunities, suggesting that universities can support students by implementing flexible policies and resources that enhance their well-being and academic success. Failing to address these challenges can lead to long-term negative effects, including lower quality work, decreased academic performance, and ongoing well-being issues.

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120. Making Diversity 'Count': Empowering students through co-creation of inclusive STEM curricula

Ava Belfonte

Queen Mary University of London

STEM disciplines have traditionally been taught as an exercise in memorisation and repetitive application of formulae, with historical aspects often confined to male, Eurocentric contributions of mathematicians, scientists, and engineers. Consequently, very few students can relate to these individuals, thereby contributing to the stigma that studying STEM is esoteric, inaccessible, and extremely difficult.

Motivated by this, our project investigates the impact of diversifying STEM curricula through student-staff co-creation of teaching resources to create a more inclusive learning environment for undergraduate students. By amplifying the contributions of historically underrepresented groups, we challenge traditional, Eurocentric narratives in STEM disciplines to promote diversity, foster belonging, and inspire future generations of graduates by broadening the narrative of who 'can' be a mathematician/engineer/scientist.

An initial set of student-developed teaching toolkit materials comprising 88 biographies of marginalised individuals were piloted across two large undergraduate modules at QMUL featuring 700 first and second-year students. Student surveys and dedicated focus groups suggested a strong demand for these resources, particularly among women and minority groups, who found value in increasing the visibility of marginalised individuals. Informed by this, we made refinements to transform these resources into more accessible digitised visual posters featuring topical, socially conscious language.

In this case study presentation, we examine the development and implementation of our toolkit resources and analyse and evaluate student feedback received over 2 years. Our results demonstrate increased student satisfaction, engagement and awareness and will help inspire other educators and students in co-creating resources to effectively promote EDI in STEM disciplines.

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121. The Relationship of Video Game Genres and Digital Resilience

Ka Wa Chan

City University of Hong Kong

This study examines the relationship between video game usage: (a) video game genre; (b) player mode; (c) weekly play frequency; (b) weekly play hours, and digital resilience: (a) digital risks; (b) recovery; and (c) learn. Based on a survey of 113 university students, the results show that the risk of receiving unwanted disturbing messages was negatively correlated with play frequency. Within the 77 students who play video games more than an hour per week, the results show that player mode was positively correlated with weekly play hours and learn. The difference between students who mostly played with multiplayer and both player modes, and students who mostly player with singleplayer on weekly play hours was significant. This study provided suggestion on the effect of player mode—singleplayer and multiplayer—on play time and possibly learning.

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122. Working for CALTA: Developing the Next Generation of High-Power Lasers

Thaddeus Allison

University of Bath

The Centre for Advanced Laser Technology and Applications (CALTA) researches, designs and builds next-generation laser systems for the STFC's Central Laser Facility . Since the conception of the DiPOLE architecture in 2015 – a diode-pumped, solid-state laser system with unparalleled optical efficiency in the multi-Joule regime – CALTA has been scaling up to a world-leading, large scale research facility. The Extreme Photonics Applications Centre will offer the opportunity to perform high-power, laser-matter experiments at high repetition rates, aiding in the research of future technologies such as non-conventional particle accelerators. CALTA is also developing on DiPOLE architecture to produce a proof-of-concept laser system for the UK Programme of Laser Inertial Fusion Technology for energy. This prototype system will demonstrate an architecture which can be scaled to meet the requirements of a future laser-driven inertial fusion energy power plant.

In this work, energetics modelling was performed to simulate and inform design choices for a prototype fusion laser driver. Furthermore, progress on the commissioning of the main high energy amplifier in EPAC is reported.

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123. AI or Human Recommender? Exploring the Influence of Believed Recommender Identity on Consumer Behaviours

Sze Wan Cheng

City University of Hong Kong

As artificial intelligence (AI) usage increases, consumers may struggle to distinguish between content authored by AI and humans, often relying on their beliefs about the author's identity. This paper investigates how these beliefs influence consumption behaviour, building on Wien and Peluso's (2021) work on human versus AI recommenders.

We randomly allocated participants under hedonic and utilitarian product conditions. We collected data on their purchasing intent, interest in recommended products, perceived credibility and relatability of recommendations, and their experiences with AI and online shopping. While we found no significant mean differences regarding the impact of recommender identity on consumption behaviour for hedonic and utilitarian products, there are significant individual differences. Participants who believed the recommender was human in the hedonic context showed positive correlations between purchasing intent and the importance of online recommendations, as well as purchasing intent and the frequency of seeking recommendations. For those who believe the recommender is AI, the higher the self-rated AI technology understanding, the higher their purchasing intent and recommendation credibility for both conditions. Additionally, under hedonic condition, the more frequently they seek AI recommendations and have a higher understanding of AI, the more they think the recommendation is relatable.

This study is the first to explore how the "word-of-machine" effect occurs when it relies on individuals' beliefs regarding the author's identity. It provides insights to marketers on how to tailor their strategies effectively with the increasing AI adoption and enriches the understanding of the "word-of-machine" effect. Further results and study limitations will be discussed.

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124. Better Together: Bacterial Anti-Plasmid Immune Synergy and its Implications for Antimicrobial Resistance

Indigo Pai-Gibson

University of Exeter

Antimicrobial-resistant bacteria are one of the greatest threats to global human health. Plasmids (selfish, transferable, circular DNA) can spread antimicrobial resistance genes between bacteria. Equally, bacterial anti-plasmid immune defences can limit this spread by modulating how many plasmids a bacterium has. Certain anti-plasmid defences often co-localise in bacterial genomes, suggesting they may act synergistically. Yet, anti-plasmid defences and their synergy remain vastly understudied, despite their importance in understanding patterns of antimicrobial resistance. This study investigates the level of anti-plasmid immunity conferred by two commonly co-localised defence systems - Defence-1 and Defence-2 - when operating alone and together in the priority pathogen, Pseudomonas aeruginosa. Challenging P.aeruginosa with plasmids revealed Defence-1 prevented P.aeruginosa from acquiring plasmids from the environment (plasmid transformation immunity), whereas Defence-2 did not affect transformation immunity. In contrast, Defence-1 and Defence-2 acted synergistically when removing established plasmids from P.aeruginosa (plasmid maintenance immunity). These results lend support to recent literature on these defences' different plasmid recognition mechanisms. Defence-1 identifies plasmids through loop extrusion; thus, Defence-1 can confer defence in short time frames like during transformation. Defence-2 is speculated to require guide molecules to recognise plasmids; thus, Defence-2 may require longer time frames to confer anti-plasmid immunity like during plasmid maintenance. This work partially explains the evolutionary drivers behind patterns of antibiotic resistance spread and these defences' co-localisation in P.aeruginosa. This prompts further study on the mechanisms and limitations of Defence-1-Defence-2 synergy, as well as how best to integrate this research into clinical infection management.

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125. An exploration of the formation and maintenance of relationships in bisexual women

Saskia Beswick

University of Northampton

Despite increasing LGBTQIA+ visibility, bisexual erasure remains prevalent, negatively impacting individuals' mental wellbeing (Graham, 2019) and identity navigation (Prieto, 2023). The purpose of this research is to facilitate a platform for bisexual women to discuss their experiences in navigating friendships and relationships in the current social climate. This research addresses the gap in the literature by focusing on the unique impact of identifying as a bisexual woman on relational experiences. To do this, participants were recruited via social media, snowballing and networking and from that six semi-structured interviews were conducted in person on university campus where a safe and comfortable environment was prioritised. To analyse this data feminist relational discourse analysis (FRDA) (Thompson et al., 2017) is currently being used as it is appears the most appropriate analysis for this project. As of now the provisional findings show some consistent themes across participants experiences, particularly the pressure to validate and prove their sexuality to not only the world but also themselves. Participants reported experiencing what can be termed 'straight until proven queer' dynamics in both their romantic relationships and broader social interactions. There has also been a recurrence of the opinion that their sexuality isn't necessarily important to share with people who may be not accepting, particularly family, if they are not in a serious queer relationship. It is the intention of this research that furthering the FRDA process will shed light on more findings and shared experiences.

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126. Sustainable production of living microalgal paint

Fasika Bekele

Queen Mary University of London

The pigments in living microalgal cells are a promising sustainable alternative to synthetic pigments for the development of eco-friendly paints. To address the health and environmental risks of traditional paints, living paints utilise the natural pigments and polymer binder derived from algae for providing environmental benefits such as CO_2 absorption and biodegradability.

In this study, we introduced a novel approach for encapsulating the green unicellular microalgae Nannochloropsis oculata using a combination of biomimetic mineralisation and cross-linking gelation.

Sodium alginate, a polymer derived from macroalgae, was dissolved into the microalgal suspension as the binder material.

Then, the encapsulation of microalgal cells was achieved through a controlled reaction between calcium chloride ($CaCl_2$) and sodium carbonate (Na_2CO_3), which formed calcium carbonate ($CaCO_3$) crystals.

Only a small number of microalgal cells were observed in suspension and many of them were surrounded by the crystals under the microscope.

The resulting algal paint slurry showed a shear thinning behaviour, with a plastic viscosity of 4.7 Pa·s and a yield stress of 0.26 Pa in the presence of 3 wt.% of alginate.

The living algal paint demonstrated long-term stability, maintained colours, viscosity, and yield stress for several years at room temperature storage.

Additionally, the paints could adhere to the surfaces of various building materials and only some small cracks (<1mm) were observed after drying out.

The proposed dual-layer encapsulation was able to provide robust protection to the microalgal cell, ensuring their viability and colour, and making them suitable in sustainable paint production.

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

Jed Cornwall-Jones and team

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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128. Felixstowe's Transformation: The Industrial and Regional Evolution of a Port City (1960–2024)

David Buck

Queen Mary University of London

A port has a significant impact not only on a regional economy, but also on a national economy. The emergence of the container industry placed considerable pressure on the United Kingdom to modernise its supply chain infrastructure and develop a competitive port to rival other major European hubs—Felixstowe Port. However, the sophisticated development of Felixstowe across multiple levels and dimensions has rarely been discussed.

This paper, therefore, examines the evolution of Felixstowe Port as a response to this challenge, tracing its development from 1960 to 2024. By analysing policies, industrial shifts, and technological advancements, this study explores how industry and regional dynamics have interactively shaped a new form of cluster within the port city. In particular, this research investigates the role of technological opportunities, industrial strategies, and landscape-level transformations in shaping Felixstowe's growth.

The study highlights how, despite limited national resources, the interplay between industry and regional factors has influenced Felixstowe's development trajectory. Furthermore, it evaluates how the port's evolution has driven regional economic transformations, fostering a unique industrial cluster that integrates logistics, transportation, and technological innovation.

By mapping the interdependencies between industry and regional development, this paper provides insights into the United Kingdom's strategic utilisation of tangible and intangible assets to maintain competitiveness in the global supply chain. The findings contribute to broader discussions on regional innovation, industrial policy, and the co-evolution of economic geography and technological change in port cities.

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129. EffectThe Impact of Estrogen, Testosterone, and Glucose on Macrophage mediated Innate Immune Functions In Vitro

Amadee Ratnayake

Edge Hill University

Wound healing is the process of rebuilding the rectitude of damaged tissue. There are four concurrent and sequential processes to the wound healing process as Haemostasis, Inflammation, Proliferation and remodelling. Although a disturbance to the sequence of these processes would result in chronic wounds; Chronic wounds are wounds that takes more than the accepted time to heal. The effects chronic wounds have on the economy and the patient's mental health are undervalued. Chronic wounds are also a leading cause of high mortality rates and low quality of life. As people age their levels of sex hormones plumet rapidly.

Antibiotic resistance is also a major problem in the current world. This study assessed an alternative method of accelerating the wound healing without the use of antibiotics, Hormone therapy. U9307 cells were treated with PMA and differentiated into macrophages and treated with physiological concentrations of Estrogen mimicking physiological conditions of a premenopausal women, post-menopausal woman and a person receiving hormone therapy and testosterone also mimicking the physiological conditions of a testosterone levels of a young man, an elderly man and a person receiving hormone therapy. Level of phagocytosis was measuring by treating the cells with Staphylococcus aureus and Escherichia coli and getting a reading of the levels present after three hours, a Griess test was also conducted to measure the nitric oxide levels in the sample. Estrogen presented to prove the aim although testosterone had the opposite of the desired results.

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130. Insights into Visual Short-Term Memory Binding in Type 2 Diabetes

Noor Omar

Anglia Ruskin University

Type 2 diabetes (T2DM) is linked to a higher risk of mild cognitive impairment (MCI) and dementia, with structural brain changes, especially in the hippocampus. Visual Short-Term Memory Binding (VSTMB), a cognitive function that relies on the hippocampus, may also be affected by T2DM, but there's limited evidence exploring this connection. This research aimed to examine the relationship between T2DM, MCI, and VSTMB while identifying gaps in the existing research. A systematic search of PubMed, MEDLINE, EMBASE, and PsycINFO (from March 2013 to 2023) using targeted search terms uncovered five relevant studies. All studies found significant brain atrophy in people with T2DM, particularly in the hippocampus, alongside cognitive issues in memory and attention. Only one study directly looked at VSTMB, showing reduced activity in the frontal lobe while performing cognitive tasks. Most studies pointed out a lack of standardised methods for assessing VSTMB in T2DM. These findings suggest that while T2DM is linked to hippocampal atrophy and cognitive decline, its impact on VSTMB is still poorly understood. Informed by this gap, we are currently conducting a lab-based study on VSTMB in people with T2DM matched in age, gender and education level control participants. Early findings showed that patients with T2DM had significantly impaired performance in VSTMB tasks when compared to age-matched healthy controls ($p < 0.05$). Incorporating VSTMB-specific assessments alongside neuroimaging could improve early detection and interventions to slow cognitive decline in people with T2DM, which is our overarching aim.

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131. Student healthcare professionals' knowledge and understanding of Hyperemesis Gravidarum, a mixed methods study

Hannah Bray

Anglia Ruskin University

Hyperemesis Gravidarum (HG) (a severe form of nausea and vomiting in pregnancy) is thought to impact between 0.3-3.6% of pregnancies, significantly interfering with quality of life. Limited research suggests HG education for healthcare professionals (HCPs) may be lacking, resulting in failure to recognise or treat effectively. Pregnant women report feeling let down, receiving poor care, and avoidable hospital admissions.

As part of a wider study, final year undergraduate(UG) nursing and midwifery students and 4th year medical students from one HEI were invited to complete a mixed methods online survey about their knowledge and confidence around HG. Findings were thematically analysed and descriptively reported.

57 students responded, with 30(53%) reporting teaching about HG in their training.

Of these 30, the majority had good knowledge of symptoms and impacts of HG. However, most were not familiar with guidelines such as Windsor, RCOG and NICE. Consequently, students lacked knowledge on making a diagnosis, when to admit someone, and how to treat them.

Overall, students rated their knowledge and confidence as mid-poor. 80% students reported wanting more education about HG in training.

Insufficient training around HG in UG HCPs leads to low confidence in recognising and treating in practice, and to pregnant women receiving inadequate care, further adversely impacting on their physical and mental health and pregnancy experience.

HG education needs to increase to ensure HCPs core knowledge, skills and confidence improve in clinical practice. Further research is needed to determine the knowledge and understanding of HG amongst qualified practitioners.

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132. A corpus-assisted discourse analysis of anxiety disorder in UK news from 2014-2023

Laura Collins

Anglia Ruskin University

This study investigates how anxiety disorder is talked about in online UK news from 2014-2023, in both a broadsheet (The Guardian) and a tabloid (The Sun) newspaper. Using two purpose-built 10-year span corpora, the project combines corpus-based techniques (collocations, KWIC, MI) and discourse analysis to reveal patterns in language used by the newspapers related to “anxiety”. The findings revealed prevalence of potentially stigmatising collocates of “anxiety”, such as “suffer*” and those relating to negative severity (“crippling”, “extreme”, “intense”, “severe”), more markedly so in the tabloid. Comparatively, anxiety in relation to other mental illnesses (namely “depression”) was more prevalent in the broadsheet. Whilst these findings indicate increasing awareness of the complexities and experiences of clinical anxiety in UK online news reporting, negative language associated with “anxiety” remains present and more must be done to consider its impact – particularly concerning narratives on severity, suffering and medicalisation alongside other mental illnesses.

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133. Deciphering Dolphins: A Machine Learning Pipeline for Dolphin Whistle Classification

Amelia Green

St Andrews University

The Dolphin Acoustics Vertically Integrated Project at the University of St Andrews is a multidisciplinary data analysis module at the intersection of Biology, Computer Science, and Statistics. The project aims to characterise and compare whistle repertoires within and between dolphin species. We are building a machine learning pipeline to classify dolphin whistles into species based on spectrogram images. This pipeline provides a streamlined and standardised way to classify dolphin audio, accommodating different configurations at each process step. The functionality includes audio data extraction and processing, spectrogram conversion, and machine learning model training, testing, and optimisation. In collaboration with our biologists and statisticians, we have proposed and programmed an innovative approach to audio classification, including features such as automated audio-spectrogram conversion, supervised machine learning, and automated hyperparameter tuning. Our pipeline accommodates acoustic recordings of whistles in the form of audio and spectrogram image files by converting whistle recordings to spectrograms. Additionally, we have researched and implemented three machine learning models: a convolutional neural network (CNN), a pre-trained ResNet18 model, and a vision transformer. We have achieved promising results: a predicted accuracy of 51.3% in our CNN model for six species and over 85% accuracy for the ResNet18 model for three species, both based on spectrogram images. With these exciting findings come many areas for further study. Future directions include but are not limited to, more advanced neural network implementations, increased hyperparameter tuning, and further improving the pipeline's consistency to ensure that all models are comparable.

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134. “Poor lady, she were better love a dream”: Queerness, identity and genderbent casting in Twelfth Night (2017)

Alice Groth

Newcastle University

Simon Godwin’s 2017 production of Twelfth Night brings a fresh focus on sexuality and gender to a play already strongly preoccupied with themes of concealment, queerness and desire. This focus is achieved by changing the gender of several characters, including the uptight steward Malvolio, who becomes the closeted lesbian housekeeper Malvolia. While the original plot of Twelfth Night flirts with homoeroticism and cross-dressing, its classical comedic structure – ending in marriage – means that these are by necessity only flirtations; the couples straighten out into heteronormative pairings and queer characters fade into the background. Therefore, as well as foregrounding the play’s queer themes, this production’s focus on Malvolia’s lesbian desire and her subsequent ill-treatment also brings into sharp focus the ways that the fulfilment of the marriage plot rests on the use and discarding of queer characters. This structural dependency can also be linked to contemporary criticism of queer representation in media. Furthermore, the coexistence of the original text with the new production invites audiences to reconsider the original, as character dynamics are shifted due to the genderbent casting. Dominic Cavendish, writing in response to this production, wondered if the trend of genderbending Shakespeare plays represented the “death of the great male actor”. However, I argue that this production’s use of genderbent casting adds a new perspective to an old story, bringing out nuances in the original text and accentuating the play’s themes of fluid sexuality and identity, while also raising questions around representation and queer narratives.

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135. OCEAN: A Data Management Platform for Acoustic Recordings

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University of St Andrews

Research projects rely on high-quality, well documented data to produce useful findings. Lack of provenance or inaccurate data can hinder researchers' abilities to answer research questions, an issue spanning both the natural and human sciences. Data inaccuracy and loss are often the result of years of changing protocols and project participants. Only recently have funding bodies begun recognising the importance of data management – including UK Research and Innovation. Research into data management practices, therefore, is as important as the data-producing research itself. In the 2024-25 academic year, research and development were conducted to improve the data management strategy of the Dolphin Acoustics research project at the University of St Andrews.

It was found that a custom-built web application would best serve the project. We will present the newly developed, open-source data management system (OCEAN). It encompasses practices such as atomicity, proactive quality control and extensibility. Data is stored in a homogeneous schema that scales easily with input. An API endpoint offers flexibility to query the database and run replicable data processes that are critical for the longevity of the research. More than just a database, OCEAN enables direct input from multiple disciplines. Statistical research, data structuring, machine learning and visualising are integrated, making the research cohesive and collaborative. We hope that the research and development of this system will open the doors to that of a more flexible and widely accessible design, inspiring a major shift in how research institutions prioritise data management.

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136. Borrowed Voices, Personal Truths: Intertextuality's Role in Autotheory

Carla Longo

University of St Andrews

Intertextuality acts as both a bridge and a boundary in essay writing, allowing authors to engage with literary traditions while asserting originality. This paper examines the transformative role of intertextuality in Michel de Montaigne's 'Essays' (1580) and Maggie Nelson's 'Bluets' (2009), showing how these authors navigate personal crises to elevate the academic importance of their private spheres.

Both authors wrote during moments of isolation that led to self-examination. In 1571, Montaigne retreated to his chateau, while, centuries later, Nelson experienced heartbreak following a painful breakup and a friend's accident. By weaving their personal experiences with intertextuality, both validate the academic importance of personal experiences by situating them within respected literary traditions. Emotions discredited by traditional narratives—such as depression, loneliness, and grief—become central to their autotheoretical narratives. Moreover, their intertextual references—Montaigne's classical allusions and Nelson's quotations from popular books and films—serve to articulate these complex emotions, making them resonate deeply with readers.

However, Montaigne and Nelson also use intertextuality to assert originality and challenge norms. Montaigne's critique of Plato's ideas allows him to distance himself from traditional philosophy, offering a fresh perspective on human frailty. Nelson critiques Schopenhauer's patriarchal view of women through a feminist lens, deconstructing notions of female emotion and intellect. These reinterpretations turn intertextuality from homage into a tool for subversion and self-definition.

Ultimately, my paper argues that intertextuality transcends citation, blending personal insight with scholarly critique, allowing Montaigne and Nelson to redefine essay writing as a space for intellectual independence and creative exploration.

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137. Exploring Frugal Solutions to the Malaria Epidemic in sub-Saharan Africa

Eve Parrinder Cumming, Alistair Scott, Cheng Sing Yi Chloe & Milly Brooksbank

University of Leeds

Malaria has a significant human health and wellbeing, and socio-economic impact across sub-Saharan Africa. The aim of this research was to create evidence-informed, frugal (low-cost, capable of being implemented in resource-constrained countries) solutions, with our recommendations tailored to defined stakeholder communities in low, low-middle-, and middle-income countries.

A Design thinking approach, a creative approach used in Industry, where you empathise with different stakeholders and create solutions specific for each stakeholder community was utilised to ensure our recommendations addressed stakeholders needs rather than what we thought they might need.

We focused our research on five vulnerable populations, children, urban and rural communities, HIV infected individuals and pregnant women, creating solutions for all. We then evaluated healthcare, socio-economic, environmental, scalability, equity and cultural appropriateness data, undertaking a cost-impact assessment for each proposed solution, to ensure the feasibility and sustainability of our recommendations relative to the three socio-economic groups. Further research evaluated the impact on secondary beneficiaries including governments, educators, the healthcare system, and NGOs.

This research intersects multiple SDGs including Health and Wellbeing (SDG3), Life on Land (SDG15), decent work and economic growth (SDG8), and Sustainable cities and communities (SDG11).

Whilst theoretical, our research and targeted solutions, would have a significant impact on reducing the huge burden of malaria across sub-Saharan Africa. We have also developed a research approach which could be used as a template to develop tailored, stakeholder-focused creative and practical solutions to any SDGs or Grand Challenges in any resource-constrained countries and regions.

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138. Real Estate as an Alternative Asset Class: Portfolio Optimisation & Risk Management Using Quantitative Methods

Manesha Sundar

University of Leeds

Managing risk is vital in Private Wealth Management (PWM), where protecting client wealth and ensuring long-term portfolio stability are top priorities. Traditional risk measures like Value-at-Risk (VaR) estimate potential losses but carry the assumption that market volatility is stable. However, in reality, market conditions fluctuate, making risk harder to predict accurately. This project explores how GARCH (Generalised AutoRegressive Conditional Heteroskedasticity) models, which dynamically adjust for market volatility, can improve risk estimation for high-net-worth (HNW) client portfolios.

To execute this project, I use historical market data from a portfolio of stocks, bonds, and alternative assets. I will apply GARCH, EGARCH, and GJR-GARCH models to forecast volatility and integrate these estimates into VaR and Expected Shortfall (CVaR) calculations. I will compare GARCH-based VaR with traditional rolling-window methods using different risk estimation techniques, including parametric (normal), historical simulation, and Monte Carlo methods. To validate the effectiveness of these models, I will conduct backtesting using Kupiec's Proportion of Failures test and Christoffersen's Conditional Coverage test.

The aim of this project is to determine whether GARCH-based risk forecasting provides a more accurate and responsive way to anticipate extreme losses. If successful, this approach could help PWM professionals enhance risk-adjusted portfolio strategies, proactively adjust asset allocations, and improve risk management practices for clients. By incorporating advanced volatility modelling, this project seeks to bridge quantitative finance and real-world PWM decision-making.

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139. Virtual Reality, Real Harm: Addressing Sexual Assault in the Metaverse

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University of Leeds

This paper investigates the urgent need for a legal framework to address virtual sexual assault in the metaverse. It argues that such offenses should be treated with the same gravity as real-life sexual assault for users using a Virtual Reality (VR) headset and wearing haptic technology. Currently, there is a lack of adequate legislation in England and Wales, and globally, to protect metaverse users from virtual sexual assault and prosecute offenders. The paper's design thus incorporates an analysis of existing legislation, a review of neuroscientific literature on body ownership and sensory perception in virtual environments, and an examination of haptic technology's role in creating realistic touch sensations. The paper also explores potential legal approaches to address virtual sexual assault. The paper finds, therefore, that current legislation is ill-equipped to handle the complexities of virtual offenses. Major findings reveal that the brain's inability to distinguish between virtual and physical experiences in immersive environments can lead to psychological trauma like that experienced in real-life assault cases. The paper concludes that immediate action is necessary to protect metaverse users, and proposes expanding the definition of "touch" in s.3(1) of the Sexual Offences Act 2003 to include virtual touching as the most expedient solution. However, it also recommends the development of comprehensive legislation specifically addressing virtual offenses in the long term. These findings and recommendations have significant implications for legal systems worldwide as they grapple with the challenges posed by emerging technologies and virtual environments.

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140. Rethinking Camp: How Recontextualisation Deconstructs Traditional Notions of Camp

Madeleine Birks

University of Leeds

This dissertation explores how a recontextualisation of traditional Camp notions, as written by Susan Sontag in 'Notes in Camp', into current digital culture deconstructs what we consider to be Camp and, thus, calls for Camp to be rethought. The analysis uses the 2019 Met Gala that was themed 'Camp: Notes on Fashion' after Sontag's essay as a lens with which to view current Camp and expose where current theory falls short on an all- encompassing deconstructive analysis of Camp in the digital cultural theoretical sphere. In particular, the analysis focuses on Violet Chachki, Harry Styles and The Kardashians as case studies in how we see the traditional facets of Camp of queerness, esotericism and artifice being problematised, respectively. The analysis studies both these celebrities' Met Gala looks as well as their identities as Camp figures. The essay concludes in reflecting on the findings and how the questions they raise proves that there is a necessity for Camp to be rethought, and that to begin this, Camp needs to be recontextualised in the digital culture that permeates our cultural ontology. Finally, the essay speculates on the interdisciplinary implications of how Camp rethought could inform other studies, including queer feminist identity theory, digital cultural studies, participatory culture study and more.

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141. The influence of intersecting identities on undergraduate university students' perceptions of safety related to sexual violence and/or harassment in a collegiate university setting (Durham University) and a city university setting (Newcastle University)

Amélie Paulová

Durham University

Sexual violence and harassment remain pervasive yet stigmatised issues within university environments, where youthful demographics and common social practices heighten the risk of victimisation. Peer pressures, limited understanding of consent, and frequent social events, often including alcohol, increase students' vulnerability and opportunity to breach consensual boundaries. Existing research predominantly focuses on reporting statistics, examining prevalence rates and efficacy of safety measures. However, it often overlooks how campus layouts and intersecting identities – such as gender, race, disability, and sexual orientation – shape students' perceptions of safety.

This research incorporates an intersectional framework, using a mixed-methods research design that combines quantitative surveys with qualitative semi-structured interviews. Focusing on two UK-based Russell Group universities – Durham University and Newcastle University – this study explores how differing campus structures affect safety perceptions. Durham's collegiate system, consisting of a predominantly student populated environment and significant international presence (30.9%) is compared to Newcastle's city university setting, which, despite a notable international student body (23.6%), integrates more with non-student populations due to its urban layout.

This research aims to inform policy discussions regarding the development of preventative and responsive safety measures in higher education that effectively address the diverse needs of student populations. Prior research by Revolt Sexual Assault and The Student Room (2018) shows that 62% of respondents experienced sexual violence during their studies, yet only 10% reported their experiences to authorities. By centering student perspectives, this study gives voice to the dark figure of crime and offers insights for creating safer, more equitable university environments.

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142. Franz Anton Maulbertsch and Gendered Pedagogy in Habsburg Vienna

Jake Erlewine

St Andrews University

This dissertation examines Franz Anton Maulbertsch's artistic career through the lens of gendered academic training and his evolving relationship with the Habsburg monarchy. It argues that Maulbertsch's development as an artist was shaped by the Viennese Academy's adoption of French pedagogical models that marginalised female subjectivity, placing him within a distinctly masculine tradition of emulative instruction. The first chapter covers Maulbertsch's formative years, tracing his integration into this masculine framework and analysing its impact on his early works, culminating in a close reading of his 1752 fresco program for the Piaristenkirche Maria Treu. The second chapter analyses Maulbertsch's complex engagement with the reformist Kupferstecherakademie, an institution that sought to redefine Viennese artistic standards to better align with wider Neoclassical trends on the continent. This is contextualised through his commissions at the Innsbruck Hofburg, where his frescoes both reflected and challenged the Academy's reformist ambitions. By situating Maulbertsch's oeuvre within these intersecting institutional and gendered discourses, this essay illuminates the ways his artistic identity was forged in dialogue with the cultural and political imperatives of his time.

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143. An Examination of Local North-Eastern Students' Sense of Belonging in an Elite Institution

Ella Hamilton

Durham University

Only 10% of students from the North-East of England attend Durham University, which has declined from 10.5% in the 2020/21 academic year (Jack, 2024). Of any UK institution, this is the lowest proportion of local students attending the university (ibid). This study aims to fill and aid the pre-existing literature surrounding sense of belonging at university, to highlight the experiences of local North-East students, in particular looking at their academic and social engagement. Drawing on quantitative and qualitative data collected from 55 participants at a prestigious higher education institution in the North-East of England, this study examines local students' sense of belonging and aims to contribute perspectives from North-East students in order to understand their sense of belonging in higher education, at an elite institution. The research challenges the lack of research of local North-East students, which is especially important at a university such as Durham University, since it is located in an area which has such a strong local identity, which is not particularly reflected in its student population. The findings should have wider implications for creating a greater sense of belonging at universities for local North-East students, and for there to be increased inclusivity and applicability of research within the field of belonging in higher education to local North-East students.

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144. Effects of Diet Quality on Growth Rate, Social and Exploratory Behaviour in Trinidadian Guppies (Poecilia reticulata)

Ellie Veitch

University of St Andrews

Animal experimentation has significantly advanced scientific knowledge across various fields, however, the validity and ethicality of animal experimentation relies on the context of the experiment. While the effects of social and environmental contexts of laboratory conditions on animal welfare have been extensively studied, the role of diet quality remains poorly understood. In this study, I address this gap by comparing the effects of two food types, natural and artificial on growth rate, social behaviour, exploratory nature, and longevity in Trinidadian guppies (Poecilia reticulata). 26 juvenile fish were fed daily with either a processed diet (Aquarian Tropical and Temperate Flake Food) or a natural diet (dried mealworms, Tenebrio molitor). Growth measurements were taken weekly using ImageJ. Sociability was measured by recording interactions with adult guppies across a transparent barrier and exploratory behaviour was measured using a maze test. I found that diet type influenced growth, sociability, and exploratory behaviour. Guppies grew faster and were more sociable under the processed diet. While there were no differences in exploratory rate between diets, however, individuals on a natural diet show higher levels of activity. These results highlight the importance of diet quality on key behavioural traits, and this emphasises the importance of considering dietary quality when designing ethical and effective experimental conditions.

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145. ER-phagy in cancer cell motility

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The endoplasmic reticulum (ER), a key organelle for protein quality-control and homeostasis, is continuously regulated to ensure cellular stability and organelle integrity. This regulation is achieved through the selective autophagy of the ER (ER-phagy), that facilitates the degradation and recycling of ER components, in response to environmental stressors. Despite its homeostatic definition, autophagy emerges as a crucial player in oncology with both tumour promoting and tumour suppressive functions been recorded. However, knowledge of the molecular mechanism of ER-phagy and its physiological outputs remains incomplete, particularly in pancreatic cancer. Thus, to decipher its role in tumour progression, a proximity proteomic screen was performed which identified the scaffold protein PRKAR1A (Protein Kinase cAMP-Dependent Type-I Regulatory Subunit Alpha) as a novel mediator. Upon cAMP stimulation, PRKAR1A was found to be required for ER-phagy, leading to remodelling of ER structure in pancreatic cancer cells. 2D migration assays were then employed to characterise the biological significance of this finding in tumour progression. Results revealed that this ER-phagy activation mediated by PRKAR1A is critical for cytoskeletal modifications, facilitating migration in a single-cell fashion. Indeed, further investigations using 3D spheroid models and animal experiments supported these findings, demonstrating that this ER-phagy pathway controls the mode of pancreatic cancer cell dissemination and invasion.

In summary, a novel mechanism for ER cellular remodelling is identified, which is critical for determining the mode of pancreatic cancer cell invasion, offering valuable insights into future therapeutic strategies against cancer.

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146. Assessing the Level of Knowledge and Attitudes Toward Cervical Cancer Screening and Prevention Among Women at Zayed University in Abu Dhabi, UAE

Mazoon Alkatheeri

Zayed University

Background: Cervical cancer is a leading cause of death among females in the UAE. Awareness and knowledge of cervical cancer and its screening are vital for early detection and improved outcomes. Aim: This study examines the knowledge, attitudes, and preventive behaviors related to cervical cancer among women at Zayed University in Abu Dhabi, UAE. Method: A quantitative cross-sectional study was conducted using an online survey with 22 questions. Participants were recruited through convenience sampling, including email invitations and direct random approaches on campus. A total of 118 respondents aged 18–25 years, predominantly Emirati, participated. Data were collected via Microsoft Forms and analysed in SPSS for descriptive and inferential statistics. Results: Among the participants, 94.1% were aged 18–25 years, 95.8% were Emirati, and 57.6% held a bachelor's degree. The majority (83.1%) were from non-health science fields. Knowledge of cervical cancer significantly varied by field of education ($p < 0.001$), while age and nationality affected screening attitudes ($p = 0.550$ and $p = 0.032$). For preventive behaviors, age was a significant factor ($p = 0.014$), but nationality, marital status, and education level showed no association ($p > 0.05$). Overall, 47.46% had average knowledge and attitudes about screening and prevention. Conclusion: Despite the strong association between the field of education and the overall knowledge toward cervical cancer. Health educational programs ought to be included in the curriculum as it will help in increasing cervical cancer knowledge and attitude toward screening.

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147. Beyond ‘Mother’: Legal Recognition of Parenthood for Non-Binary Gestational Parents on UK Birth Certificates

Kayley Earl

Durham University

This research explores the findings of my dissertation, which examines the lack of legal recognition for non-binary gestational parents within the UK birth registration system. The research addresses how the law’s current framework, rooted in heteronormative and binary understandings of gender, enforces strict gender norms by tying gestation exclusively to 'motherhood'.

My research focuses on non-binary individuals assigned female at birth (AFAB) who experience pregnancy and the challenges they face. I look at how hegemony and heteronormativity are intrinsically linked, resulting in the legal and social erasure of non-binary people. Drawing on interdisciplinary methods, I analyse key legislation such as the Gender Recognition Act 2004 and the Equality Act 2010, highlighting this failure to adequately include non-binary identities. Furthermore, I examine comparative examples from cases such as 'Goodwin v UK' and the 'Freddy McConnell' case. I use these to show the growing rhetoric around trans rights, but also highlight the lack of case-law around non-binary rights.

This paper advocates for reform by introducing a gender-neutral designation, such as 'parent', alongside existing terms like 'mother' and 'father' on birth certificates. Such a change would provide non-binary parents with legal recognition, challenge entrenched gender norms, and foster inclusivity. By dissociating gestation from gendered terms, this approach acknowledges diverse identities and roles within modern families.

This research contributes to the lack of discourse on non-binary rights, offering practical solutions to bridge the gap between existing legal structures and the lived realities of non-binary individuals, opening up a space to talk about gender studies.

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148. Consumer Trust in Influencer Marketing vs. Traditional Advertising: A Comparative Study in the UAE's Multicultural Market

Mian Saad

Zayed University

In recent years, the rapid evolution of online platforms has profoundly transformed the advertising and marketing industry. In the UAE's culturally diverse environment, this study compares the level of consumer trust in influencer marketing versus traditional advertising. The UAE was selected as the primary focus because of its diverse population, which makes it an ideal location to test modern marketing techniques. Data were collected from 48 participants through online surveys. The study revealed key trends, despite the small sample size, however results might not be fully generalisable. The research explores how consumer trust and purchase intentions are impacted by sociodemographic characteristics, engagement patterns, and perceived authenticity. Findings revealed that nationality was a key factor in influencing consumer trust levels, as Egyptians favored influencers, and UAE nationals remained neutral, whereas age and gender had little effect. Increased social media engagement led to an increase in purchase intentions, but had no effect on trust levels. This study concentrated on Instagram and TikTok as the main platforms for influencer marketing, whereas traditional advertising relied on out-of-home and TV. Authenticity and production quality boosted trust in influencer marketing, while brand familiarity and consistent messaging built trust in traditional advertising. The findings indicated a trend toward trustworthy figures, with consumers placing less value on celebrity endorsements. The research highlights the importance of culturally appropriate marketing techniques that prioritise involvement and authenticity to build consumer trust, these findings provide insights for marketers in the UAE and other multicultural regions balancing traditional values with modern influences.

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149. Contemporary Climate Inaction: Capitalism's Cultural Footprint?

Millie Gould

University of Warwick

Despite overwhelming scientific consensus on the urgency of climate action, global responses remain insufficient. This dissertation examines how capitalism constructs psychological and cultural frameworks—such as capitalist realism, short-termism, and individualism—that shape cognitive biases, ultimately preventing or delaying meaningful climate action. Rather than viewing climate inaction as the result of purely institutional or political failures, this research argues that capitalism fosters a specific ideological environment that influences human cognition, decision-making, and behavioural patterns.

Drawing from interdisciplinary research across political science, psychology, and behavioural economics, this study explores how capitalist-driven cognitive biases—including status quo bias, temporal discounting, and the sunk cost fallacy—reinforce environmental inertia at both individual and institutional levels. These biases create a perception of climate change as a distant, abstract issue while fostering resistance to systemic change. For instance, capitalist realism—the belief that there is no viable alternative to capitalism—discourages large-scale economic transformations necessary for sustainability, while short-termism prioritises immediate economic gains over long-term planetary health. Similarly, the emphasis on individualism shifts responsibility for climate action onto consumers rather than addressing the structural forces driving environmental degradation.

By demonstrating how capitalist ideology embeds itself in cultural and psychological processes, this research offers a novel explanation for the persistent gap between climate awareness and action. The findings suggest that addressing climate inaction requires more than policy changes or technological solutions; it necessitates a fundamental shift in the way society conceptualises economic systems, collective responsibility, and the natural world. This work contributes to the broader discourse on climate policy by highlighting the need to challenge deeply ingrained ideological narratives and reframe environmental responsibility in ways that enable collective and effective climate responses.

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150. In-depth cultural case study of East Asian and Western families with autism spectrum disorder children

Hyunjoon Jun

City University of Hong Kong

Autism Spectrum Disorder (ASD) is a common diagnosis among children and has a significant impact on families. What influences the differing cultural perspectives of parents regarding children with ASD? Families from East Asia and Western societies face challenges shaped by their cultural backgrounds. In East Asian cultures, ASD is stigmatised, leading to negative labeling and a harmful effect on parent-child well-being and family relationship. East Asian parents frequently endure societal pressures that hinder their ability to protect and care for their children with ASD, as East Asian values prioritise harmony and conformity among the people.

On the other hand, Western societies have developed a greater awareness and acceptance of ASD, promoting active collaboration between families and social work professionals. This individualised care empowers Western parents to seek suitable resources for their children and has less pressure on others and consciousness.

To grasp these cultural dynamics, this research examines the influence of collectivism in East Asian cultures and individualism in Western cultures on parental care and protection for children with ASD through an in-depth case study of families with ASD children from East Asian and Western cultural backgrounds in Hong Kong, which is a culturally diverse city. This research aims to inform strategies that empower families with ASD and promote culturally sensitive social work interventions.

The findings center on the importance of cultural considerations in addressing the needs of families dealing with ASD and the culturally appropriate social work interventions to enhance the effectiveness of support to families with ASD.

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151. Analysing Disrupted Circadian Rhythm Generated from Wearable Device Data with Mitigation using a Light Control System

Joseph Gaudino

University of Warwick

This study analyses disrupted human circadian rhythm using wearable device activity data, and establishes methods to entrain this disrupted rhythm through adaptive light controllers. The study began by adapting a mathematical model from literature, relating incident light input to the generation of a circadian rhythm, verified through its capability in generating relevant circadian rhythms corresponding to light exposure studies in various environments. The wearable device activity (step counts) data comes from published research of an individual in Detroit, USA. A piecewise function, from a previous study, was used to convert these step counts into a light exposure, with a selected week of this light data serving as an input to the circadian model, which successfully generated a real-world circadian rhythm.

To assess circadian misalignment, Detroit sun graphs were used to influence an ideal light profile input that produced a nominal circadian rhythm, enabling comparison against the real wearable-derived circadian rhythm. Deviations (reflected through mean square error, MSE) between the two manifest as disruption that requires entrainment in a control framework. Two controllers – PID and phase lead/lag – acting as entrainment light therapy, were considered. Both controllers were tuned based on the lowest returned MSE, with the PID controller tuned systematically (by varying each gain one at a time) and the phase lead/lag controller using Latin Hypercube sampling. Simulation results show that both controllers realign the circadian rhythms with varying accuracy, suggesting the applicability of light therapy for circadian-disrupted medical conditions.

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152. The Impact of attitudes towards Sexting on vulnerability to sextortion: Understanding the Risks and Prevention Strategies

Vicky Chui, Jade Vu and Andy Li

City University of Hong Kong

Sexting is a combination of “sex” and “texting”, indicating the exchange of explicit and sexual messages and videos. Attitudes from both males and females towards sexting have become more open in the technologically advanced world. Although studies have pointed out that sexting behaviours may foster intimate relationships, young adults may encounter risks. Such risks include the proliferation of personal explicit images without consent, dating scams and sextortion. Noted for becoming particularly prevalent in multiple jurisdictions throughout 2024, sextortion closely associates with sexting by first grooming the victim into sending explicit material and then blackmailing the victims by threatening to disseminate sexual images unless a ransom is paid by the victim. Therefore, through distributing questionnaires to university students at the City University of Hong Kong, this study aims to study the relationship between the attitude toward sexting and young adults' awareness of falling victim to sextortion, as well as to learn about the perceptions and awareness of young adults if they encounter sextortion. For instance, their response to the demands of sextortion and the assistance they prefer to seek. Furthermore, the effectiveness of the current preventive measures will be examined. Moreover, the current study intends to analyse these results to provide recommendations on how sextortion could be mitigated, based on existing and original preventative measures.

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153. International Humanitarian Response: Exploring Political Influences and Prioritization in Aid Allocation

Hind Bintamim

Zayed University

Recent global crises, such as the conflict in Gaza and the war in Ukraine, underscore the urgency of addressing prioritisation and political bias in aid allocation. With humanitarian crises becoming more frequent and severe, unfair aid distribution leaves many innocent people without help. This stresses how vital it is to ensure aid is solely based on need, not other factors. This study focuses on how political bias and prioritisation influence international aid allocation by examining two cases: Ukraine and Palestine. It uses a qualitative approach by analysing existing reports and interviewing six representatives from organisations such as UNRWA and Palestinian NGOs, as well as experts in international affairs and Ukraine's social coordination. The findings reveal a clear difference. Ukraine receives strong support because of its strategic geopolitical alliances, open borders, and stable donor funding. Challenges include harsh winters and fluid military dynamics. However, Gaza suffers from chaos in distribution, restricted border access, and reduced donor support. Safety risks for aid workers and accusations of political bias further worsen the situation. This calls for examining the roles of donors, organisations, and officials responsible for aid allocation. International bodies must go beyond promises and take action. Assigning independent groups to check how aid is given and creating fair systems to manage aid could help reduce political bias and prioritisation in humanitarian efforts. Humanitarian aid is a fundamental human need and must remain free from alliances, biases, or political agendas.

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154. From Stress to Serenity: The Wildride of Premenstrual Syndrome and the Healing Power of Nature

Ismail Ahmad Shaikh

University of Exeter

Premenstrual Syndrome (PMS) is a cluster of physical, psychological and behavioral symptoms affecting a significant number (20-98%) of females of reproductive age; emerging 7-10 days before menstruation, in the luteal phase of the menstrual cycle and remitting on the onset of menstruation or soon after. Although its aetiology remains largely unknown, links have been established with changes in hormonal sensitivity and concentrations, neurotransmitter dysregulation, and alterations in the Renin–Angiotensin–Aldosterone system. Symptoms such as headaches, fatigue, 'brain fog', mastodynia, cognitive impairments like anxiety, among others; severely impacting women's quality of life along with social and functional impairments, with estimates suggesting that 18% experience debilitating symptoms. Addressing PMS is of utmost importance, as it deepens gender inequality, consequently increasing the likelihood of burnout in females.

This study highlights the healing power of natural environments as a potential intervention for alleviating PMS symptoms. Evidence indicates that spending at least 120 minutes per week in nature can significantly help with physical, psychological and behavioral symptoms, while enhancing cognitive function and emotional resilience. Mindful engagement with nature may serve as a supportive strategy for women coping with PMS, fostering both physical and mental health improvements. Therefore, incorporating time in natural settings into daily routines may enhance life quality for those impacted by PMS. This study was done while having United Nations Sustainable Development Goals 3 and 5 in mind.

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155. Skin For All: The role of grassroots initiatives in advancing representation in medical education

Naabil Khan

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Healthcare disparities in dermatology and medical education stem from insufficient representation of skin conditions on skin of colour, leading to misdiagnosis and delayed treatments. A review of medical textbooks revealed that only 18% of images feature non-White skin tones, reflecting a lack of diversity. The Skin For All initiative addresses this gap by creating an online platform promoting inclusive medical education and patient awareness. With input from medical students, professionals, and the public, the resource covers over 30 skin conditions using diverse imagery, accessible language, and tailored content for patients, clinicians, and students.

Since its June 2023 launch, Skin For All has engaged over 4,000 unique users and received 10,000 page visits, earning recognition from major organisations like the BBC and the British Medical Association. Preliminary data indicate improved confidence and diagnostic accuracy among users in recognising conditions across diverse populations. Resources extend beyond dermatology to systemic issues like gonorrhoea and liver cirrhosis, emphasising global public health relevance. The platform includes diverse clinical descriptions, diagrams, and a timeline of racism in medicine.

Aligned with the NHS Long Term Plan's equity goals, Skin For All fosters systemic change through inclusive curricula and accessible resources. It exemplifies grassroots efforts to address healthcare inequities. Future plans include expanding reach, forging partnerships, and longitudinal assessments to evaluate its impact on education and patient care, underscoring the importance of representation in improving outcomes for all, within the undergraduate research and clinical communities.

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156. Improving Healthcare & Quality of Life in Young Patients with Mesenteric artery Syndrome: Patient-Centred approach

Pouria Sadeghian

University of Exeter

Superior Mesenteric Artery Syndrome (SMAS) is a rare condition in which the superior mesenteric artery compresses the third part of the duodenum, leading to symptoms such as nausea, vomiting, and abdominal pain. It primarily affects young individuals, especially women, and is commonly associated with significant weight loss. The condition is difficult to diagnose due to its rarity and overlap with other gastrointestinal disorders, and early intervention is crucial to prevent complications like malnutrition and dehydration.

A patient-centred approach could significantly improve the healthcare experience for those with SMAS, particularly in young patients, by addressing not only physical symptoms but also mental, emotional, and social challenges. The case study of Ella, a 20-year-old diagnosed with SMAS, highlights the difficulties of delayed diagnosis and treatment, which led to isolation and mental health struggles. Her treatment journey was complicated by her obsessive-compulsive disorder (OCD), which added additional layers of stress and anxiety. Involving patients in their diagnosis and treatment decisions helps to improve outcomes by ensuring that their perspectives and needs are considered.

Social prescribing, a non-clinical intervention connecting patients to community-based support, may offer additional benefits, particularly in managing weight and improving mental health. However, more research is needed to determine its effectiveness for SMAS patients. Overall, integrating a holistic, patient-centred approach alongside medical interventions could enhance the quality of life for young people with superior mesenteric artery syndrome by addressing both the physical and psychosocial aspects of the condition.

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157. A critical literature review of health and wellbeing older women living alone with obesity in England

Swarnalatha Erigela

Anglia Ruskin University

This review explores the health and wellbeing of older women living alone with obesity in England, a vulnerable and understudied group. With an aging population and rising obesity rates, it is crucial to understand the unique challenges these women face, including physical, mental, and socioeconomic factors.

A critical literature review was conducted, synthesising the data from studies published between 2010 and 2024. Databases searched were Medline, Web of Science, CINAHL, PubMed, PsycINFO, eBook Collection, eBook Open Access, and PsycArticles. Studies addressing the factors contributing to obesity in women aged 65 and older living alone were included. Data was analysed using an inductive coding approach to identify emerging themes.

The literature search resulted in 15 primary studies. By appraising with CASP tool methodological quality of these studies was good. The review identified loneliness, social isolation, low socioeconomic status, and physical inactivity as key determinants contributing to obesity among older women living alone. Loneliness and social isolation lead to unhealthy behaviors, while financial limitations and restricted access to resources further exacerbate physical inactivity and poor dietary habits, culminating in increased obesity and worsening health outcomes.

The review highlights the compounded vulnerabilities faced by older women living alone who are obese and underscores the urgent need for targeted interventions. Addressing loneliness and social isolation, improving socioeconomic conditions, and promoting physical activity are critical strategies for enhancing their health and wellbeing. Further research is essential to deepen understanding and inform effective policymaking.

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158. Building an inclusive green economy: Assessing the perspectives of Ghanaian market women

Cynthia Anaba

Ashesi University

The global urgency to address climate change has accelerated a shift toward green economies, yet the role of informal sectors in this transition remains underexplored, particularly in developing countries like Ghana. A latest report from the World Economic Forum reveals that the informal sector contributes to two-thirds of the global workforce and continues to remain vibrant sectors of developing nations. Similarly in Ghana, the informal sector constitutes more than 70% of the economy, with women accounting for 80% of employment within the sector. These women popularly known as market women significantly contribute to the buying and selling of economic goods and more importantly contribute to food security. Surprisingly, conversations on green economy transitions in Ghana have left such valuable actors like market women out of discussions and policies. Hence, this research has been inspired by the continuous transformative power that market women foster every day in open air marketplaces like Makola, Madina, Agbogbloshie, Kaneshie and several others in Ghana. Thus, this study aims to bridge the gap in literature by providing insights into how Ghana's green economy can become more inclusive by integrating the informal sector. It calls for targeted policies that address gender inequality and enhance the participation of market women in green initiatives, contributing to both environmental sustainability and socio-economic development.

Adopting a qualitative study, the findings provide unique insights that highlight barriers and opportunities for an inclusive green economy transition in Ghana that recognises the informal sector.

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159. Speech monitoring and cognitive function in adults

Ema Ferra

Anglia Ruskin University

When a neurotypical English-speaking adult speaks out loud, one word in 1,000 typically contains an error. Several previous studies have focused on identifying the underlying process occurring when speech errors are made and eventually corrected by an individual. These studies provide some support to the idea that speech errors are corrected using the speech production system, the speech comprehension system, or through internal monitoring (i.e. inner speech). However, research concerning speech errors and error monitoring, and their relation to executive functions and metacognition still constitutes a big gap in research. To fill this gap, we tested neurotypical adults using a speech error-inducing task (Speed Repetition of Word pairs) specially designed to trigger speech errors, a Go/No-go task (testing inhibition ability) and a metacognitive questionnaire. We hypothesised that producing less speech errors, and being able to correct the errors produced, will be associated with: (1) younger age; (2) knowledge of one or more foreign languages; (3) better inhibition ability; and, (4) better metacognitive ability. Preliminary data has been collected from a limited number of participants, and the full dataset (n=30) will be analysed once data collection is completed and presented addressing the four hypotheses. This study will fill the current knowledge gap in this research area with data combining error monitoring with metacognition and inhibition. Furthermore, studying the neurotypical brain and its functions will contribute to developing treatments for neurodivergent individuals affected by language disorders, whether of developmental origin or those following acquired brain damage.

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160. Investigation into the Type VI Secretion System Elicited Antifungal Action of Pseudomonas fluorescens

Mykhailo Bazylievych

Newcastle University

The Type 6 Secretion System (T6SS) is a bacterial membrane-bound contractile nanomachine used to fire toxic effectors into neighbouring competitor cells. Previously thought to primarily function in interbacterial warfare, recent studies have revealed specific T6SS-elicited antifungal effectors revealing a hitherto unknown function in cross kingdom interactions. Much research into the role of T6SS-mediated antibacterial and antifungal activity has focused on clinically relevant interactions, and the role of the T6SS in modulating the composition of polymicrobial environments such as the human gut. However, it is probable that bacteria will exploit T6SS-elicited antifungal effectors in all polymicrobial environments. In this study, the predominantly soil-inhabiting bacterium Pseudomonas fluorescens was investigated as previous studies revealed an increase in the induction of T6SS genes in the presence of fungi, suggesting that this system may be utilised against fungal competitors. Competition assays revealed Pseudomonas fluorescens did display antifungal activity against the model and pathogenic yeasts, Saccharomyces cerevisiae and Candida albicans, respectively. To assess whether such antifungal activity is T6SS-dependent, current experiments are aimed at generating a T6SS structural mutant in Pseudomonas fluorescens, and in repeating the competition experiments with membrane filters to separate the bacteria from fungi and confirm contact-dependence. Pseudomonas fluorescens is one of the most commonly used biocontrol agents against plant pathogens. With the world facing climate crisis-driven food insecurity, exacerbated by the spread of plant fungal pathogens and fungicide resistance, research into bacterial T6SS-elicited antifungal activity could identify new ways to combat crop loss due to pathogenic fungi.

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161. Comparative Analysis of Growth and Value Stocks in the S&P 500: Impacts of Recent Macroeconomic Events from 2014-2024

Varun Sahani

University of Aberdeen

This study examines the comparative performance of growth and value stocks within the S&P 500 from 2014 to 2024, analysing the impact of key macroeconomic events, including the COVID-19 pandemic, inflationary pressures, and AI-driven market transformations. By employing statistical regression analysis, this research evaluates the effectiveness of traditional valuation metrics such as Price-to-Earnings (P/E) and Book-to-Market (B/M) ratios in assessing investment strategies under evolving economic conditions. The study contributes to the literature by critically assessing the robustness of conventional valuation approaches and providing empirical insights into the long-term viability of growth and value investing in the context of recent financial disruptions.

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162. Practicing US Environmentalism From the Isolation of One's Own Home: The Emotional Consequences of Green Consumerism

Ava Hedeker

University of Chicago

Green consumerism—purchasing and using products perceived as less harmful to the environment—is often framed as a way for individuals to take meaningful action on climate change, reinforcing personal agency. I challenge this assumption, proposing that excessive engagement in green consumerism can lead to unintended emotional consequences, particularly for eco-entrapped individuals, worsened by the U.S. single-family residential landscape.

While environmentalists may adopt green consumerist choices moderately, I describe 'eco-entrapped individuals' as those who feel constant pressure to make the most eco-friendly choice in every lifestyle behavior. I suggest that this relentless pressure can lead to overwhelming negative emotions such as shame, anxiety, and guilt when their consumer actions fall short, potentially leading to self-criticism, obsessive rumination, and social withdrawal. To cope with these emotions, eco-entrapped individuals may become further entrenched in green consumerism, confined in a cycle where every decision feels inadequate to their rigid environmental standards, with no level of commitment bringing true peace of mind.

This study hypothesises that mutually reinforcing systemic factors can accelerate this cycle, amplifying the perceived individual burden of addressing climate change. I examine how the U.S. residential landscape—often characterised by extensive private space and restrictive single-family zoning—may exacerbate the isolation of eco-entrapped individuals, further limiting consistent opportunities for collective environmental action. I focus on people with socioeconomic privilege.

By synthesising interdisciplinary evidence, I explore the potentially severe emotional toll that this group can face when being morally pushed to the edge, offering a new perspective on the unintended consequences of green consumerism.

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163. Anodal transcranial direct current stimulation (tDCS) to the right dorsolateral prefrontal cortex (DLPFC): The impact on fear's carryover effects

Raluca-Aniela Nicolita

University of East London

Decision-making in forensic psychology carries significant consequences, influencing both individual outcomes and public trust in the justice system. Fear can induce a carryover effect, where its influence extends beyond the initial emotional experience, biasing unrelated decisions toward heightened risk perception and punitive judgments. This study examines whether anodal transcranial direct current stimulation (tDCS) applied to the right dorsolateral prefrontal cortex (DLPFC) can mitigate fear's carryover effects. While previous research has shown that tDCS enhances cognitive performance on similar tasks, this study is novel in exploring its role in counteracting emotional biases in decision-making.

A double-blind, mixed-factorial 2 × 2 design was employed, with between-participants factor stimulation (active vs. sham) and within-participants factor emotion induction (fear vs. neutral). The order of emotion induction was counterbalanced across four groups. Decision-making accuracy was assessed using Cognitive Reflection Tests (CRTs), representativeness heuristic tasks, and risk perception tasks. Given the right DLPFC's role in cognitive control and emotion regulation, it is hypothesised that stimulation will reduce the detrimental effects of fear on subsequent decision-making.

Participant recruitment is currently in progress, and results will be available by the time of the conference. This study contributes to decision-making research by expanding understanding of how neuromodulation techniques can improve judgment under emotional influence. The findings will inform future studies on emotional biases and have potential applications in forensic decision-making. I plan to develop further research in this area, with the goal of translating these insights into practical interventions for professionals who may benefit from more balanced decision-making processes.

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164. Investigation of a Rare Earth Ion Doped Crystal (Tm2+: CaF2) for Axion Detection

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University of Chicago

Dark energy is theorised to be a field permeating the universe and leading to its expansion, and it has been proposed that it can be converted into dark radiation, which can then couple to ordinary matter. This radiation oscillates at frequencies around the Terahertz (THz) scale, and it can drive resonant spin rotations of ordinary particles when its oscillation frequency matches the energy required for a spin flip. My proposed work is a part of the DeMille Group's bigger effort of constructing, testing, and optimising a prototype dark radiation detector based on this principle.

We will take advantage of the favorable properties of rare-earth ions doped into crystals, where electron spins can remain polarised for long times and can be manipulated using lasers. Converting flipped spins into optical photons makes single-spin detection easy and efficient. Long spin polarisation time allows the use of precision laser and magnetic resonance spectroscopy to detect, with extreme selectivity, only spins that have flipped. Specifically, we propose to use a detection scheme based on Tm2+ ions doped into a CaF2 crystal. Although the Tm2+: CaF2 system has been somewhat characterised, certain important properties (like the linewidth of its first excited electronic state) are still lacking and its suitability for this experiment has yet to be explored experimentally. Therefore, this project will not only provide a powerful window to detect dark energy via dark radiation, but it will also enable us to unveil important characteristics of the Tm2+: CaF2 system.

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165. Identifying the 'Low-Hanging Fruit' of Consumer Behaviour changes necessary to facilitate the Transition towards Circular Economies

Aditi Murali & Daan Vegter

University of Leeds

Rapid Urbanisation means consumed at significantly quicker rates than their replenishment (Esposito et al., 2017), thus calling for a breakaway from the existing linear 'take-make-dispose' consumption patterns (Ghisellini et al., 2016) to Circular Economies (CE), where resources are kept in circulation for longer. Despite vast research surrounding CE, the role of the consumers is an element of this concept that is still under-represented (Wastling et al., 2018).

Our research aims to fill this gap by isolating what we call the 'low-hanging fruit', i.e. behavioural changes that have high acceptability among consumers relative to their environmental benefit through Discrete Choice Modelling Experiments and calculating consumer's Willingness to Accept (WTA).

Out of the 5 behavioural changes we measured at various levels, our results indicated that buying 50% of your clothes and furniture second hand falls under the low-hanging fruit, whereas repairing electronics has high monetary savings but significantly lower environmental benefit. We also explored discussion points like hypothetical bias, consumer-attitude behaviour gap and the sustainability of second hand clothing markets.

However, due to a 6 week time frame, the main limitation of our research is a small sample size, and reliance on secondary data. Nonetheless, our research adds to the consumer perspective towards circularity and has raised new discussion points like the role of neuroscience in choice experiments and greenwashing of second-hand markets.

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166. Identifying the role of AAL cassette in Burkholderia cenocepacia biofilm formation

Htar Yu New

University of Leeds

Burkholderia cenocepacia is a pathogen which causes severe lung infections in individuals with weakened immunity, especially those with cystic fibrosis. A hallmark of this bacterium is its ability to form biofilms, which protect it against antibiotics. A potential driver of biofilm development is the AAL cassette, a cluster of genes implicated in exopolysaccharide production for the biofilm structure.

This study examined how two proteins from this cassette, AAL and Acyl Carrier Protein (ACP) interact. Both proteins were expressed in Escherichia coli and purified for analysis. Quality control tests such as mass spectrometry, BCA and dTNB assays confirmed their purity and active forms. The AMP-Glo assay was used to measure the enzymatic activity of AAL in response to ACP. The results showed the highest luminescence produced by AAL in the presence of ACP, ATP, and amino acids and removing ACP led to a significant decrease in activity. However, on analysis by a technique called Flow-Induced Dispersion Assay (FIDA), a stable complex formation between AAL and ACP was not detected.

These findings highlight ACP's importance as a substrate for AAL, yet the role of the two proteins in exopolysaccharide biosynthesis may be more complex than initially assumed. It appears that AAL–ACP bonding is transient, making it challenging to capture structurally by FIDA. Future work will involve in-depth structural and kinetic studies to clarify the exact role of the AAL cassette in biofilm formation. By understanding these protein interactions, potential ways to disrupt biofilms could be developed to improve treatments for lung infections.

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167. Silenced Suffering: Confronting Low Prosecution Rates for Controlling or Coercive Behavior in England and Wales

Gerri Nyegenye

University of Leeds

Controlling or coercive behaviour (CCB) within intimate relationships undermines victims' well-being and autonomy, often without visible signs. While criminalised under the Serious Crime Act 2015 in England and Wales, prosecution rates remain low compared to violent offences. This paper explores the law's focus on the effect on the victim rather than the abuser's intentions, societal misconceptions and difficulty in evidencing the offence as limitations to its success. It advocates for procedural and legislative reforms to create justice for victims and prevent further harm. This paper employs a qualitative analysis of official legal guidelines in England and Wales, highlighting the law's inability to capture the nuanced nature of CCB. A comparative legal analysis with Scotland's Domestic Abuse Act 2018, which also tackles psychological abuse, illustrates how a shift in focus to the abuser's intent and investing in training and public awareness can address the current law's barriers to efficacy and improve its outcomes in England and Wales. A better understanding of the law on the complexities of controlling or coercive behaviour combined with the focus on the abuser's intent will transform societal attitudes and the Criminal Justice System. This shift empowers victims and raises public awareness, ultimately leading to increased prosecution rates. This research addresses significant gaps in the academic literature on the reform of controlling or coercive behaviour in England and Wales to tackle the low prosecution rates. Future studies could investigate how adopting the proposals inspired by Scotland's legislation impacted prosecution levels of CCB in England and Wales.

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168. Does Active Investing Still Work? Examining Market Conditions & Investor Behaviours

Hsu Hnin, Harry Prosser & Akhile Kale

University of Leeds

Since many people think active fund management is out of date, passive investing has taken over as the most popular approach. However, some active managers still outperform the market, which raises the question: under what conditions does active investing still work?

Most active funds do not consistently outperform passive benchmarks, according to decades of study. However, Shiller's behavioural finance research and BlackRock's factor investing research suggest that economic cycles, investor psychology, and market inefficiencies can all produce favourable conditions for active strategies. Zheng Sun also demonstrate that active funds function better during recessions, when discretion and flexibility are more crucial.

In order to compare active versus passive performance under various market conditions, this study uses case studies, cross-sectional analysis, and a review of the literature. Research by BlackRock, Genet & Inzirillo, and Zheng Sun provides insight into the generation of alpha. We'll also look at factor investing models and behavioural finance theories to find trends.

Active management can still perform better in certain circumstances, such as inefficient markets, recessions, and industries with high levels of volatility. While Zheng Sun argue that active funds outperform negative markets because of their subjective decision-making, Shiller's research on behavioural inefficiencies emphasises how investor biases provide opportunities for active managers.

However, in the long term, passive strategies usually succeed, especially in efficient markets. The purpose of this literature review is to provide some insight into the circumstances under which active investment is still effective.

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169. Production of Carbonate through CO2 Electrolysis

Oscar Ash

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As humanity moves towards a carbon-neutral future, the need to innovate in carbon capture has never been more prevalent. This comprehensive report delves into the methods and materials utilised in the production of carbonate rock through the process of CO2 electrolysis. This report also presents a detailed analysis of the results obtained through prototyping and experimentation.

In addition to technical findings, this report offers key insights into the history of carbon capture as documented in both literature and industrial practices. By tracing the development of carbon capture projects over time, the report outlines the evolution of carbon capture, and how carbon capture has shaped the current landscape of carbon mitigation efforts. This information not only informs ongoing research, but emphasises the importance of continued innovation in humanity's fight against climate change.

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170. Park-Air accessible aircraft lift

Max Copeland

Blackpool and the Fylde College

Air travel remains an inaccessible and often undignified experience for passengers who rely on wheelchairs. Despite the estimated £274 billion in spending power of disabled travellers in 2021, airlines have failed to adequately cater to their needs, risking passenger safety and dignity. Our research investigates the design and feasibility of the Park-Air Lift, an innovative system that allows wheelchair users to remain in their own chairs during boarding until they transfer to their allocated seats. Positioned above the rear door of the aircraft and deployed similarly to the stairs of the Boeing 737 NG, the system ensures wheelchair safety and reduces the risk of damage by storing the wheelchair in the hold as one of the last items loaded and first unloaded.

This study draws on both design prototypes and consultations with wheelchair users and airline professionals. For the prototype, CAD drawings were made and rendered, 3D printed and practically tested using Arduino as the automatic controlling microcontroller. Findings reveal that implementing the Park-Air Lift could dramatically improve the boarding process, enhancing safety, comfort, and independence for passengers. Additionally, the integration of the Air4All system with the Park-Air Lift promises a historic milestone in air travel accessibility, empowering passengers with disabilities to board and move independently for the first time. These innovations underline the urgent need for airlines to address accessibility challenges and embrace solutions that not only improve passenger experience but also unlock a significant untapped market.

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171. Motion capture enhances and speeds up the process of animaltion compared to traditional 3D animation

Marek Koldasz

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Motion capture is a crucial aspect of modern animation, widely used across various industries for tracking human movements, thereby accelerating the animation creation process.

This research investigates the effectiveness of motion capture in animation, questioning whether it truly speeds up the process and how it compares to traditional 3D animation. Findings suggest that motion capture enhances realism in animations, though it requires skilled actors and some manual corrections. Despite these drawbacks, it significantly streamlines the animation process.

The research employed both qualitative and quantitative methods, using test subjects who provided feedback on a 1 to 5 scale and detailed their choices. The study involved a basic 3D platform showcasing two animation methods: motion capture and hand-drawn 3D animation.

In conclusion, motion capture greatly impacts video game animation, though it demands substantial investment and skilled personnel. While it poses challenges for non-human animations and requires manual corrections, it offers faster and higher-quality results than hand-drawn animation. As the technology becomes more affordable, even small companies and individuals can access it, promising broader industry adoption and improved animation standards.

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172. To evaluate the benefits and drawbacks of using the platform WhatsApp for work-based communication: A case study of Yodel

Katie Matthews

Blackpool and The Fylde College

Abstract

This study evaluates the benefits and drawbacks of using WhatsApp, the mobile social media app, as a communication tool in a workplace setting, focusing on employees at Yodel, a UK-based parcel delivery company. Using a mixed-methods approach, a survey was conducted with 10 employees, yielding 9 responses. The results highlight that WhatsApp is valued for its accessibility, ease of use, and cost-effectiveness, particularly for quick updates and mobile communication. However, significant drawbacks were identified, including its informal nature, lack of monitoring, issues with unresponsiveness, and the blurring of personal and professional boundaries. Even though 44% of respondents used WhatsApp on a daily basis, problems including unstructured communication and delayed answers were commonly stated, and its perceived impact on productivity was low. The study concludes that WhatsApp is useful as a supplementary tool but is unsuitable as a primary communication platform. Recommendations include implementing clear guidelines for its use and incorporating structured alternatives like Microsoft Teams. It is recommended that future studies use a larger, diversified sample to strengthen the validity of these results and offer more in-depth understanding of preferences for workplace communication.

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173. It's Still 0-0: Grassroots Football's Impact on Men's Mental Health in the UK

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Men's mental health is one of the biggest issues in the UK; evidenced by the high suicide rate of 17.4 deaths per 100,000 men in 2023, the highest since 1999. One contributing factor is the underutilisation of mental health services among men. This study explores the potential role of grassroots football in addressing this issue and supporting men's mental health.

This study employed a qualitative approach, conducting eight semi-structured interviews with male players, coaches and volunteers. Through semi-structured interviews, participants discussed how grassroots football impacted their mental health. The data was then transcribed followed by coding and thematic analysis. This provided insights into how grassroots football impacted men's mental health.

This study found that grassroots football offers several mental health benefits, including fostering a sense of belonging, increasing self-esteem and confidence. However, grassroots football also presents challenges to men's mental health due to internal conflicts, pressure to perform and pressure from externals for coaches and volunteers.

This study highlights that grassroots football can provide valuable support for men's mental health. However, challenges such as the absence of professional mental health support and internal conflicts within clubs may limit its effectiveness. The variety of stakeholders and the various ways they are impacted further complicates this, emphasising the need for further research. Findings suggest greater governance is needed by national governing bodies to ensure grassroot football clubs impact's men's mental health positively and negative experiences can be eliminated through greater support and enforcement of rules/regulations.

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174. A crisis resolved or a stagnating problem: A modern analysis of sectarianism in Northern Irish football

Luke Ramage

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This study explores the extent of sectarianism in Northern Irish football. Sectarianism in football stems from historical inequalities, communal divisions, and social identity conflicts, reinforcing oppositional identities within Northern Irish society.

Using a qualitative approach, the study conducted semi-structured interviews with eight participants, who provided in-depth personal narratives on sectarianism in Northern Irish football. This method captures the complex social and cultural dynamics at play. Social Identity theory was used as a lens to interpret the data, highlighting how group membership shapes self-concept and contributes to sectarian divisions.

Findings indicate that while sectarianism remains a significant issue in Northern Irish League football, there has been notable progress, particularly with increased Catholic representation in the national team. However, at the domestic level, anti-sectarian laws and their enforcement are perceived as inadequate, with a lack of arrests, fines, or bans for sectarian behaviour. Additionally, the ambiguous legal definition of "sectarianism" complicates effective enforcement due to political disagreements.

The study highlights the need for stronger anti-sectarian initiatives at the domestic level. Limited resources and professionalism within Northern Irish League football clubs hinder policy implementation, suggesting a need for greater support and oversight. Clarifying the legal definition of sectarianism could improve enforcement and enhance the effectiveness of existing legislation. Addressing these challenges is essential to fostering inclusivity in Northern Irish football.

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175. ‘I never thought of myself as a veteran’: Written reflections on veteran identity by ex-servicewomen in Wales

Ebony Fleet

Anglia Ruskin University

In May 2022, 25 female veterans completed a short socio-demographic survey and a written reflection.

The survey gathered data on service details, perceptions of the term “veteran”, and whether participants identified with it. Results underwent reflexive thematic analysis (1).

Three main themes emerged when defining what the term veteran means to our participants. 1 – Anyone who has served. 2 - Sentiment of shared core values and belonging. 3 - Stereotyped associations of older, white men who may have served during the World Wars.

Feelings of pride and community were common patterns explored by participants. Of the 66% who identified as “veterans” some described a delayed associated with the term and evolving definitions of its meaning. Among the 33% who did not identify, feelings of unworthiness and imposter syndrome were prevalent. Many felt they did not fit the traditional veteran stereotype.

Participants recognised a disconnect between the definition of a veteran and societal perceptions, which influenced how they chose to identify. Many women preferred terms such as “ex-military” which may have less stereotyped or historial connotations. Interestingly, some women challenged their past ideas about what veteran means and are reclaiming the term for themselves.

Impact: Much research highlights veteran identity as a barrier to the access of support services for women. This study helps us better understand women’s veteran identities; thus, we hope it will support services to consider how to engage with and challenge identity-related barriers, and ensure ex-servicewomen feel valued and represented.

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176. To what extent can photogrammetric modelling quantify the effectiveness of natural flood management engineering strategies in the Skell Valley, North Yorkshire?

Charles Alvey

University of Leeds

The increasing frequency and intensity of flood events, exacerbated by climate change, pose significant threats to communities and infrastructure, especially when the current annual cost of flood damage in the UK is £700 million and is estimated to rise by 20% due to climate change.

The Skell Valley Projects strategy includes using NFM interventions, which offer a promising approach to mitigating flood risk and enhancing the ecosystem's geomorphological, hydrological, and ecological health.

This research investigates the effectiveness of NFM interventions in reducing flood risk at Fountains Abbey. By employing photogrammetric techniques and GIS analysis, this study aims to quantify the geomorphological changes in the landscape resulting from NFM implementation. By comparing pre- and post-intervention 3D modelling, researchers can assess the impact of measures such as afforestation, leaky dams, pond creation and rewilding on factors such as water flow, net sediment deposition, and erosion.

Additionally, through ongoing field observations using time-lapsed Remote camera monitoring, the study will explore the relationship between rainfall and the hydrology of NFM management strategies, particularly leaky dams. By understanding the mechanisms through which NFM interventions reduce flood risk and the associated co-benefits, this research will contribute to developing evidence-based flood management strategies.

The findings of this research will inform future policy decisions, investment in NFM projects, and the wider application of NFM principles in flood risk management to ultimately contribute to a more resilient and sustainable future for the Skell Valley and other flood-prone regions.

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177. “Limitless Sin”: How transgressions of gender and space in setsuwa tales reflect cultural anxieties in Heian Japan

Emma Morgan

Newcastle University

This dissertation analyses how cultural anxieties are depicted within setsuwa literature of the Heian period (794-1185), and what these depictions reveal about Heian society. The purpose of this study is to examine the extent to which setsuwa reflect and perpetuate normative social values surrounding gender and the role of nature within Heian culture, while evaluating the accuracy of these depictions comparatively with other primary accounts. This dissertation contributes to the growing field of gender and spatial historiography, while departing from traditional methodologies to incorporate a literary dimension in correspondence with social context.

This is done through close analysis of the Konjaku monogatari shū, a compilation of didactic tales produced during the late Heian era, providing a rare insight into livelihoods beyond court literature. Through this, it is evident that social and spatial transgressions are tied with narrative themes of punishment, ostracization, and demonisation. 'Salvation' only comes from rejecting socially transgressive circumstances. This dissertation argues that setsuwa perpetuate values associated with hegemonic social organisation because of broader cultural anxieties. This study advocates the importance of the Konjaku monogatari shū as one of the few literary sources which looks beyond the nobility, providing a broad reflection of Heian culture that is neglected in other sources.

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178. How can Active Hope be the central axis for social and environmental change within museum digital policy?

Millie Barker

University of St Andrews

From procurement to disposal, the lifecycle of technology is causing environmental devastation and imposing a new form of 'techno' colonialism on the Majority World. The museum and heritage sector are implicated in this destructive digital cycle, through the increasing digitisation of art collections. Such digitisation is at odds with the sector's commitment to accessibility and to preserving our cultural heritage for future generations.

As part of the wider The Environmental Cost of Digital Technologies report, I undertook text analysis, alongside extensive critical reports and secondary sources to gain insight into the environmental cost of the museum and heritage sector's digital activity. This paper captures the findings from my contribution, which offers a framework to understand current effects and intentions to inform recommendations for future activity, asking how museums might transform their digital, and wider practice, to reduce their environmental impact. The key question that arises from the research findings asks museums why they are digitising, how they digitise, and for whom?

Guiding this paper's direction is the principle of Active Hope, wherein collective storytelling transforms positive change. Within the heritage sector this includes connecting marginalised communities to build a shared narrative for a habitable future.

There is a responsibility for museum bodies to change their digitisation practices to preserve our social and cultural history for present and future generations. New narratives are needed to rewrite our uncertainty and grief, towards more meaningful, sustainable solutions.

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179. Press "a" to Continue: Feedback Norms in the Speech of Gaming Communities

Sophie Masters

Newcastle University

Backchannelling helps to uphold collaborative conversation, encompassing anything one participant says while another is talking (Ward and Tsukahara 2000, p.1177). Backchannelling can have a number of motivations including expressing understanding, agreement, or empathy (Cutrone, 2010). Evidence suggests this behaviour shows significant individual variation (Cutrone, 2010; Pipek, 2007), with certain biographical correlates creating groups among speakers. For example, speakers' native languages appear to influence their backchannelling habits in subsequently acquired languages (Romero-Trillo, 2012; Ward and Tsukahara, 2000).

This study investigates whether speakers' experience with video game dialogue may also influence backchannelling habits. While playing a game, a player is frequently expected to signal understanding by pressing a button when they have read a line of text which triggers the next line of text to appear. I hypothesise that speakers who have spent extended amounts of time in this dynamic will transfer this practice into increased backchannelling rates in face-to-face conversation.

To test this, I use the Map Task experimental framework (Brown et al, 1984) to elicit backchannels in frequent and infrequent gamers. Innovating on this methodology, I pay close attention to listeners' activity, rather than speakers. Measures of how strongly someone identifies as a "gamer" are compared with raw numbers of backchannel items as well as rates of backchannels per minute. Data collection is ongoing and will be complete in time to present results. If playing video games can indeed encourage more frequent backchannelling in conversations, then this presents new avenues for considering what might condition people's interactional strategies.

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181. The Impact of Mouthwash on the Oral Microbiome and Its Association with Blood Pressure in Hypertensive Adults In the UAE

Muneera Aljaberi & Shamma Alremeithi

Zayed University

The oral microbiome considerably influences overall health, especially in blood pressure regulation through the nitric oxide pathway. The oral microbiome may be more susceptible to imbalances in individuals aged 25 and above due to age-related and lifestyle factors. This experimental and correlational study aimed to examine how mouthwash containing chlorhexidine affects the diversity of oral microbes and its association with high blood pressure among the United Arab Emirates population. A purposive 50 sample of hypertensive participants was selected based on a prescreening survey. The participants were divided into two groups: one group was instructed to use mouthwash twice daily for a week, and the other group was advised not to use mouthwash. Saliva samples were collected at the beginning and the end of the study for culture growth by using differential and selective media, as well as staining to look for changes in the composition of the microbial species. Blood pressure measurements were also taken to evaluate any changes. Results will be presented during the conference, offering insights into whether regular mouthwash use is linked to rising blood pressure. The findings could guide safer oral hygiene practices and enhance clinical recommendations for hypertensive patients by exploring the relationship between oral microbiome changes and cardiovascular health.

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182. The Weight of Discrimination: Gender Differences in Obesity's Impact on Wages in the UK

Aili Sui

University of Warwick

This study examines the impact of obesity on earnings in the United Kingdom, leveraging data from the 2016 Health Survey for England. Using regression analysis, we find that obesity significantly reduces women's earnings, an effect that persists after controlling for health status, educational attainment, and other confounding factors. In contrast, no significant association is observed between obesity and men's earnings. These findings are robust to instrumental variable (IV) analysis using parental BMI as an instrument for individual obesity, mitigating potential endogeneity concerns. Subsample analyses by occupational type reveal that the negative impact of obesity on women's earnings is concentrated in administrative and caring-related roles, while no significant effect is detected in sales-related roles. Furthermore, interaction analysis between obesity and health status suggests that, for women, the wage penalty associated with obesity exceeds the effects of poor health. Finally, we observe that the negative effect of obesity on earnings is pronounced in female-dominated occupations, with no comparable impact in male-dominated occupations. These results highlight the gendered and occupational dimensions of weight-based discrimination in the labor market, offering new insights into the intersection of health, gender, and economic outcomes.

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183. Building Tomorrow: Harnessing Technology for Smart and Sustainable Cities in the UAE

Sharma Al Mehairi & Thiab Al Nuaimi

Zayed University

Smart and sustainable cities are emerging in response to global challenges like population growth, resource inefficiency, and environmental issues. Advanced technologies such as Artificial Intelligence (AI) and the Internet of Things (IoT) offer solutions to these challenges, yet gaps remain in effectively integrating these technologies to maximise environmental, economic, and social benefits. This study explores how technology is transforming urban living in the UAE, focusing on its implications for future urban development. Inspired by J.K. Khalil's Mastercard Cities of the Future Report 2024, the research adapts Khalil's survey to collect primary data from UAE-based participants.

The study assesses public perceptions, priorities, and attitudes toward smart city solutions, including AI-powered services, connected buildings, and clean energy initiatives. A mixed-methods approach is used, combining a quantitative survey of 150 UAE residents with qualitative interviews involving 10 participants. Preliminary findings suggest that integrating advanced technologies into urban planning enhances quality of life, promotes sustainability, and drives economic growth.

The research also identifies areas for improvement, such as addressing public concerns about specific technologies and increasing community engagement in smart city planning. Insights from the study aim to guide policymakers and developers in creating smarter, more sustainable cities. Future recommendations include expanding the scope of the survey, focusing on specific technologies to address public concerns, and conducting in-depth qualitative research to uncover nuanced insights, ensuring a comprehensive understanding of public attitudes toward smart and sustainable urban development in the UAE.

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184. "This wasn't part of the plan." How capitalist realism defangs revolutionary media, and how it limits the critiques of social mobility as presented in the films Saltburn (2023) and Parasite (2019)

Georgina Tindale

Newcastle University

This dissertation provides a theoretical examination of not only how capitalism is critiqued in contemporary media, but also how these critiques are used to uphold modern-day capitalism under the guise of what Mark Fisher has deemed capitalism realism - the idea that “not only is capitalism the only viable political and economic system, but also that it is now impossible even to imagine a coherent alternative.” (Fisher, 2009) I have located an emerging pattern in both the production and consumption of movies and TV shows which explicitly critique the capitalist system; The Menu (Mark Mylod), Nope (Jordan Peele), Severance (Ben Stiller) and Squid Game (Hwang Dong-hyuk) are just a few examples from the past 5 years of hugely successful movies and shows which critique how modern-day capitalism functions. I will focus on two case studies; Bong Joon-ho’s Parasite (2019) and Emerald Fennell’s Saltburn (2023), two films which, at first glance, have the same storyline - a working-class outsider intruding into the private home of the wealthy, taking advantage of the rich’s naivety in order to raise their own class rank. Where these films differ is in the reveal that Saltburn’s outsider, Oliver Quick, is actually a member of the comfortable middle class. My project will reveal not only both films' individual critiques of capitalism, but will also use Fisher’s work to locate how the endings of both films reveal this idea of capitalism being an inescapable force even within our fictitious mediums.

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185. Early c-peptide measurement assists diabetes classification and prediction of insulin requirement in adult-onset diabetes

John Bassom

University of Exeter

We aimed to determine whether c-peptide measurement close to diabetes diagnosis could aid diabetes classification and prediction of early insulin requirement.

We assessed utility of non-fasting c-peptide level within one year of diagnosis (median 17 weeks) in the prospective STARTRIGHT study of adult-onset diabetes (n = 1802). We assessed two scenarios: 1) predicting progression to insulin treatment within three years of diabetes diagnosis in those treated without insulin at c-peptide measurement (n=819), and 2) predicting decline to plasma c-peptide <600pmol/L (indicative of type 1 diabetes and insulin requirement), three years post-diagnosis in those who were insulin treated at diagnosis (n=469). We assessed the added value of c-peptide over other baseline features (HbA1c, age, BMI, and GAD, IA2 or ZnT8 islet-autoantibodies).

In those non-insulin treated at c-peptide measurement 7.7% (n= 63) progressed to insulin treatment within three years. C-Peptide showed modest discrimination for progression to insulin (ROC AUC 0.73), which was independent of other features (p=0.045). Baseline c-peptide under 600pmol had 98% specificity and 16% sensitivity for progression to insulin treatment.

In those initially insulin treated, 64% (n=298) had c-peptide <600pmol/L after three years. Baseline c-peptide was highly discriminatory of those who progressed to insulin deficiency (ROC AUC 0.87) and predicted this outcome independently of other features (p<0.0001). Baseline c-peptide <600pmol/L had 91% specificity and 68% sensitivity for low c-peptide (<600pmol/L) after three years diabetes duration.

Early c-peptide measurement, within a year of diagnosis, can assist identification of type 1 diabetes and early insulin requirement.

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186. Feeling the heat? Investigating the Impacts of Incubation Temperature on Leatherback Sea Turtles (Dermochelys coriacea)

Kacey St John

University of Exeter

As an ectothermic species which relies on the coastal environment for reproduction, sea turtles are particularly sensitive to climate change. Not only are nests at risk from rising sea levels and destruction from cyclones, but rising temperatures also challenge their thermo-dependent incubation. Whilst fine-scaled adaptive variation in heat-tolerance has been investigated and debated in a handful of literature, these are limited in location and species, highlighting a need for novel case studies. This study aims to investigate the role temperature plays in nest success of underrepresented leatherback sea turtles (Dermochelys coriacea) in an understudied location in the Eastern Caribbean, using hatchling morphometrics as an additional proxy. Temperature profiles, excavation results and morphometrics were recorded and analysed from 12 relocated nests in the Rosalie Bay Hatchery. Initial results suggest that whilst incubation duration is significantly shortened as temperature increases, this does not have an impact on overall hatch success. However, it was found that nests which spend time above the suspected lethal limit of 33C have higher success than those that didn't; suggesting a potential adaptive tolerance to naturally hotter conditions (black, volcanic sand) than other case studies. Preliminary findings also suggest that for this case, the temperature average and consistency of the first trimester of incubation is most crucial to nest success, with both hatch success and hatchling size decreasing with hotter and less stable conditions. These findings could have wider implications for nest management both locally and regionally, providing knowledge for potential mitigation techniques against predicted global warming.

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187. Climate Change and Cascading Impacts: A Look into Cornwall from a Multi-Hazard Context

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The purpose of this dissertation is to evaluate Cornwall's hazard mitigation strategies in relation to the potential for cascading impacts. Cornwall's coastal, social, and economic systems are highly interdependent, making the region vulnerable to a range of hazards, from tsunamis to heatwaves. However, current mitigation policies fail to address Cornwall as a multi-hazard location, overlooking the interconnected risks that could lead to cascading impacts.

Too assess Cornwall's mitigation strategies and multi-hazard risk, this research involved interviews with key stakeholders (17), a public questionnaire (104 responses), and fieldwork in 20 potential multi-hazard locations (10 in person, 10 virtual). This combination of quantitative and qualitative methods was used to gather a holistic view of the physical and the socio-economic impacts of cascading hazards on the local population.

Findings indicate that Cornwall is a multi-hazard location at significant risk of cascading hazards. However, current mitigation strategies do not adequately address these risks. The primary reasons for this are insufficient funding and a lack of coordination between organisations, which often work independently on specific issues and focus predominantly on flooding as the key hazard.

To address these gaps, organisations need to adopt a more collaborative approach and a centralised framework that tackles a range of hazards collectively rather than in isolation. By developing pre-existing projects to analyse multiple hazards, organisations could save money and improve mitigation efforts. The risk of cascading impacts must inform future mitigation plans and decisions to protect communities and provide a model for other regions facing simi-lar multi-hazard risks in a changing climate.

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188. Ibuprofen and Antibiotic Co-Delivery via Nanoparticles: A Novel Approach to Treating Pseudomonas aeruginosa Infections in Cystic Fibrosis - A Protocol Study

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Cystic fibrosis (CF) is a genetic disorder that severely impacts the lungs, resulting in chronic infections predominantly caused by Pseudomonas aeruginosa (P. aeruginosa). This pathogen adapts to the CF lung environment by forming biofilms, which contribute to persistent infections and increased antibiotic resistance. Ibuprofen, a non-steroidal anti-inflammatory drug, has demonstrated potential in disrupting biofilms and enhancing antibiotic efficacy against P. aeruginosa.

Recent advancements have focused on nebulized ibuprofen delivered via nanoparticles to improve drug targeting and minimise systemic dosage. This study investigates the in vitro and in vivo effects of nebulized ibuprofen nanoparticles co-delivered with the antibiotic ceftazidime, combining protocols derived from current literature. The proposed co-delivery system is hypothesised to reduce bacterial load, inflammation, and biofilm formation more effectively than standard treatments.

Anticipated results suggest that ibuprofen enhances antibiotic penetration and disrupts biofilm structure, leading to improved therapeutic outcomes in CF patients. This research highlights a promising direction for CF treatment by leveraging advanced drug delivery systems to combat bacterial resistance and improve patient prognosis.

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189. The Impossible Dream? The Ruthless Reality of English Football Academies

Tom Whittle

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The English football academy system is widely regarded as a pathway to professional football with many young people sacrificing years in the process. However, the reality is that only a small percentage achieve this goal, leading to perceptions that becoming a professional footballer is more of an aspiration than a realistic outcome. This study provides insights into these perceptions and their impact on stakeholders.

This qualitative study collected in-depth data from eight participants through semi-structured interviews. The key stakeholders included released football players, academy staff (coaching, welfare and education), and a licensed agent. Thematic analysis was used to explore stakeholder perceptions of elite-level youth academies. Four themes emerged: 1) ‘More Than Just Football’ 2) ‘Influence of EPPP’ 3) ‘Deselection: An open secret’ 4) ‘Survival of the Fittest’.

While the findings suggest that the academy football system is ruthless, participants held varying perceptions of how this manifests and the impact it has on stakeholders. While the system places high demands and requires sacrifices from all involved, results indicate that the academy system is more than just football. It provides players with valuable life skills, personal growth opportunities, and a sense of identity.

The perception of professional football as an "impossible dream" underscores the need for greater support and ethical considerations in talent development, including a need for more transparency. However, further research is needed to explore how a more ethical system can take shape.

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190. The use of EPS model to enhance the self-efficacy of the children from the grassroots families in a group setting

Alan Fok

City University of Hong Kong

This study examined the use of the Empowerment-Participation-Strengths (EPS) Model to enhance the self-efficacy of the children from the grassroots families in a group setting. Grassroots families typically refer to families that are part of the lower-income class of the society. Most of the lower-income class live in public housing estates in Hong Kong. Ten children who aged from 7 to 14 years old attended eight 1.5-hour weekly sessions including two elderly home visits in the nearby estates which are Cheung Wang Estate and Cheung Hang Estate. The EPS model was selected as it offers a chance to discover and develop the strengths of the group members. By promoting the participation of group members, it helps empower members to believe in their own strengths and abilities which ultimately help enhance their self-efficacy. They also completed the Personal-Social Development Self-Efficacy Inventory (PSD-SEI) before and after the implementation of the group while the observations from worker and centre staff and the feedback from group members were also used to collect the data for the evaluation. By the end of the group, children showed significant improvement in their scores. They also discovered and were more confident in believing in their own strengths which ultimately empowered them in organising the home visits. This proved that the use of the EPS Model to be an effective strategy in enhancing self-efficacy among children from grassroots families in a group setting. However, there were limitations of the study such as the short duration of the group, the variability of the participation of members of the group and small sample size.

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191. User-Customised AI Companions in AI Companion Platforms: How Visual Customisation Influences Users' Emotional Dependence?

Shuilang Xu

Newcastle University

Recent advances in Artificial Intelligence Generated Content (AIGC) technology have propelled the development of highly customisable AI companions in virtual companion platforms, allowing users to precisely configure their AI partners' visual attributes and enhance immersion. However, it remains unclear whether such visual customisation fosters greater emotional dependence on AI companions, and if so, what cognitive processes underpin this relationship. This study develops a theoretical framework to examine how customisable AI partners shape users' emotional engagement, drawing on anthropomorphism and immersion theories. It argues that highly customisable AI companions are more likely to be perceived as having social agency, thereby deepening users' emotional reliance. This effect is mediated by anthropomorphic perception (users' tendency to attribute human-like qualities to AI) and immersive experience (a heightened sense of presence during interactions). Additionally, factors such as social loneliness and self-projection tendencies may further shape how users engage with AI partners, influencing the depth of their attachment. By conceptualising these dynamics, this study provides a structured approach to understanding how personalised AI interactions influence users' psychological states. It also offers practical insights for developers of virtual companion platforms, highlighting the importance of balancing personalisation with ethical considerations to ensure responsible AI-human interactions.

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192. Testing the role of pH transients in primary cortical cultures in mice

Farhan Ali

University of Cambridge

Current models of vesicle release do not consider other factors that could mediate vesicle release. The mechanism is not necessarily calcium-selective, and there is evidence for pH being involved in ongoing vesicle release. This project aims to focus on seeing if pH transients can play a role in vesicle release using weak acids and buffer mixes in cortical cultures in vitro.

Weak acids acidify the cytosol, which has been demonstrated in the literature to reduce excitability but also increase spontaneous vesicle release. To track multiple neuronal cells' activity simultaneously before and after adding weak acid/buffer mixes. This used a fluorescent probe (GCaMP) which binds calcium to emit fluorescence, providing a retrievable signal for neuronal activity. Weak acids, like citrate and lactate, generate a surge of increased neuronal activity on addition followed by long-lasting inhibition. When buffering the extracellular solution, which provides a more physiological environment, there is an increase in neural activity. The results provide preliminary evidence that extracellular weak acid can stimulate vesicle release. The hypothesis for future experiments is that, in vitro, the weak acid diffuses into the axon terminal, acidifies the cytosol, and stimulates spontaneous vesicle release, releasing more acid from the vesicles, which then sustains a positive feedback cycle. In vivo, buffering would minimise pH changes extracellularly and intracellularly, but the acid released would generate local pH transients which could increase spontaneous vesicle release. This preliminary experiment can aid in exploring the potential role of lactate in the positive feedback cycle of excitotoxicity in strokes.

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193. AI Detection of Diabetic Retinopathy

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Diabetic Retinopathy (DR) is a leading cause of vision impairment, affecting over 100 million people globally. Early detection is critical, yet current diagnostic methods, such as fundus photography and optical coherence tomography (OCT), rely heavily on ophthalmologist expertise, leading to subjectivity. Project DR, an AI-powered system integrating a machine learning model and a user-friendly platform to aid healthcare professionals in detecting and classifying DR stages.

The machine learning component employs Convolutional Neural Networks (CNNs) alongside Logistic Regression and K-Nearest Neighbours (KNN) to classify retinal images. A comparative approach evaluates multiple models to optimise accuracy, with dataset augmentation improving accuracy against real-world image variations. Initial results show an 85.65% accuracy rate, with ongoing improvements targeting 90%+ accuracy. The system provides visual annotations, severity tagging, and automated reports, enhancing accessibility for non-specialists.

Following a feasibility study methodology, the research incorporates both quantitative performance analysis and qualitative usability testing with healthcare professionals. Findings highlight AI's potential to bridge gaps in medical expertise, particularly in underserved regions. Future work aims to expand the dataset, refine accuracy, and integrate clinical feedback. Project DR represents a step forward in human-centred AI applications, demonstrating machine learning's role in enhancing ophthalmic diagnostics and improving early detection accessibility.

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194. Understanding and predicting the cardiovascular toxicity of PROTAC therapies using advanced in vitro models

Ellie Foster

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Drug induced cardiovascular toxicity (CT) is the adverse effect on the heart or vasculature, resulting from exposure to therapeutic agents. It is a significant challenge in drug development and remains a leading cause for drug attrition. As the therapeutic landscape evolves, there is a growing need for reliable pre-clinical screening strategies to address CT associated with new modalities - such as proteolysis targeting chimeras (PROTACs).

Unlike traditional small molecules which act as target inhibitors, PROTACs leverage the ubiquitin-proteasome pathway to induce the degradation of target proteins. Whilst effective, this modality presents significant off-target toxicity risks. This necessitates the development of novel pre-clinical PROTAC assays to accurately evaluate their safety profile.

This study aimed to develop a bespoke in vitro CT assay for the assessment of PROTAC off-target degradation, with a focus on PROTAC X, to identify potential haemodynamic effects. Various PROTAC concentrations, exposure durations and cell types were utilised to provide a comprehensive review of PROTAC risk. Presence or absence of the off-target proteins were identified via western blot analysis and fast proteomics was utilised for further investigations.

Preliminary findings suggest that PROTAC X could be a low-risk molecule. These findings have helped to develop a de-risking strategy to improve early safety risk assessments and have helped select optimal drug candidates to enhance clinical success. By elucidating the CT potential of PROTACs through bespoke in vitro assays, this work contributes to the development of safer and more effective therapeutics in the era of precision medicine.

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195. Investigating the Selectivity of the Commercial St John's Anti-P2X1 Receptor Antibody

Nabogama Assumani

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The P2X1 receptor (P2X1R) is an ion channel activated by extracellular ATP. It plays a critical role in physiological functions, such as vascular regulation, platelet aggregation, and neuronal signalling. While well characterised pharmacologically, its cellular behaviour in live conditions is relatively unknown, especially in human primary cells and tissues. Antibodies could be used to label P2X1R intracellularly, allowing live cell studies, but so far, the available anti-extracellular P2X1R antibodies have lacked selectivity for the P2X1R. Finding a specific antibody against the extracellular sequence of the P2X1R has become a challenge. This study evaluates the selectivity of a novel commercial antibody from St John's Laboratory targeting the extracellular sequence of the P2X1R. Recombinant expression of P2X1R in HEK-293 cells and Xenopus oocytes were used to assess receptor expression and function respectively and lysates from these used on western blot to determine St John's Laboratory antibody specificity.

Fluorescence microscopy confirmed HEK-293 cells' transfection of P2X1 and reporter GFP genes. Two-electrode voltage clamp recordings showed ATP-induced P2X1-like currents in oocytes injected with P2X1 RNA. Western blot analysis using a control anti-P2X1R antibody (intracellular epitope) detected bands at the expected P2X1 MW, while St John's antibody exhibited non-specific binding, including signals in non-transfected HEK-293 cells and non-injected oocytes. These findings highlight the necessity of rigorous methodological approaches to determine antibody validation to ensure experimental reliability and reproducibility. The study underscores the broader implications of antibody specificity in receptor research, emphasising the need for standardised validation protocols and regulatory oversight in commercial antibody production.

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196. Feeding the Senses: Breastfeeding Through the Lens of Neurodiversity

Cherry Bedford

Newcastle University

Despite public health recommendations the UK has one of the lowest breastfeeding rates in the world with 8 in 10 people stopping breastfeeding before they intended to (UNICEF UK, n.d.). In order to address this, factors which underpin successful feeding must be identified. Breastfeeding is an embodied task intertwining physical and emotional aspects that profoundly impact both parents and infants. Neurodivergent parents may face unique barriers to breastfeeding. Limited research into autistic experiences finds that many people report sensory issues when feeding (Hampton et al., 2023), including: baby suckling, milk letdown, and physical contact between parent and infant (Grant et al., 2024). To date these sensory challenges have not been explored in other neurodivergent populations despite those with ADHD (Bijlenga et al., 2020) reporting similar sensory sensitivities to autistic individuals (Tavassoli, Miller, Schoen, Nielsen, & Baron-Cohen, 2014). This study aims to investigate whether sensory profiles from the sensory perception quotient (SPQ) and breastfeeding interoceptive awareness (BFIA) are predictive of breastfeeding self-efficacy (BSES) in neurodivergent and neurotypical parents. Breastfeeding parents will be recruited to complete an online survey measuring: short-form SPQ (Tavassoli, Hoekstra, & Baron-Cohen, 2014), short-form BSES (Dennis, 2003), & BFIA developed from the multidimensional assessment of interoceptive awareness (MAIA-2, Mehling et al., 2018). Qualitative data on the impact of sensory experiences whilst breastfeeding will also be collected. Developing a better understanding of the impact that sensory experiences have on breastfeeding will allow us to better support all parents to feed their children in the way they choose.

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197. Interventions of Cognitive Behavioral Therapy in Reducing Depressive Symptoms Among the Older Adults: A Case Study Approach

Yuen Ting Lee

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Late-life depression is a substantial public health concern, often exacerbated by social isolation, bereavement, and cognitive distortions. This essay investigates the effectiveness of Cognitive Behavioral Therapy (CBT) in mitigating depressive symptoms among older adults, with a specific focus on the case of a 62-year-old woman diagnosed with Major Depressive Disorder residing alone in Hong Kong. The case study examines her process of family estrangement and chronic negative self-perception. Drawing from existing literature on CBT for elderly depression, the study emphasises cognitive restructuring and behavioral activation as pivotal therapeutic strategies. By analysing the impact of CBT interventions on the thinking pattern, emotional condition, and daily behavior of the subject, the findings indicate that targeted CBT interventions can effectively alleviate depressive symptoms by modifying dysfunctional beliefs and promoting adaptive behavior. The results contribute to the overall literature by supporting the efficacy of CBT in older adults, particularly those who are confronted with complex psychosocial stressors.

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198. Reading Through Gaming in Primary Schools

Helen Henwood

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Reading is an essential skill for Primary school students to develop, and as such, there is a lot of research focussed around reading ability, and on determining what reading materials are appropriate for which reading levels, in order to best support their reading. Recently, several studies have shown the value of boardgames in the development of linguistic abilities in young children. However, there is currently no research on determining what board games are appropriate for different reading levels. In order to fill this gap in research, this pilot study explored potential factors influencing boardgame difficulty and aimed to identify whether a correlation between reading ability and boardgame difficulty was present. Initially, potential factors influencing board game difficulty were devised, largely by adapting Hatcher's reading scale (used for books) to be more appropriate for measuring boardgame reading complexity. Based on this theoretical scale, provisional estimates of the difficulty of 8 boardgames were made. 72 students in a UK primary school were observed while play boardgames, and running records of words read were taken. 114 total running records were collected, with 93 being used in the final analysis. Correlations were run based on the percentage of correct words from the running records, with strong correlations being found between reading level and boardgame accuracy in 4 of the 8 games tested. The boardgames in which this correlation was not found provided valuable insight into other factors that may affect boardgame difficulty that were not considered in the initial assessment.

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199. Labour's Childcare Strategy: A Game Changer or a Missed Opportunity?

Tamim Islam, Hsu Yin Hinin, Akhila Kale & Harry Prosser

University of Leeds

Childcare policy plays a vital role in the UK's social welfare system, influencing family dynamics, gender equality, and economic participation. Accessible and affordable childcare enables parents, especially mothers, to enter or remain in the workforce while supporting children's early development. However, the 2010 closure of Sure Start marked a decline in the availability, affordability, and quality of childcare. Since then, rising costs, fewer spaces, and workforce shortages have been compounded by the cost-of-living crisis and COVID-19. This paper will review and evaluate the current Labour government's childcare and breakfast club proposals, comparing them with previous policies to assess their effectiveness in addressing these challenges. Although recent initiatives aim to alleviate financial burdens, concerns persist regarding workforce shortages and care quality. A key aspect of the analysis is the importance of investing in workforce development and increasing support for childcare providers. Regional disparities in costs and availability are also examined, with areas like the West Midlands experiencing higher child-to-nursery ratios and significant funding variances between regions like Yorkshire and London. To what extent can school-based nursery expansions solve this regional disparity? Data indicates nearly half of working mothers rely on childcare services, highlighting the critical link between childcare and women's economic participation. Previous Labour government initiatives, such as Sure Start and free nursery places, were critical in improving access. This research aims to explore how future reforms can better support working families, promote gender equality, and ensure high-quality childcare for all children.

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200. Energy Efficiency Enhancement in Mobile Robotics: A Modified Mecanum Wheel Design Approach

Youssef Fadlallah, Reem Sleem & Matthew Shafik

The American University in Cairo

This study focuses on the energy consumption constraints of Mecanum wheels, which are specialised omnidirectional wheel systems with friction and power inefficiencies. In order to maximise mobility in various movement directions, the study suggests a new design change that dynamically modifies roller angles. The study shows an impressive 93.55% decrease in power usage during diagonal movements using thorough MATLAB modeling and SolidWorks motion study simulations. This is accomplished by the suggested design's use of a new mechanism that permits roller angle modification, greatly lowering the need for torque and friction. In comparison to conventional Mecanum wheel designs, the average torque was lowered by 46.15%, and the torque curve displayed more stable and smoother operation. The project takes into account ethical consequences in addition to technical advancements, emphasising environmental sustainability, user safety, and accessibility. In addition to offering a technical answer for improved mobility systems, the research offers a framework for more user-friendly and energy-efficient transportation solutions, which may find usage in omnidirectional mobility platforms and wheelchair carriers at airports.

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201. Deconstructing 'Cis': an exploration of what it means to be cis without being binary

Jessica Birks-Kent

University of Warwick

Not everyone who uses the term 'cisgender' views their gender as fitting into a binary, even if they are not intersex, in spite of the widespread understanding of cis as representing a match between someone's sense of gender and sex assigned at birth. The way these people conceptualise their genders, and the reasons for using their chosen labels, have yet to be explored. With the help of constructivist grounded theory and standpoint epistemologies, this work has analysed a series of semi-structured interviews with people existing on the non-normative bounds of cisness to produce a micro theory and, in turn, a series of empirically informed questions to challenge current understandings of what it means to be cisgender. Ultimately, three key recurring elements were identified and explored - those being the importance of the body, the contextual dependence of cis, and the role of multifaceted identities - which together demonstrate the potential for cis to be a far less stable, and potentially non-normative, category than is often presumed.

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202. Investigating magnetic activity cycles in Sun-like stars using data from the K2 mission

Gleb Berloff

University of Warwick

We present the results of an investigation into the possible presence of magnetic activity cycles in stars observed by the K2 mission across all observation campaigns. Any star found to have been observed more than once was investigated for a potential activity cycle via calculations of its mean frequency shift and standard deviation, its Sph values and the number of flares recorded for the star. We found 7 stars with a significant frequency shift, a further 2 with p-mode activity but no significant frequency shift, and a further 8 stars were observed with elevated flare activity, all potentially indicating the presence of an activity cycle. One such star, EPIC 212509747, demonstrated both flare activity and significant p-mode activity. A possible correlation was observed between the size of the frequency shift and the difference between Sph values in our sample for each star, with a Pearson's correlation coefficient of r=0.52, but there are too many unknowns about the sample to infer if this is a genuine trend. No correlation was found between the size of the frequency shift and metallicity. Whilst K2 data can certainly be used to investigate magnetic activity cycles in Sun-like stars, the length of the standard K2 timeseries, as well as an acute issue with spacecraft noise contamination at low frequencies, made this a difficult and intricate task, and many stars with genuine activity cycles were almost certainly missed due to this.

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203. How can artists leverage AI for their personal brand development? An exploratory investigation of artists targeting Gen Z in the UK Music industry

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The integration of Artificial Intelligence (AI) into the music industry has redefined how artists develop and maintain their personal brands, particularly in the digital age. This dissertation examines how AI-driven tools influence personal branding for artists targeting Gen Z audiences in the UK music industry. Given the rise of algorithm-driven platforms such as TikTok and Spotify, AI has become instrumental in shaping audience engagement, content distribution, and brand positioning. However, while AI offers efficiency and personalisation, it also presents ethical concerns regarding authenticity, data privacy, and the potential homogenisation of artistic identities.

This study employs a mixed-methods approach, drawing upon expert interviews with industry professionals from Sony/Warner Music, TikTok, and Spotify, as well as case studies of AI-driven music branding, such as Snafu Records. These insights are supplemented with a comprehensive literature review covering theories of personal branding, AI-driven marketing, and audience engagement strategies. The conceptual framework integrates traditional branding models with emerging AI applications, ensuring a holistic analysis of the interplay between technology and artistic identity.

The findings indicate that AI serves as both an enabler and a challenge for artists. AI-driven analytics empower musicians with deeper audience insights, enabling them to refine their branding strategies with precision. Additionally, AI tools for content creation facilitate visual branding and personalised engagement, enhancing artist-audience relationships. However, concerns about AI's role in reducing creative authenticity and ethical issues surrounding data exploitation remain prevalent.

Ultimately, this dissertation contributes to the discourse on AI's evolving role in the music industry by offering practical recommendations for artists and industry stakeholders. It highlights the necessity for a balanced approach—leveraging AI for efficiency while ensuring that authenticity and artistic integrity remain at the core of personal branding strategies.

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204. Navigating Contradiction and Absurdism in Fine Art and Artistic Practices

Gladys Tan

University of Sunderland

This study explores the intersection of Fine Art and philosophical absurdism, examining its relevance in both contemporary and modern art. Absurd art arises from the contradiction between the pursuit of clarity and the presence of meaninglessness. This is especially evident in abstract concepts, where humanity's never-ending attempt to draw conclusions or analyse paintings to fit personal interpretations. Questions such as "What does this painting represent?" illustrate this tension.

Drawing connections between three case studies, this research scrutinises how artists convey ideas embedded in both art and life within a society that influences how one thinks and acts. This is exemplified by Dadaist Marcel Duchamp's porcelain urinal; contemporary artist John Newling's dead lemon tree; the ephemeral and process-based works of Post-Minimalist artist Eva Hesse. Their practices embrace absurdism and a nonsensical method to artmaking, challenging the functionality of objects, the value of art and societal hierarchies. To distinguish the notions of chaos and logic through visual representations, I demonstrate how Abstract Expressionist convey mayhem, contrasted with the systematic planning of Minimalist artists.

These conceptual frameworks and artmaking approaches have shaped my own perception and artistic practice. I navigate contradictions and ambiguity as an act of revolt against conventional norms. This is exemplified in 's&p' (2025) and 'Untitled P-03' (2024), where I incorporate flexible scrap materials to emphasise impermanence and distort imagery in my paintings. By disrupting expectations, my work provokes existential contemplation and challenges perceptions through both visual and verbal interactions, offering a rewarding, sense-juggling experience.

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205. Evaluating fairness & reliability of AI in recruitment

Charlie Thomas

Blackpool and The Fylde College

The purpose of this study is to evaluate whether using Artificial Intelligence (AI) in recruitment is a fair and equitable means of selecting candidates. Generative AI tools have scaled in popularity over the last three years, and this has led to organisations large and small adopting similar systems for their recruitment processes. However, great concerns remain over the reliability, security and effectiveness of these systems. Previous research is mixed, with examples of organisations seeing significant financial and time advantages whereas others have experienced serious candidate data breaches. Data was collected from interviews with talent acquisition professionals, survey respondents, organisation reports and government proposals to ascertain the impacts and effects of AI systems, and public perception of using these tools within a recruitment process. The findings from this study indicate that AI should be used to screen and shortlist candidates, but not to select the final candidate for the position as there is insufficient evidence to prove the security and accuracy. Following this study, a large international firm has incorporated the findings of this report into their recruitment system and there is the opportunity for further businesses to understand the true impacts of AI in recruitment.

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206. Molecular Construction of Potential Anti-Inflammatory Therapeutic Molecules

Chen Ning Chiu

University of Dundee

Inflammation is a bodily response to stimuli and a key component of innate immunity, but chronic inflammation in the absence of natural triggers, has the potential to cause cell damage as observed in degenerative diseases across various tissues. Inflammation is triggered by secretion of pro-inflammatory cytokines, of which their expression are regulated by the type I interferon signalling pathway. SARS-CoV-2 nonstructural and accessory proteins have been found to perturb host IFN pathways through inhibition of specific signal transduction components. In this study, we aim to repurpose the immunosuppressive nature of specific SARS-CoV-2 proteins into potential anti-inflammatory therapeutic tools. To achieve this, we have generated the molecular constructs of selected SARS-CoV-2 proteins of interest (POIs) to determine their respective potential and efficacies in downregulating host type I interferon responses. Expression constructs for respective POIs were generated and validated via Sanger sequencing. Respective constructs were then transfected into HEK293T or SH-SY5Y cells to evaluate their effects on cell viability and type I interferon signalling through colorimetric-based alamarBlueTM assay and measurement of specific IFN pathway component mRNA levels, respectively. Among the tested POIs, SARS-CoV-2 nsp1 and ORF6 were the strongest inhibitors of host type I interferon pathway signalling while displaying no significant cytotoxicity towards both cell lines. Our findings have provided a foundation towards further development of potential small-molecule anti-inflammatory agents such as peptide fragments, as a mean of therapy for inflammation-associated human diseases.

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207. Effects of Indigo Dye Derivatives on Forensic Fibre Evidence: Using UV-Vis Spectroscopy to Match Blue Denim Fibres

Zoe Dawson

Wrexham University

Though trace fibres are one of the most common evidence types recovered at crime scenes, blue denim samples have traditionally been perceived as having low evidential value due to their ubiquity. This is partially because historically most, if not all, blue denim jeans were dyed using Vat Blue 1. Recent literature suggests that due to the demands of fashion trends, derivatives of Vat Blue 1 are being used increasingly. This change presents an opportunity for researchers to re-examine the evidential value of indigo denim samples. The project uses ultraviolet-visible (UV-Vis) spectroscopy to analyse six different indigo denim samples that have been dyed commercially with unknown indigo dye derivatives and compositions. To do this, samples are taken from each garment and numbered by a third party, with the source garment of each sample kept anonymous. Using dimethyl sulfoxide (DMSO), the dye is extracted, then filtered, and finally analysed using the UV-Vis spectrometer. Following spectroscopic analysis, the spectrum of each sample is observed. Multivariant analysis is applied to the spectral data with an attempt made to match the spectra to their original source garments, resulting in an overall accuracy of 66.67%, and a conditional accuracy of 80%. The result indicates an area for further research which could result in the inclusion of a wider range of fibre evidence in future criminal investigations.

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208. Modelling Radiation Injury to Improve Outcomes for Paediatric Brain Tumour Survivors

Magdaléna Voldrichova

Newcastle University

The current treatment approach (in non-infant patients) to medulloblastoma (MB), the most common malignant paediatric brain tumour, is surgical resection, followed by craniospinal irradiation with an additional posterior fossa boost (PFB, 54Gy), and adjuvant chemotherapy. While 5-year survival rates exceed 80%, this aggressive treatment regimen results in severe late-effects (LE) such as neurocognitive impairments. This study aimed to assess radiation-induced neurocognitive deficits in an in vivo model and develop an in vitro model to investigate the biological response following radiation, to understand the underlying mechanisms of LE onset.

A previously established in vivo model of childhood MB radiotherapy was utilised to investigate radiation-induced neurocognitive deficits. C57bl/6 juvenile mice received targeted cranial radiation (CRT; 38Gy) with a PFB (49Gy). Learning, memory retention, and cognitive flexibility were assessed using the Bussey-Saksida Touchscreen Chambers. Statistical analysis (t-tests, ANOVA, repeated measures) was performed using SPSS® 27 to compare irradiated mice (CRT) to sham-irradiated mice. For in vitro experiments, human iPSCs (AD2 WT1) received 0 Gy, 1Gy, and 2Gy X-ray irradiation (Gulmay RS320). Media samples were collected and response to radiation-insult analysed using a high-throughput Luminex immunoassay.

There was no gross difference in neurocognitive performance between CRT- and Sham-irradiated mice. However, CRT mice performed worse during reversal learning (PVR); at PVR trials 17 and 18 CRT mice were significantly slower than the Sham group ($p=0.026$ and $p=0.042$, respectively).

This study enhances understanding of acute inflammatory mechanisms and radiation-induced neurocognitive deficits, providing insight into potential strategies to mitigate late effects in MB patients.

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210. Remembering Repeal: Oral histories of Irish Abortion Activism

Fay Carrington

Newcastle University

This project uses oral histories of 5-8 Irish women to examine memories of the Repeal of the 8th Amendment in 2018. Though a historic victory for the pro-choice movement, access to reproductive healthcare in Ireland remains highly stigmatised. This research will appreciate this, as well as the global precarity of abortion rights as of 2025.

My first chapter will examine the significance of 'hard cases' as sites of suffering in the public memory. This section will rely on the testimonies I have conducted with several non-activists, and their memories of key events including the Tuam mother and baby homes scandal and the death of Savita Halappanaver in 2012. The cumulative emotional impact of these tragedies catalysed social change, ultimately mobilising wider support.

The second chapter focalises identity formation within Irish abortion activism, charting developments through the oral histories of several activists engaged in different aspects of the 'Together for Yes' campaign. I will examine the diverse modes of activism that arose out of the Repeal movement formation and the continued role of community in remembering.

My final chapter will stress the importance of creating embodied histories of abortion reform. Building on Aideen O'Shaughnessy's Embodying Irish Abortion Reform: Bodies, Emotions, and Feminist Activism I will demonstrate the need to centre lived experiences of "abortive bodies", highlighting the physical and emotional labour of activists rather than prioritising the legal sphere. Here I will also take interest how queer and migrant bodies are othered in activist spaces by reading Ireland as a gendered racial state.

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211. Evaluating the Impact of Widening Participation Initiatives on Academic Self-Efficacy and First Year Performance

Lauren Betteridge

Newcastle University

Students from disadvantaged backgrounds have lower rates of engagement in higher education (HE) than their peers, particularly at selective institutions. Efforts to reduce inequalities have largely focused on addressing financial barriers through widening participation (WP) schemes. While these initiatives have had some success in improving engagement, significant disparities in achievement and retention persist. This raises the question of whether WP schemes are sufficiently aligned with broader factors contributing to these disparities.

This study investigates whether WP schemes improve students' academic self-efficacy (ASE), a form of confidence relating to academic abilities, by providing a chance for success in a university environment, as a potential mechanism to reduce the achievement gap. We use the PARTNERS Summer School, a WP scheme at Newcastle University, which reduces entry requirements for disadvantaged pupils and provides a summer school opportunity, as a case study.

First, we assessed the academic impact of PARTNERS by comparing academic performance between students who attended PARTNERS and those who did not. Then, we collected survey data to explore the role of ASE in the relationship between PARTNERS and achievement. We hypothesised that PARTNERS would reduce the performance gap between traditional and disadvantaged students by improving students' ASE, which would be related to academic performance.

Preliminary results showed that PARTNERS students have a lower academic performance than the traditional students, suggesting that PARTNERS might be not enough in bridging the achievement gap, possibly related to ASE. Future research should further explore the factors driving these persistent disparities to refine WP schemes.

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212. Examining Strategies and Challenges in the Context of Economic Diversification

Zainab Hussa Shahad & Shaha Ahmed

Zayed University

The global shift away from oil dependency has positioned economic diversification as a critical strategy for nations like the United Arab Emirates (UAE) to achieve sustainable development and resilience. Economic Diversification in the United Arab Emirates: Strategies, Challenges, and Socio-Economic Implications situates itself within this transformative agenda, exploring the UAE's progress, challenges, and strategies. This research addresses the importance of understanding how diversification policies impact economic stability and global competitiveness, providing a comprehensive analysis of the UAE's journey in reducing reliance on oil revenues. Using thematic analysis of data collected from stakeholders, professors, and students, this study examines the effectiveness of the UAE's diversification initiatives. Semi-structured interviews reveal significant advancements in sectors such as renewable energy, tourism, and technology, alongside ongoing challenges like regulatory hurdles, workforce development, and ensuring private sector engagement. These findings provide a nuanced understanding of how the UAE's diversification strategies have evolved and the factors influencing their success. This research contributes to academic and policy discussions by highlighting the UAE's role as a model for other oil-dependent economies. It underscores the importance of strategic policymaking, robust infrastructure development, and innovation in achieving sustainable economic growth. The findings offer valuable insights into how economic diversification enhances resilience and adaptability in a changing global market. Looking ahead, this study lays the foundation for further exploration of the UAE's diversification strategies and their implications for economic policy. Its insights aim to guide stakeholders, policymakers, and future research, ensuring the UAE's transition toward a resilient, .diversified economy serves as a blueprint for other nations

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213. Marginalised Gender Representation in Video Game Character Creation

Arlo Howard

University of Sunderland

This research explores how marginalised genders are represented in video games that allow the player to create a character, choose elements of their appearance, and then control that character in the game world. Queer representation in media is especially important because unlike other marginalised groups, media is often the first exposure queer people have to their own community and others like them (Shaw, 2014, p. 39-40). Young transgender people have particularly high rates of game console ownership, and video games have a strong impact on the wellbeing of this vulnerable group (Marco et al., 2023).

Character creators in video games generally allow for choices in visual elements like skin tone, hairstyle, clothing, and gender. Making an avatar allows a trans or non-binary player the chance to experiment, explore, and refine their sense of self and how they present to the world. However, many online games do not include non-binary options in their character creation. Building games that feature mechanics and design decisions that allow for queer bodies and queer choices allows players a broader expression of identity and self through video games. Rather than a prescriptive approach where designers go down a list of identities and create checkboxes for each one, designers could incorporate the fluidity of self-construction into the construction of self in-game. By incorporating this potential for the players to define the character's gender for themselves, developers can provide that freedom of expression for marginalised players while avoiding the pitfalls of stereotyping and negative representation.

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214. The Evolution of Sadu Patterns: From Tradition to Contemporary Adaptations

Sultana Alameeri

Zayed University

Sadu is a traditional Bedouin weaving craft characterised by its geometric patterns, historically used to create functional items such as tents and camel saddlebags. It holds deep ties to the culture and lifestyle of the desert-dwelling communities in the UAE, with its patterns reflecting elements of desert life. This research investigates the visual and cultural evolution of Sadu weaving in the UAE, focusing on its patterns as key elements of artistic and cultural expression. By analysing traditional motifs such as Awerjan, Thelaa, and Aein, alongside contemporary adaptations, this study explores how Sadu has transitioned from a practical craft to a decorative and artistic medium. Fieldwork, visual documentation, and insights from artisans were utilised to catalog traditional and modern Sadu textiles, identifying shifts in materials, colour palettes, and design complexity. Traditional patterns reflect environmental and cultural narratives, while contemporary pieces integrate new materials like synthetic yarns and expanded colour schemes, often featuring more intricate pictographic elements. These innovations, while ensuring the craft's relevance, highlight the diminished necessity of Sadu as a survival skill in modern UAE society. This study aims to highlight the importance of preserving Sadu as a cultural heritage by documenting its patterns and their evolving significance, bridging the gap between tradition and modernity. The findings contribute to the broader discourse on textile traditions, emphasising the role of pattern analysis in understanding the craft's historical and contemporary relevance.

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215. The difficulties of defining conservatism as a political ideology

Pavlos Papanestis

Durham University

‘Conservative’ is a term frequently used in politics, describing parties, policies, individual politicians and societal movements. What this term actually means, however, has been often overlooked by academics in political philosophy, with studies on ‘conservatism’ often relegated to being purely historical. Those few studies which do seek to conceive of conservatism outside of any historical context, as its own distinct and timeless philosophy, also face a variety of difficulties in defining what the core of being a conservative actually is.

In this thesis, I explore the difficulties those who attempt to define conservatism face. I begin by evaluating the popular view that conservatism is not an ideology, and argue that maintaining such a position is paradoxical. Conservatism must be an ideology, however, defining what exactly is at its core is a difficult task. I then demonstrate where other studies make errors in defining this core, and therefore my alternative method. The alternative core I suggest is one I believe to be innovative and solve many of the difficulties scholars of conservatism have faced. In the last section I defend my view against potential objections.

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216. Employment of AI on pure mathematics education

Harvey Gray

University of Exeter

The artificial intelligence sector has been proven on numerous occasions to be a viable way of aiding students' educational experience by serving as a digital personal tutor. Our presentation investigates to what effect ChatGPT can have on pure mathematics education. This presentation investigates ChatGPT's fluency with LEAN. LEAN is an interactive theorem prover that enables mathematical proof to be written and interpreted on a computer. LEAN has been credited to be a breakthrough in the future of pure mathematics education and is gradually being enrolled into the curriculum of mathematics programs at universities. In the initial stages of primary research, we challenge ChatGPT with different pure mathematics problems in the realm of propositional logic, a topic that beginning mathematics undergraduates are introduced to. We then investigate the LEAN solutions it provides and verify their validity. This leads to a firm understanding of ChatGPT's fluency with LEAN, allowing us to understand the challenges that are associated with developing a CustomGPT that will help students write mathematical proof in LEAN. Rigorous development testing is performed on the CustomGPT in the form of flowcharts and written instructions to assess its capability and its limitations. From this process, we conclude to what extent the CustomGPT can act as a digital personal tutor for the students' education in pure mathematics.

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217. Using animation to revive and preserve lost or lesser-known mythologies and folklore within their original cultures?

Taen Marriott-Jones

University of Sunderland

Folklore and mythology hold within them the shared beliefs, customs, and stories that reflect a culture's environment, values, and history, which were once passed down orally through generations. However, these oral traditions are vulnerable to loss without intentional preservation efforts. It is possible to preserve stories by writing them down, but this risks the loss of visual and aural layering's of story which contribute to cultural knowledges and heritage. Animation provides the possibility for these elements to be included in stories for greater reach and awareness, but when fairy tales and mythologies are consistently adapted and reimagined by global studios like Disney and Marvel, these alterations can result in losing the original darker, more complex narratives and themes.

This research assesses whether and how animation as a tool can preserve and revive lesser-known and lost folklore and mythology within their original cultures. The research shows how animation adaptability can portray all types of imagery, making it an effective storytelling tool. The research not only demonstrates the potential of animation as a tool but also highlights the necessity of collaboration with the original culture and in-depth research to ensure respectful depiction and avoid misrepresentation, harmful stereotypes, and over-simplification of the original story. It shows that animation can preserve and revive folklore and mythology. If done authentically, it could create a platform for indigenous, marginalised, and other communities vulnerable to cultural erasure to share and preserve their stories and cultural heritage.

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218. Revisional Representation in Literature: The Queer Reading of J.R.R. Tolkien's The Lord of the Rings

Reese Reynolds

Lake Forest College

The lack of scholarship exploring the queer interpretation of Tolkien's The Lord of the Rings reflects the normative lens through which these works have historically been evaluated, and the privilege which heteronormativity enjoys in literature. This heteronormative lens must be refocused in order to fully understand these texts, and empathise with its characters and themes. In order to provide new depth to Tolkien scholarship, several areas of research are integrated: textual analysis, queer theory and feminist theory, and an evaluation of how these theoretical lenses function in the text. Applying a queer lens to Tolkien's narratives and literature at large provides readers with alternative interpretations, increases the potential representation within and engagement with texts, and aids in culturally shifting emphasis from heteronormativity to a more diverse understanding of literature.

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219. The politicisation of pre-university education in Egypt

Samaa Hossam Hussnien Abdelhamid

The American Unviversity in Cairo

Education has played a pivotal role in preparing the next generations for the job market by providing students with knowledge and skills. Although President Abdel-Fatah Al-Sisi declared in 2019 that the government established a national project to reform the educational system, Egypt ranks 133rd in the quality of education globally in 2022. The thesis examines how the Egyptian educational system operates from Nasser's to El-Sisi's regimes and the reasons for the low quality of education. It combines historical discourse with political analysis about the conditions of education, leading to a massive discussion of the current situation of the educational system. The thesis provides scholars interested in education and politics with a clear vision of education conditions in Egypt to understand why pre-university education in public schools does not improve. The thesis provides a scope of information using primary data, such as an analysis of educational textbooks, focus group, and in-depth interview, as well as secondary data using previous research by different scholars concerning the topic. The primary outcome is that the regime controls the curriculum to maintain discipline in the authoritarian regime by imposing specific agendas for pupils to study. The curriculum does not match students' needs or interests, but they do not have other choices because they cannot afford the fees of private or international schools. Therefore, educational decision-makers need to reform the educational system to give more space for students to foster their individuality.

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220. The Modern Security Dilemma: Investigating How The Iraqi Government Can Deter Kata'ib Hizbollah From Deploying Lethal Autonomous Weapons (LAWS)

Nia Watson

Durham University

Amidst the rapid development of commercial Artificial Intelligence (AI), Lethal Autonomous Weapons (LAWS) have risen in public and military spheres of discussion, earning themselves a reputation as “Killer Robots”. The longstanding rules of the security dilemma, credited as a key explanatory factor in the Cold War, has typically treated states, bound by international laws and institutions. as the referent object. In this research project, I seek to combine the two, examining how Iraq, a government that has openly decried LAWS and repeatedly called for their regulation and prohibition, can prevent Kata’ib Hezbollah (KH), a domestic terrorist organisation, from deploying them. As a sub-state organisation, whose aims and constraints differ from a nation, their approach to emerging military technology opposes that of the Iraqi government. LAWS carries the potential to fundamentally alter conflict as we understand it; the aim of this research project is to discover methods of prevention and regulation. This is done by examining Iraqi government policy towards (a) weaponry, particularly new and highly destructive forms, and (b) KH, via a range of news articles, think tank pieces, and government statements over the past twelve years. The project concludes with a summary of results, possibilities for extrapolation, and an analysis of how the security dilemma can be adapted to be applicable to non-state actors.

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221. Body Image and Breastfeeding Self-Efficacy: How is this Moderated by Partner Support?

Georgina Lea

Newcastle University

Breastfeeding self-efficacy (BSE), the confidence in one's own ability to breastfeed (McGovern et al., 2024), is significantly related to breastfeeding duration, initiation, and exclusivity (Blyth et al., 2008). Investigating BSE holistically is important (Dennis, 2006) as factors such as partner support and body image have individual positive associations with BSE (Uludağ & Öztürk, 2020; Kapa et al., 2022). It is also important to understand how these factors interact, although research varies. Pujól von Seehausen et al. (2020) found that social support in overweight women before pregnancy can reduce the chances of a delayed breastfeeding initiation, whereas Geller et al. (2024) who found that body image acceptance was significantly associated with BSE, but neither factors were associated with partner support. Prior research hasn't explored whether partner support mitigates the effect of body image dissatisfaction on BSE. Furthermore, identification of specific behaviours that are perceived as the most supportive from partners still lacks depth (Rempel et al., 2016). Subsequently, this study aims to complete a moderation model investigating how body image dissatisfaction impacts BSE, and how partner support impacts this relationship. Additionally, types of supportive and unsupportive partner behaviours will be explored. An online survey will be distributed across social media, using a volunteer sample to recruit breastfeeding parents. This survey will consist of: BI-AAQ (Sandoz et al., 2013); PPSS (Dennis et al., 2017); and BSES-SF (Dennis, 2003). Alongside this, qualitative questions regarding partner support throughout the breastfeeding journey will allow parents to elaborate on their experiences.

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222. Parikh Images of Symbolic Register Automata

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To reason about stream processing programs, we need program models with decidable analysis problems. Finite automata are a classical abstraction of stream processing programs that has good decidability properties. However, this representation can become inefficient with extremely large alphabets, like Unicode, and cannot represent infinite alphabets such as integers or real numbers. This requires new models to reason about stream processing that can effectively handle modern character sets, like Unicode, and infinite alphabets while remaining efficient.

Symbolic Register Automata (SRA) solves this by allowing automata to handle infinite alphabets and perform operations during transitions and allowing values to be stored in or read from registers.

The presentation will begin with an overview of finite automata, Symbolic Finite Automata (SFA), Symbolic Register Automata (SRA), and Parikh's Theorem. Finally, the presentation will then introduce our current work on applying Parikh’s Theorem to SRAs by converting them into SFA.

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223. Alleviating Anaglyph Stereo Ghosting with Real Time Focus Plane and Individual Adjustments

Zachariah Lee

University of Leeds

Anaglyph (Red-Cyan) 3D is a method of showing a stereoscopic 3D effect through a combination of colour encoded media and colour filter glasses. Issues include ghosting, where light for one eye is incompletely filtered and perceived by the other eye. This causes poor image quality and a reduced ability to perceive depth information. Current fixes for Anaglyph 3D involve optimising colours of the image to align with the display and glasses used. This reduces ghosting but the colour quality of the image is negatively impacted and requires specialised hardware such as a colorimeter. This project aimed to alleviate ghosting while preserving colour quality and depth perception by utilising the fact that ghosting is proportional to the parallax of the object, which is the distance between the object as perceived in each eye. A renderer was built that readjusts the focus plane in real time to where the user is focusing, which minimised parallax in the focused area. 9 participants were asked to use colour correction via gamma adjustment to alleviate ghosting with and without focus plane adjustment. Results showed focus plane adjustment required 71.5% less gamma adjustment, and in some test cases most participants required no adjustment. Although newer forms of presenting 3D such as polarised lenses are now widespread, Anaglyph 3D does not require specialised displays, is cost-efficient, and is the only way of presenting 3D effects on printed media. This fix is a highly accessible way of reducing ghosting as it does not require additional specialised hardware.

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224. Can Statutory Marketing Boards effectively regulate Price Volatility? The case of the Canadian Wheat Board

Sanjith Saravanan

University of Warwick

Until its deregulation in 2012, wheat farmers in western Canada were required to sell all their produce to the Canadian Wheat Board (CWB), a 'single desk' statutory marketing agency. The CWB collectively marketed this wheat and returned profits to farmers in a final payment. While there is substantial literature analysing whether this system provided farmers price premiums relative to the current free market, its role in reducing price fluctuations is underexplored. Price volatility is particularly harmful in agriculture; long production cycles mean that price changes do not translate well into supply changes, causing market failures. This study addresses a gap in the literature by assessing whether statutory marketing boards like the CWB reduced farmgate price volatility.

Volatility is measured using two methods: the 12-month rolling variance of month-on-month price changes, and a GARCH-X error variation model. A difference-in-differences approach compares volatility of monthly farmgate prices between bordering (comparable) western Canadian and northern U.S. regions before and after deregulation (2012), controlling for time and region invariant confounding factors.

Preliminary results indicate that deregulation reduced price volatility. This suggests that market forces may provide better stability than state intervention in the Canadian context, reinforcing the current approach to agricultural policy. However, this study relies on state-level averages and does not capture heterogeneity in the price volatility of each individual farmer. A duplication of this study using farm-level data is required to see if this reduction in price-volatility was observed for the individual farmer, which is ultimately more important for the policymaker.

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225. The Development of the Diagnosis and Treatment of PTSD: How Did 'Shell Shock' Influence the Understanding of PTSD?

Yongtong Wang

University of Warwick

The psychological harm from war is as significant as the physical injuries, particularly the long-term effects of trauma on veterans. Studying the historical evolution of Post-Traumatic Stress Disorder (PTSD) not only deepens understanding of the disorder but also informs broader mental health research. During WWI, the term "shell shock", first introduced by Charles Myers (1915), described the psychological and physical symptoms, such as irritability, sleep disturbances and tremors, resulting from combat exposure. Early attitudes toward Shell Shock in WWI and WWII have shaped the understanding of PTSD (Jones & Wessely, 2006), however, the misunderstood in its cause and severity delayed its formal recognition as a psychiatric disorder. This study examines how historical perspectives on shell shock influenced the modern understanding of PTSD. By comparing the early battlefield treatments, such as electrotherapy and the PIE method, and contemporary approaches integrating psychological and neuroscientific perspectives, this study underlines the importance of the paradigm shift in the 1970s and the political influence in the recognition of formal psychiatric diagnosis. Furthermore, the research discusses whether PTSD should be classified as a singular, stable disorder or a complex, individualised condition shaped by cultural, social and individual differences. These insights emphasise the importance of an interdisciplinary framework that accounts for social, political, historical, psychological and biological factors in PTSD recognition and treatment. Considering social factors and individual differences in symptom development is necessary. Thus, modern approaches need to balance biological, psychological, and traumatic influences to provide more effective patient care.

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226. CBeebies and the Early Years Foundation Stage (EYFS): Televised Curricula in the 21st Century British Home

Millie Marlow

University of Warwick

The Early Years Foundation Stage (EYFS) is England's pre-school curriculum, a syllabus of Learning Areas devised to regulate the early growth and development of children under the age of six. CBeebies is the BBC's pre-school channel, and its website reads: 'we use these learning areas so that you can be sure that what children learn from CBeebies perfectly complements what they will learn at nursery or school'. It is on this correlation, between public service programming and statutory curricula, that the thesis of this dissertation rests. Through close textual analysis of two contemporary programmes, it will demonstrate precisely how the channel exercises its allegiance to two Learning Areas: 'Physical Development' and 'Understanding the World'. Tree Fu Tom (CBeebies, 2012–2016) works to support the child's attainment of gross motor skills, and such is the thesis of the first chapter. Let's Go for a Walk (CBeebies, 2020–2021) works to strengthen the child's relationship with the natural world, and such is the thesis of the second chapter. The review of literature finds children's television to be highly contentious. Both scholarly and popular discourses have long been governed by fallacies purporting physical sedation and psychological corruption. In recognising CBeebies' dual commitment to play and pedagogy, this dissertation distances itself from these fallacies and, in doing so, offers new contemplations on the British living room, on the potential of television and on the practice of home learning.

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227. Bridging Sustainability and Profitability: The Moderating Role of Regulatory Compliance

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"Sustainability orientation refers to a firm's strategic commitment to integrating environmental, social, and governance principles into its operations. While studies in developed economies suggest that sustainability orientation enhances financial performance through improved efficiency, risk reduction, and strengthened brand reputation, its impact in emerging economies remains uncertain due to limited research, inconsistent data collection, and diverse economic conditions. Firms in Ghana face challenges such as economic constraints, weak regulatory enforcement, and misconceptions about sustainability costs, leading to inconsistent adoption.

This study examines the relationship between sustainability orientation and financial performance in Ghanaian firms, with regulatory compliance as a moderating factor. Sustainability orientation is measured using environmental, social, and governance indicators reported using the GRI index, while financial performance is assessed using return on assets (ROA) and return on equity (ROE) for measuring profitability and cost efficiencies. This research hypothesises that sustainability orientation positively impacts financial performance and that regulatory compliance strengthens this relationship by ensuring adherence to sustainability standards. The study employs a quantitative research design and utilises Structural Equation Modelling to analyse data from firms across industries.

Findings from this research may provide empirical evidence on how regulatory frameworks influence sustainability adoption and financial success. These insights may guide policymakers in enhancing regulatory mechanisms and assist business leaders in integrating sustainability into corporate strategies to drive long-term profitability and resilience. Additionally, this study enhances global discussions on sustainability by incorporating perspectives from emerging markets, demonstrating how regulatory compliance can mitigate adoption barriers and align sustainability orientation with financial growth."

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