

# SPARC 2019

## Fake News & Home Truths



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# Salford Postgraduate Annual Research Conference

## SPARC 2019 Book of Abstracts

Over 90 researchers are gathering at Salford's MediaCityUK to showcase the latest developments across a range of disciplines. SPARC 2019 includes a fascinating line up of talks, posters, workshops, art installations and an ice cream van!



## SPARC 2019 Book of Abstracts



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ISBN: 978-1-912337-27-9

Published by:

The University of Salford

Salford

Greater Manchester

M5 4WT

United Kingdom

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## **Preface**

Welcome to the Book of Abstracts for the 2019 SPARC conference. This year we not only celebrate the work of our PGRs but also our first ever Doctoral School Best Supervisor awards, which makes this year's conference extra special. Once again we have received a tremendous contribution from our postgraduate research community; with over 90 presenters, the conference truly showcases a vibrant, innovative and collaborative PGR community at Salford. These abstracts provide a taster of the inspiring, relevant and impactful research in progress, and provide delegates with a reference point for networking and initiating critical debate. Find an abstract that interests you, and say "Hello" to the author. Who knows what might result from your conversation? With such wide-ranging topics being showcased, we encourage you to take up this great opportunity to engage with researchers working in different subject areas from your own. To meet global challenges, high impact research needs interdisciplinary collaboration. This is recognised and rewarded by all major research funders. Engaging with the work of others and forging collaborations across subject areas is an essential skill for the next generation of researchers. Even better, our free ice cream van means that you can have those conversations while enjoying a refreshing ice lolly.

SPARC is part of a programme of personal and professional development opportunities offered to all postgraduate researchers at Salford. More details about this programme are available on our website [www.pg.salford.ac.uk](http://www.pg.salford.ac.uk). You can also follow us on Twitter at [@SalfordPGRs](https://twitter.com/SalfordPGRs).

We also welcome taught students from our undergraduate and master's programmes as audience members. We hope you enjoy the presentations on offer and that they inspire you to pursue your own research career. If you would like more information about studying for a PhD here at the University of Salford the PGR Director for your School will be happy to advise; their details can be found at <http://www.pg.salford.ac.uk/contact>.

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# The Role of Extracellular Vesicles in Neurodegeneration

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## **Abstract**

The brain is made up of cells, called neurons, that transmit information in signals to the rest of the brain and the body. These signals are essential for almost everything from thinking to movement. Neurodegenerative diseases, such as Alzheimer's disease, are associated with changes to the brain that go beyond what is seen in normal ageing. These changes include the build-up of abnormal protein that accumulates in and around neurons, as well as the progressive damage of these neurons. These changes result in the symptoms of dementia, including memory loss and behavioural changes.

The changes observed in the brains of patients with neurodegenerative diseases occur in a progressive manner, as damage usually occurs in the areas of the brain responsible for memory, with other areas of the brain affected after. This suggests that the abnormal protein and damage is spreading between neurons. The mechanisms that neurons use to maintain their health include the release of small vehicle-like vesicles that contain different biological molecules. These vehicles can then be picked up by other neurons that may use the cargo being carried. In Alzheimer's disease, neurons that are being stressed by the conditions of the disease release vehicles that contain different cargo to what they would if they were healthy.

We aim to measure how the cargo in these vehicles changes in Alzheimer's disease, and determine whether these changes can be used as biomarkers of the early changes of the disease. We hope that this can improve diagnosis and treatment of Alzheimer's disease.

## **Keywords**

Alzheimer's disease, neurodegeneration, extracellular vesicles, exosomes, microRNA

## **Format**

Oral presentation

# **A Study of Discourse Pragmatics in Acquisition of a Second Language: An Exploration of English Information Structure by L2 Saudi Learners**

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## **Abstract**

The discourse pragmatics, organising information in different contexts by using syntactic means in order to convey pragmatic meanings, play a major role in enabling the information to be communicated and understood clearly. English second language (ESL) learners in Saudi Arabia may generate semantically and grammatically well-formed constructions but their phrases and sentences may still not be sufficiently comprehensible. There is a considerable agreement among linguists that the discourse pragmatics are considered one of the main obstacles for second language learners, however, studies adapting a functional approach, investigating the discourse pragmatics in a second language, are sparse, and virtually non-existent in the Saudi context.

This paper was centered on exploring the use of discourse pragmatics by ESL learners and the role of teaching these discourse pragmatics in second language learning. Reviewing previously conducted studies attest to the fact that the discourse pragmatics are the valuable tool in facilitating the process of learning the basic skills of a second language, i.e., writing, reading, speaking and listening. The discourse pragmatics can be effectively applied in classrooms to help students in learning English. The learners will know how to organise the sentence according to the context where even advanced level of learners are still generating incomprehensible sentences due to the lack of ESL curricula for subjects of discourse pragmatics, particularly syntactic constructions of discourse pragmatics.

This research is expected to produce results which will help in developing ESL curricula and in raising ESL teachers' awareness about the importance of discourse pragmatics in educational settings.

## **Keywords**

Information structure, pragmatics, second language learning

## **Format**

Oral presentation, Poster

# Optimization of Waveforms and Modulation for Green 5G Networks

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## **Abstract**

The evolution of the successive generations of mobile networks has always been driven by the need for increased data rate. However, 5G mobile networks are not only expected to provide users with higher data rate, but they are also expected to provide a better experience and a whole new range of applications. Massive connectivity, ultra-low latency, smarter devices, reliability and very high data rates are the aims of 5G networks.

5G networks are also expected to accommodate the Internet of Things, in which billions of devices are connected to the network. The huge number of devices and the increased data rates necessarily mean a rise in energy consumption. Green communication aims at reducing the energy consumption and gas emission into the environment, by deploying energy efficient techniques, in addition to energy harvesting from renewable resources. In addition to ecological benefits, green communication also means longer battery life.

Operation in the mmWave bands, network densification and massive multiple-input-multiple-output (MIMO) are key 5G technologies. Another key enabler is deploying energy efficient and well-localized waveform. Despite the advantages of Orthogonal Frequency Division Modulation (OFDM) - the modulation technique of 4G networks, the requirements of 5G networks impose further challenges on waveform design. Many OFDM-based waveforms are proposed in literature including the most promising technique: filter bank multicarrier (FBMC). The candidate waveforms are investigated and compared to OFDM. The main aim is to optimize the waveform to meet green 5G requirements, and test its compatibility with other 5G technologies especially massive MIMO.

## **Keywords**

5G waveform, FBMC, Green Communication, OFDM, mmWave

## **Format**

Oral presentation, Poster

# **Data Protection and FAT principles: Fairness, Accountability and Transparency, in the Implementation and Application of Artificial Intelligence Technologies**

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## **Abstract**

Rapid developments of Artificial Intelligence (AI) have increased the debate on its potentials and risks. AI is no longer confined to the domain of Computer Science or Science Fiction, and its development is both inspiring and worrying. AI is used on self-driving cars, robots, mobiles, personal assistants (such as Alexa), healthcare, (helping doctors in making their diagnosis), and its potentials are increasing hopes for the advancement of humanity. However, its application can also create other outcomes, such as job losses due to automation (as in the case of autonomous cars), or impact the privacy of people, which is particularly worrying considering the growing amount of personal content posted on social media.

New laws have increased the protection of personal data, such as the General Data Protection Regulation (GDPR), which creates new rules for leaders and organisations when implementing and using AI.

This research looks at the relationship between AI, Data Protection (DP) and AI Management, focusing on processes, contexts, and people within UK organisations. Using case studies and interviews, this research explores how leaders and managers manage data protection and AI, how they understand the principles of Fairness, Accountability and Transparency (FAT), and how this affects organisations' present and future.

The results of the research will lead to create guidance aiming at supporting organisations while managing AI, providing advice on Fairness, Accountability and Transparency principles.

## **Keywords**

Artificial Intelligence, Data Protection, Fairness, Accountability, Transparency

## **Format**

Oral presentation

# Privacy Risk Analysis of Connected and Autonomous Vehicles

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## **Abstract**

The level of automation in vehicles increase rapidly every year. A few years from now, driverless cars will move on smart roads and they will offer users more safety, reduced traffic accidents caused by human error, no driving chores, and more societal benefits. However, Cybersecurity and privacy concerns are major issues that can jeopardize the safety of the vehicle and the protection of users' personal information respectively. Specifically, this research focuses on the protection of users' personal information generated by the vehicle for several purposes, e.g. movement decisions. I concentrate on two main issues in Connected and Autonomous vehicle (CAV) systems that must be addressed, which are, the exposure of sensitive information (such as location details, CCTV footage, vehicle identity and other details that can link to an identity breach) to unauthorized parties and the usage of data stored by the data owner or third-party data consumers. Moreover, when vehicles are connected to each other and other devices on the road, more privacy risks are introduced. Therefore, to achieve higher privacy control in the data collection, storage, and usage in a CAV system, this research performs a comprehensive study on CAV components, management of sensitive information, and data privacy risk analysis that involves defining sensitive information and their associated potential threats. Consequently, a privacy model is developed to mitigate risk and to make passengers' and vehicles' personal information safer and better controlled.

## **Keywords**

Driverless Vehicles, Security and Privacy, Risk analysis, Threat analysis, Data storage

## **Format**

Oral presentation, Poster

# **Building a Safe Planet for Us All**

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## **Abstract**

Over the last 800 years, human activities have led to the release of large amounts of carbon emissions accumulated in the atmosphere. This has continued to increase the natural greenhouse effect, consequently giving rise to climate change which is regarded as the largest and most pervasive threat to the environment and human existence the world has ever encountered.

The dilemma of the climate crisis experienced today is that emissions transcend national borders such that emissions from any part of the world will alter the atmospheric concentration due to the integrated dynamics of the climate system. This means, the complexity of the challenge requires the commitment of all nations to collaboratively join forces to tackle climate change, otherwise the entire human race is doomed.

According to research, cities are principal sources of large amounts of carbon emissions released into the atmosphere accounting for approximately 70% of global carbon emissions. Climate change may continue to be a prevalent global issue for several generations to come if effective policies and solutions are not developed to address climate change in urban contexts. Therefore, it is important to explore how cities respond to climate change with the aim to strengthen climate actions in cities where significant emission reductions can be achieved at the level required to prevent future alterations with the climate system.

## **Keywords**

Climate Change, Carbon Emissions, Greenhouse Effect, Atmospheric Concentration, Policies

## **Format**

Oral presentation, Poster

# Dismantling Barriers to Effective Disaster Management

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## **Abstract**

Destruction to human habitat and loss of lives are increasingly becoming prevalent global events occasioned by changing climate patterns. The resulting consequences have been the foci for disaster planning and management. Planning for and responding to the effects of displacement and damage to live and the built environment resulting from these events require effective forecast, adequate planning and swift responses to recover and reconstruct. Climate change in the last decade has led to unprecedented increase in global disaster of enormous proportions. Current disaster management protocols are bureaucratically centred around policy makers without adequate inclusion of experts from the built environment. Concerted global response that exceeds the present call is required to meet these dynamic challenges posed by resulting events from climate changes. Whole life approach rethink to rural-urban planning, resilient and sustainable improvement to current supply chain is crucial. Disaster risk reduction assessment and planning to mitigate or reduce the effects of the threats posed by climate change is critical to overcoming the convoy of challenges associated with these hazards. Building required expertise and knowledge into the built environment curriculum at various levels could be a key step towards improved engagement with core disaster management practices.

An effective, inclusive and statute engagement framework initiative that harnesses the vast knowledge and expertise inherent in the construction industry will be invaluable to disaster management processes and efforts in coming years. This is the focus of this research.

## **Keywords**

Policy, resilience, disaster management, construction industry, inclusion

## **Format**

Oral presentation, Poster

# Enabling Urban Agriculture in the Global North and South: A Comparative Study of the UK and Nigeria

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## **Abstract**

Due to the rising population in major cities all over the world and an estimated 10 billion people by the year 2050, there is a need for production of food in the urban areas to supplement the food produced from the rural areas. This is because the food produced from the rural areas is no longer enough to meet the needs of the increasing population, which results in poverty and hunger. The practice of Urban Agriculture (UA) has been quite successful in the Global North but the situation is different in the Global South due to various limitations such as policy changes, urban planning and land availability. This study plans to develop a framework to guide policy makers in the design of relevant policies that will aid UA practice in the Global North and South. Qualitative methods will be used to compare the effectiveness of different policies and practices of city food growing in the Global North and South. Research methods include interviews, focus groups and ethnography to explore the thoughts of various stakeholders towards UA as well as its potential contribution to improving food availability, sustainability and quality. The work will develop and test a framework for structured decision making based on data from a wider international context.

## **Keywords**

Urban agriculture, food sustainability, food security, food policy

## **Format**

Poster



# **A Study on Patient Violence Experienced by Registered Nurses in Acute Care Psychiatric Inpatient Units**

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## **Abstract**

Many reports detail the high levels of patient violence (PV) towards nurses working in acute care psychiatry. It is vital that nurses' perspectives are collated and analysed in order to understand and take necessary action to prevent these attacks. This study aims to address this issue by gathering and exploring the reported experiences of Saudi psychiatric nurses who have been subjected to patient violence within the acute care, inpatient psychiatric setting. The qualitative study utilized an interpretive, descriptive design, with the enrolment of 9 nurses through non-probability purposeful sampling approaches. These nurses were interviewed in order to determine their definition of patient violence and to gain insight into their experiences of violence within their workplace. Findings suggest that the nurses who experienced patient violence suffered from many perceived immediate and long term negative impacts. The negative short and long term consequence were prevalent with many of the nurses struggling with their duty of care to the patient and their duty of care to themselves. Indeed, a number of nurses felt it was just part of their job that they needed to endure. A variety of interventions are currently in use by nurses within the psychiatric setting to prevent, manage and control patient violence. However, many nurses recommended that an improved working environment, along with better education and support would be beneficial. It is considered that more research is needed to gain a better definition of patient violence and to identify the current barriers the prevent or reduce the reporting of these incidents.

## **Keywords**

Patient violence, acute care psychiatry, nurses, Saudi, impact

## **Format**

Poster

# The Effect of Interindividual Variations in Trunk Inclination on Lower Limb Muscle Activation During Walking

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## **Abstract**

**Purpose:** Previous research has shown that people with knee osteoarthritis (OA) walk with a slight forward lean of their upper body. This forward lean has the potential to change the turning forces (moments) at the hip, knee and ankle required for walking normally and could therefore lead to altered muscle coordination. Interestingly, people with knee OA walk with increased activity of their hamstrings, quadriceps and gastrocnemius muscles and this has been shown to increase stress on the knee joint and accelerate disease progression. However, it is possible that these muscle patterns are the results of an increased forward lean. To explore this idea further, we compared muscle activation patterns between two groups of healthy subjects who habitually walk with different trunk leans.

**Methods:** Muscle activation data were collected from 34 healthy participants during normal walking. Subject were then divided into two groups: forward leaners (FW) and backward leaners (BW) and muscle patterns compared between the two groups using an independent- sample t-test.

**Results:** There was a difference of approximately 3 degrees in trunk angle between the FW and BW groups. FW were observed to have higher gastrocnemius muscle activity. FW also demonstrated 70% more hamstring muscle activity during.

**Conclusion:** These data suggest that alterations in muscle coordination, observed in people with knee OA, could be result of alteration upper body position during walking. This work could lead to new, postural-based, treatments for knee osteoarthritis.

## **Keywords**

Knee osteoarthritis, Trunk inclination, EMG

## **Format**

Poster

# **Public Private Partnership (PPP): Challenges facing the relationship between PPP stakeholders within Saudi Housing Scheme**

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## **Abstract**

There are few public private partnership (PPP) projects in Saudi Arabia at present, but recently, with the adoption of the new Saudi Vision 2030, interest in PPP has increased and the Saudi government are seeking to build up private sector involvement in the provision of social services and infrastructure. Within this new strategy, PPP has been adopted as a vehicle for the delivery of affordable housing for low and middle-income groups and to solve the current Saudi housing challenges. Where it is promoted on the assumption that it enhances multi-sectorial participation and productivity of the housing sector and increases housing affordability and accessibility. However, the interaction between private and public sectors especially for providing affordable housing for low income people is challenging. There is a lack of published evidence on how relationship between different PPP partner contribute to better delivery of affordable housing in Saudi Arabia. Qualitative method had been adopted and 14 semi structure interviews were conducted between different stakeholder from both Public and private sector within the Saudi PPP housing scheme. “Lack of information”, “lack of sharing of decision making”, “lack of trust”, “poor communication”, “lack of government integration”, “lack of commitment”, and “Bureaucratic” were identified as significant challenges facing implementation of Public Private Partnership in housing sector in Saudi Arabia.

## **Keywords**

Public Private Partnership, Relationship, Housing, Saudi Arabia

## **Format**

Oral presentation, Poster

# Investigation of Human-Animal Conflicts in North-Eastern Kargil, Ladakh Trans-Himalaya (India), Mitigations and Future Prospective

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## **Abstract**

As the human population is expanding, and the natural habitat of the wild species is shrinking, humans and animals are increasingly coming into interactions, conflicts, and competition for food and space. Such conflicts between humans and animals is one of the threats to the survival of many species around the world and its in-situ conservation efforts. If such conflicts are not addressed in a planned and proper manner, it could be a big hindrance towards the efforts of wildlife conservation and management. Such conflicts have a history of affecting both stake holders (humans and animals) in an ecosystem.

In India, particularly the high-altitude region of the great Himalayas, conflicts between humans and wild carnivores is a major concern. A study, first of its kind, was carried out in the North-Eastern Kargil to examine the level and magnitude of such conflicts. Four out of six villages studied, comprises of population with the majority being follower of Buddhism and the Bon-chos religions. The inhabitants of the study area showed a positive attitude towards wild carnivores, which indicates that the local inhabitants accept the presence of wild carnivores in their surrounding areas, this could be due to the prevalence of Buddhism, which has been reported to positively influence people's attitudes toward Wildlife (Li et al., 2014).

This report has provided the first base-line scientific information on wildlife, and carnivore-human conflicts from this region. There is great need for intensive studies in the area on carnivores and prey species to understand population dynamics.

## **Keywords**

Himalaya, Kargil, Human-animal conflicts, Wildlife conservation, India

## **Format**

Poster

# **A Comparative Study of Radiation Risk in Scoliosis Imaging**

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## **Abstract**

Scoliosis is a medical condition in which a person's spine is curved sideways, and it is most common in young females. X-ray images of the spine play an important role in managing this condition, as they allow those managing the condition to see how severe the curving is. However, there is a risk associated with using X-rays in medical imaging, especially for young females who are more sensitive to radiation. Therefore, the amount of radiation used in the examination should be carefully considered in order to reduce the risk. Guidance and legislation mandate that the radiation dose should be as low as reasonably practicable. Current Imaging machines either expose patients to relatively high radiation amount, and are therefore dangerous, or are expensive. The aim of this research is to test a new imaging technique in using imaging equipment that most hospitals have. This technique is well known for exposing patients to low radiation amounts, but it has never been used in looking at scoliosis. However, early outcomes of this research suggest that the new imaging technique can be used for the condition, which means that it may be possible to reduce the amount of radiation patients are exposed to at no extra cost.

## **Keywords**

Radiation dose, Scoliosis, radiation protection

## **Format**

Oral presentation, Poster

# **A Method for Investigating the Influence of X-ray Mattress on Ulcers**

## **Development: potential problems**

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### **Abstract**

Pressure ulcers can often be caused by high interface pressure, which is the level of pressure between the body and support surfaces and this occurs when body tissues compress together. Commonly this is prominent over bony surfaces where not as much soft tissues is evident, and thus, compressive forces that are pressure upon the skin are harder to tolerate. The jeopardy areas, which are defined as the head, sacrum, and heels, are the most common locations of pressure ulcers, due to their higher bone prominence. Previous studies have demonstrated that circulation is likely to be compromised by interface pressures for any duration more than two hours, and which may result in tissue anoxia and potential death of cells.

During X-ray examinations, the x-ray table mattresses normally used to reduce the risk of developing pressure ulcers but using mattresses in itself also might be causes developing the risk of pressure ulcers. The aim of this study is to develop and validate a method to test x-ray table mattresses for pressure ulcers development which uses phantoms instead of patients. Early results suggest that the new method could have utility for assessing x-ray table mattresses in a valid and reliable way. Through phantom use individual differences between humans that are often used to assess mattress performance for pressure ulcer formation are avoided, allowing for an objective measure of peak pressure to be acquired that allows mattress comparison. Future work will be conducting to test this method on different x-ray mattresses that use in clinical departments.

### **Keywords**

Pressure ulcers, x-ray

### **Format**

Oral presentation

# Causing Vehicle Accidents and Prevention

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## **Abstract**

Abu Dhabi faces the challenge of increased traffic congestion and accidents related to driver's behaviour. This study identified interventions and solutions for mitigating road accidents in Abu Dhabi. The study was guided by researcher questions that focused on the causes of accidents and the road accident prevention strategies. The study was based on observational descriptive methodology where quantitative data was collected using a detailed survey questionnaire that assessed various aspects relating to the driver's behaviour. The survey data was collected from 400 respondents, which included 200 drivers, 100 police officers and 100 staff in the traffic department. The study findings showed that the common traffic problems on Abu Dhabi's roads include the driver related factors, vehicular factors, and the road condition related factors. Risky overtaking, violation of the need to keep a safe distance, and violation of speed limits were noted as the major violations that are associated with the traffic problems on Abu Dhabi's roads. According to this study, the effective approach towards the management of road accidents in Abu Dhabi include multiple factors those that are related to roads, vehicle and socio- cultural such as the enforcement of regulation regarding close following, strict speed limits on roads and the introduction of random breath testing of drivers. The study also noted the need for behaviour change among drivers especially the behaviour relating to risky overtaking.

## **Keywords**

Driver behaviour, traffic accidents, causes, prevention strategies, Abu Dhabi

## **Format**

Oral presentation

# **'You told us so, but is it so?' Assessing the relevance of digital media literacy in a fake news era in Nigeria**

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## **Abstract**

Fake news has become an issue of concern in society and is gradually attracting attention from scholars and policymakers globally regarding the understanding of what it is and the factors responsible for its sustenance. In Nigeria, the phenomenon of fake news is worrisome to the government and citizens over its threat to the unity and peace of the nation. In this study, I assess the relevance of digital media literacy in the wake of the proliferation of fake news online. The main research question for this study, therefore, asks whether online readers can distinguish between fake and authentic news and explores the implication of this. To provide an answer to the question raised in the study, I sent a questionnaire to 240 people through 'survey monkey' - an online survey website. The researcher found out from the data collected and analysed that Nigerian online readers do not have enough knowledge to identify fake news from trustworthy news. Also, the analysed data show that traditional media organisations with a physical presence in society and well-defined organisations and news processing structures also disseminate fake news to readers. The implications of this for the deployment of media literacy strategies are highlighted.

## **Keywords**

Internet, Fake news, mainstream media, Nigeria, digital media

## **Format**

Oral presentation



# **Barriers in Implementation of Management Accounting Techniques in Family Owned Businesses in Pakistan**

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## **Abstract**

Management accounting techniques play vital role in decision making and are found to significantly influence the organizational performance. Keeping in view this fact, aim of study was to investigate barriers in implementation of management accounting techniques. The study focused family owned businesses of Pakistan. The data from 8 different businesses were collected using a questionnaire from 58 employees and 10 semi-structured interviews from top-level management. The results indicate that lack of professionally trained accounting staff is one of main barrier. The study made important contributions theoretically by adding advanced research on family owned businesses of Pakistan and contribute practically by highlighting shortcomings and suggesting ways to family owned businesses for the improvement in their overall performance.

## **Keywords**

Pakistan, accounting,

## **Format**

Oral presentation

# The role of industry 4.0 and Lean Manufacturing in Smart Construction

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## **Abstract**

The world is changing fast and every company wants to implement smart construction with best quality at the proper time and lowest cost. Smart Construction can be defined as digital technologies and techniques for designing and operating the construction to maximise user benefits. For this reason, Lean Manufacturing is one of the main ways which meet the client's requirements and expectations at a specific time and budget. Lean thinking is identified as an effective activity that enhances profitability, productivity, and performance by eliminating all type of wastes from the projects. Also, one of the other important techniques is Industry 4.0 which has recognised as a new way of creating future technologies that should help the clients to improve productivity through implementing smart construction. Industry 4.0 tries to enhance the performance of the projects at the earliest time by creating the connectivity among the machines and people digitally. This research provides an important insight to evaluate the roles of Lean manufacturing and Industry 4.0 in smart construction. Also, this paper analyses the important issues that should be interacted between Lean manufacturing and Industry 4.0 techniques to reach the best solution for implementing smart construction.

## **Keywords**

Smart Construction, Lean Manufacturing, Industry 4.0, Productivity

## **Format**

Oral presentation

# Rethinking the Lakota Landscape

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## **Abstract**

This paper explores literature from a Native American tribe, the Lakota, to analyse the relationship between Native American communities and the natural environment. By looking at this relationship, this paper aims to reveal the environmentally sustainable way of living that formed the basis of Lakota culture, and seeks to use this information to inspire change in our current engagement with the animals and the environment in the Western world. Reconsidering the way individuals and corporations engage with animals and the environment is necessary in current research due to both the ongoing destruction of the natural environment and the subsequent climate change. Drawing upon traditions and beliefs from different cultures which practise environmentally sustainable behaviours, such as the Lakota, will incite change in contemporary Western society, and encourage animal welfare and environmental sustainability to be prioritised.

Placing Lakota literature at the forefront of this research is also important with regards to making academia more inclusive and more diverse. As part of academia's history, it is typically the ideas of white, middle and upper-class men that exist at the forefront of leading research. By focusing on the work of an indigenous woman, Zitkala-Ša, and the traditions of her tribe, this paper centres voices and cultures which have previously been silenced, and foregrounds their beliefs and traditions as progressive.

## **Keywords**

Environment, sustainability, indigenous, literature, culture

## **Format**

Oral presentation

# Real-Time Prediction of Vehicle Noise and Vibration

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## **Abstract**

When an object vibrates, the medium around the object, such as air or water, will also vibrate, transmitting sound and vibration to its surroundings. In a car for example, sound and vibrations come from the tyres interacting with the road surface, the engine, the exhaust... the list goes on! In turn, the driver and passengers can be subjected to uncomfortable vibrations and noise inside the car, and the car can also radiate lots of noise to the outside- a form of pollution that is known to affect health. Similar scenarios include many everyday experiences, for example a railway line near to a residential area, or a machine in a factory. It is important to make sure that vibration and noise is properly managed, as it can have a profound effect on people's safety and quality of life.

The methods used to control noise and vibration rely on identifying how the vibration source is vibrating, and how those vibrations are travelling through the structure it is attached to, or to its surrounding area. This project uses the 'in-situ transfer path analysis' approach, which uses information collected about the structure and vibrating elements to make a prediction of how the structure makes noise and vibration. The prediction made is then compared to measured information, and the accuracy of the prediction model can then be determined. Presented are results for a simple laboratory test which is composed of multiple vibration sources attached to a simple structure.

## **Keywords**

Noise, Acoustics, Vibration, Vehicles, Transmission

## **Format**

Poster

# Change, Loss and Community: Salford residents' narratives of life on a social housing estate

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## **Abstract**

**Aim:** To understand what community means to residents on a social housing estate, in the North West of England.

**Background:** "Community" is a word that can mean lots of different things to different people. This can mean it is complicated to use as a concept in public services, policy and projects. Despite this it is often used in policy and services, especially in poorer areas with high levels of social or council housing. The research argues that when 'community' is used it can fail to really understand what life and community is actually like for residents in these areas. This lack of understanding has contributed to stereotypical 'fake news' about social and council housing residents, resulting in community projects, policy or services that may not be as successful, as well as being negative and patronising for residents. This research therefore uses interviews to hear what residents have to say and to tell their stories; to understand what community means to them. It is important to tell and hear resident stories, especially after the Grenfell Tower tragedy.

**What has been learnt so far:** For residents, community often means the access and use of community and social spaces. These spaces are important to residents to help get to know one another, run events and to support children and young people. When estates don't have these spaces and residents feel unsafe; this can create negative community experiences.

## **Keywords**

Community, social housing, belonging, home, place

## **Format**

Oral presentation

# Facilitating Successful Implementation of International Foreign Investment Arbitral Awards against Sovereign States

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## **Abstract**

International investment arbitration has become the most preferred means of settling investment-related disputes between host-states and foreign investors. The mechanism allows foreign investors the means to resolve their grievances against their host-state in a neutral forum as well as have the resulting awards enforced in many nations across the globe. However, the foreign investor may run into numerous challenges and limitations under both national and international law when seeking the rights in the award enforced against the host-state. The award may be attacked either by proceedings seeking to annul or set the award aside or proceedings to have the award recognised and enforced against the property of the host-states or both.

Since a winning party's ability to enforce an arbitral award forms the core feature of any arbitration proceeding including that between foreign investors and host-states – investment arbitration, it is vital that the issues are assessed and effectively addressed to keep the mechanism as the preferred dispute settlement method.

Therefore, this research aims to examine and critically analyse the challenges to effective implementation of investment arbitral awards and draw solutions that can effectively curb the problem. An investigation into the investment arbitral awards environment and the regimes that facilitate their implementation will be engaged under the process in light of some recent developments. International and national judicial decisions, treaties/statutes and relevant academic commentaries will be engaged as primary sources to glean answers and find common solutions.

## **Keywords**

Arbitration, investment

## **Format**

Oral presentation, Poster

# City Connections of Sounds, Emotions, and Actions

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## **Abstract**

When we think of sounds in the city, the idea that usually comes to mind is how "loud", "annoying" or "invasive" they can be. The focus of this research has the opposite approach where sounds can be enjoyable, fun, and diverse such as people cheering for a football game or talking in a bar. These places can be called as "exciting soundscapes". "Exciting" refers to the vividness which sounds can add to the human experience in the environment while the "soundscape" consists of all sounds that are part of a scene. The study investigates not only on how the public senses these sounds, but also on how their feelings and actions can be influenced by them in public places. The experimental approach uses technology of "Virtual Reality" in which an artificial environment reproduces a real scenario. Since this research is in the first year, there is no data to present yet. However, participants shall watch and hear a short video through a set of google and headset so to rate their experience of the soundscape. In characterizing the "exciting soundscapes", the intention aims to demonstrate to the urban designer, those who draw and plan the city, that there are lively sounds that can be included in their work to enhance people's urban experience. By introducing these features into the design, the study not only seeks to make people feel good but also desire to contribute to their well-being while living in public spaces.

## **Keywords**

Urban soundscapes, sound perception, emotional states, behaviour

## **Format**

Poster

# Role of Exosomal microRNA in Human Health

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## **Abstract**

Cell is the functional unit with all the biological information like DNA, RNA, Protein etc., performing functions such as cell division, energy production, and development within living organisms like humans, interactions between cells is crucial for a coordinated function. This study is on one such inter-cellular communication process in humans, mediated by exosomes. Exosomes are small (50-200 nm diameter) extracellular vesicles that plays a vital role cell-to-cell communication carrying lipids, DNA, RNA, mRNA and microRNA, can be isolated from all kinds of biofluids and can be served as disease marker. This study explores exosomal microRNAs as possible biomarker for environmental toxicants and other pollutants, such as Arsenic, Nicotine etc. We have studied the possible effect of 5 $\mu$ M Arsenic on exosomal miRNA in human lung cancer cells (A549) mimicking the environmental stress conditions. The cells were exposed to Arsenic for 19 weeks. Two forms of Arsenic were used, namely Sodium Arsenate and Sodium arsenate dibasic heptahydrate. The initial results indicate that none of the Arsenic compounds significantly alter the rate of cell growth however, Sodium Arsenate treated cells showed increased cell death compared to Sodium arsenate dibasic heptahydrate and untreated ( $p < 0.05$ ). Exosomal RNA was isolated at five time points from the cell culture supernatant during 19 weeks, which was successful and miRNA quantification was successful using commercial kit. The focus of this project is to analyze specific microRNAs carried by the exosomes as a disease marker in case of human lung cells exposed to various environmental factors which will serve as a diagnostic/prognostic tool.

## **Keywords**

Extracellular vesicles, Exosomes, Arsenic, microRNA, exosomal miRNA

## **Format**

Oral presentation



# Postural and Musculoskeletal Impacts of Children Using Personal Electronic Devices and What Does this mean for Industry in the Future?

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## **Abstract**

Over the last decade the incidence of musculoskeletal (MSK) disorders in adults has increased, this has been suggested due to the rapid development and usage of computer technology. Risk factors for adults using laptops, computers, smartphones and tablets; personal electronic devices (PEDs) have been identified: type of device being used, duration using them and positions they are using them.

As well as the increasing use by adults, the use of PEDs has increased rapidly in under 18's. There is need to understand the potential link between PEDs use and MSK disorders in children. It is vital that risk factors, the possible implications factors for the future workplace and the ergonomics sector, associated with PED usage and children's MSK pain are explored.

A systematic review of the current literature was conducted to investigate the links between children's MSK pain and their usage of PEDs. Extensive electronic searches were carried out looking for studies on this subject.

Through conducting this systematic review, potential risk factors associated with MSK pain were identified such as: type of device, length of time, and positions adopted when using the device. However, the evidence for these risk factors was limited and of poor quality. Further research into this subject area is needed.

The next stage is to determine how children are using PEDs and if they are experiencing any MSK pain, this will be done by a nationwide online questionnaire. From this potential risk factors of usage could be identified.

## **Keywords**

Musculoskeletal pain, Personal electronic devices, Risk factors, Children, Technology Usage

## **Format**

Poster

# A Self-Management Education Program for Adults with Asthma in Saudi Arabia

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## **Abstract**

Globally, asthma is one of the major non-communicable diseases with 235 million people currently suffering from the condition. In Saudi Arabia, there is a 4% prevalence of asthma amongst the adult population. This study aimed to develop an adult asthma patient self-management education programme that considered the Saudi context and culture.

A systematic review was conducted to determine the most effective way of delivering asthma self-management education programs. It was shown in the review that asthma was more prevalent in individuals with less education, with nurses had an important role in educating patients with this disease. An explanatory sequential complementary mixed methods design was adopted. This design encompassed a quasi-experiment using a pre-post-test comparative study followed by qualitative part using face-to-face interviews with patients. The intervention was an educational program developed and included topics selected based on patients' needs in the review and following the SINA guidance. The program was also approved and co-designed with nursing staff who provide care for patients with asthma in the selected hospital and following consultation with patients. The program was delivered by nurses and other professionals who were trained to ensure the quality of delivery.

Analysis of the responses between the pre and post-tests demonstrate that patients with higher levels of knowledge had higher Patients' Activation Measure scores. Patients' scores in all data sets in phase 2 were higher than those in phase 1 which indicated the education was effective and increased confidence in self-management of their asthma. Results to date suggest that the bespoke education is relevant and provides the necessary knowledge to increase confidence and patient activation towards disease self-management and reducing complications.

It is anticipated that these results will confirm the educational program is suited to the Saudi Arabian context, improves knowledge and increases confidence in the self-management of asthma.

## **Keywords**

Asthma, cultural values, patients' education, Saudi Arabia

## **Format**

Poster

# Background music versus foreground dialogue: could manipulations of object-based audio improve speech intelligibility?

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## **Abstract**

The effect of background music on foreground dialogue audibility is one of the four biggest causes of complaints regarding broadcast sound. However, background music is often narratively important in programme making; it provides context and meaning. Simply turning down the music or omitting it entirely is not necessarily the optimal solution. Could new technological developments utilizing an object-based audio (OBA) approach provide a way to both retain the background music and improve the intelligibility of the foreground dialogue?

Broadcasting and other applications currently use a channel-based approach to sound reproduction: audio mixes for different loudspeaker set-ups have to be created prior to transmission. In contrast, with an OBA approach a sound scene can be transmitted as its individual constituent audio stems and corresponding metadata. Rendering software in the receiver can then create tailor-made sound mixes based on the available listening devices and listener needs. The flexibility of this approach has the potential to provide greater accessibility, personalization, immersiveness, and interaction with audio content.

In a series of psychoacoustic listening experiments, the researcher has been investigating how different manipulations of OBA affect speech intelligibility, which is the proportion of the original dialogue which can be both heard and understood by the listener. These manipulations include: varying the instrumental arrangements of background music; applying downward dynamic range expansion; spatially separating speech and 'noise' for headphone reproduction. The latter will also be investigated for ad-hoc arrays of media devices.

Recommendations for industry guidelines will be proposed from the results presented here.

## **Keywords**

Speech intelligibility, object-based audio

## **Format**

Oral presentation

# What does inclusive growth mean and how does it affect people in the local community?

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## **Abstract**

Inclusive growth is looking at how people's lives benefit when the economy improves. It not only looks at financial improvement it also looks at what changes there are in education, health, living conditions, welfare and other areas. There are many explanations for what inclusive growth means. Up until now it has been used mainly in developing countries in Africa and Asia, this research will look at it in the local community of Salford. It will look at the changes for the poorest and the wealthiest postcodes over a set time frame. By comparing the results, we can make sure that the poorer are benefiting at a higher rate than the richer, closing the inequality gap. At the end I will be able to give a clear and concise explanation for what inclusive growth means having studied existing information and through the research in the community. It may not be possible to come up with a clear definition without creating a way to measure the inclusive growth first. If this is true I will use the information collected to create a way to measure inclusive growth that can then be used in other cities across the world. The research aims to ensure that the gap between the poorest and the wealthiest in society is decreasing.

## **Keywords**

Inclusive growth, Salford, welfare, inequality

## **Format**

Oral presentation

## **Women in Brass**

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### **Abstract**

Brass bands have formed an important part of British culture since the late 1800s, peaking in the early twentieth century when they were heard on bandstands in parks, at the seaside, and marching through villages to celebrate public holidays and church walking days.

Whilst there have been many changes in the movement since its inception, what remains constant is its inherent patriarchy. This is apparent from a glance at virtually any brass band in the country; the uniforms retain the military-style traditional look. Misogyny is rife, with contest adjudicators not only singling women out for comment but drawing attention to their dress and beauty.

Of concern, however, is the low number of women involved; despite women making up half the population of the world, only a small percentage play in brass bands, with the numbers decreasing as the bands progress through the ranks. And in leadership roles, principal positions, conductors, adjudicators and decision makers, the figures fall dramatically.

This research looks at the reasons so few women have been involved in the brass band movement. It argues that the brass band became one of the last bastions of male supremacy, creating an environment where women do not feel comfortable. It explores some of the reasons for this development and offer some suggestions for how more women can be brought into the brass band community and assume the leadership roles they deserve.

### **Keywords**

Music, Women, Brass Bands, Feminism, Leadership

### **Format**

Oral presentation, Poster

# Novel Tools for Exploring the Epidemiology of Tick-Borne Infections of Livestock in the UK

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## **Abstract**

Globally, ticks are the most important vectors of domestic animal – associated pathogens; all of which have wildlife reservoirs. *Anaplasma phagocytophilum*, bacterium transmitted by *Ixodes ricinus* (deer/sheep tick), infects a wide range of animals. Tick-borne fever (TBF) in sheep, caused by *A. phagocytophilum*, is the most common disease of the livestock in the UK and is associated with a significant economic loss, however there are still some uncertainties regarding transmission cycles and wildlife reservoirs of this pathogen. The first aim of this study is to explore ‘genomic fingerprints’ of *A. phagocytophilum* from different wildlife species and the livestock using ultra-sensitive DNA sequencing to establish the relative importance of specific wildlife species as a source of livestock infections. The second aim of this study is to develop a new approach to explore the host choice of ticks from a fragmented landscape consisting of natural habitats and livestock pastures. To achieve this, Fourier Transform Infrared and Raman spectroscopy, two state of the art spectroscopic techniques based on absorption and scattering of light, will be used. The knowledge gained from this project will have a direct application for infection control, as potential points at which pathogen transmission can be effectively interrupted may be identified.

## **Keywords**

Tick-borne fever, *Anaplasma phagocytophilum*, *Ixodes Ricinus*, Livestock, Wildlife

## **Format**

Poster

# **Tin mining: The story of home, loss and identity. A collection of short stories and poems**

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## **Abstract**

The condition of the physical environment at any given time is significant to how humans live and survive. It has become increasingly important to discuss the issue of the environment in the wake of the global climate changes occurring due to human activities. These activities like tin mining, gas flaring and oil exploration have become dangerous to the environment and its inhabitants. One area that has faced the degradation of its environment due to tin mining is the Jos region of Plateau state, Nigeria. Tin mining has led to the loss of land, and a place to call home. Portions of land meant for farming have been used instead for mining purposes which has led to the loss of livelihood for the people who are predominantly farmers. Plants indigenous to the region have been lost as the soil around the mining areas have become toxic. The human inhabitants are also exposed to radiation from tin which causes cancer and other health related diseases. This paper therefore traces the impact of tin mining on the land and its inhabitants through a collection of short stories and poems. The extent of the devastation which has led to the death of the human and non-human inhabitants of the region is revealed through the stories. The collection draws the attention of the authorities concerned to provide some form of compensation for the environment while ensuring such holes left in the wake of tin mining be protected to avert the loss of more lives.

## **Keywords**

Tin mining, environment, loss, human, non-human

## **Format**

Oral presentation

# Routing in Wireless Ad hoc Networks for Next Generation Communication

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## **Abstract**

This study will focus on exploring the possibility of effectively utilizing Millimeter Wave (mmWave) band with higher frequency ranges in the creation of redundant paths (multiple paths) in the event of link failures which invariably increases the network lifetime, reduces network overhead, ensures network availability and eventually increases network performance. Mobile Ad hoc Networks (MANETs) are self-organising, self-configured, infrastructure-less based wireless networks without a centralised base station. Member nodes in this network route data packets from one node to another either in a single or multiple hop transmission from one point to another. MANETs devices communicate without necessarily relying on any fixed infrastructure, having the ability for self-organisation with an on-demand communication. Wireless ad hoc networks can be used in different places and different scenarios such as battlefield, conference meetings, disaster management, emergency operations, ship-to-ship, vehicle-to-vehicle, building-to-building etc. Routing is one of the major challenges of Wireless Ad hoc Networks due to its dynamism, unstable links, changing topology, limited resources and mobile nature. However, most of the research carried out in the aspect of MANET routing in low frequency band focuses on designing a routing protocol that selects the shortest path or more commonly the path with the smallest hop count. Unfortunately, the shortest path might not always be the best path, hence if the shortest paths are always chosen at every route selection, then the limited resources available for the network will be used up thereby causing retransmission or total network failures. The study will consider several route selection metrics to design an effective and highly efficient routing algorithm for wireless ad hoc networks using mmWave. The proposed routing algorithm will be implemented in a simulation environment, and an analytical model will also be developed to validate simulation results with other existing models.

## **Keywords**

Routing, Multipath, mmWave, Infrastructure-less, MANETs

## **Format**

Oral presentation



# **Organisational Lean Maturity & Project Performance in the Design & Construction of Highways Projects**

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## **Abstract**

Compared with other industries productivity in construction has not significantly increased. This is despite better equipment being available and advances in technology. Design and construction organisations rely on a traditional approach to the development and construction of schemes despite evidence that many schemes are delivered late and over budget. Although extensively used in manufacturing, a lean approach has not been adopted widely in the construction industry. A reason for this could be that there is limited evidence demonstrating the benefits of a lean construction approach. This research looks at the leanness of design and construction organisations and compares this with their performance on projects undertaken for a major highway client. The leanness of organisations has been assessed through evaluating a company's lean maturity with nearly 20 companies having been reviewed. The performance of the companies in the design and construction of highway schemes has been assessed through the consideration of safety, cost, time and quality indicators. Their performance on multiple schemes over several years has been evaluated. To aid understanding of the subject several lean experts have been interviewed and themes developed regarding lean in design and construction companies. The output of the research will be to develop an improved assessment tool, which companies can use to assess their leanness and link this directly to performance on highway schemes. It is hoped that this will fill the gap in current knowledge showing how the adoption of a lean approach can lead to better project performance.

## **Keywords**

Lean Construction, Highways, Lean Maturity

## **Format**

Oral presentation

# **Behavioural Barriers Hindering Successful Strategic Construction Alliance in the UK**

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## **Abstract**

The importance of strategic alliances as a collaboration strategy in the global markets in general and the UK markets, in particular, are obvious which can yield long-term survival and achieve success for companies working within a competitive environment. Many authors have emphasised the role of the alliances for adding value through knowledge development, improving skills and enhancing learning processes of firms aligned together. Over the past decades, many opportunities have been provided by the collaboration of firms for achieving targeted goals. Eventually, using strategic alliances strategy is one of essential mechanism able to develop skills of the participants of the construction industry and dealing with risks facing project delivering. The aim of this paper is to identify behavioural negative factors which affect the success of strategic construction alliances in the UK. The methodology adopted to achieve the aim of this study is the qualitative exploratory technique for collecting data from the UK construction industry. Interviews were conducted with project managers to identify the behavioural barriers leading construction alliances to failure. The main findings emerged as ten behavioural barriers through semi-structured interviews are namely: distrust, opportunistic behaviour, lack of commitment, lack of knowledge sharing, lack of communication, lack of mutual dependency, coercive power, misunderstanding, conflict, unaligned partners' objectives. The contribution of this paper is to help researchers to step forward in considering behavioural barriers and challenges in various typologies of alliances. Awareness of the presence of these barriers is another contribution that helps UK construction's practitioners to make sure regarding the effectivity of decisions are selected for alliance future and what its consequences.

## **Keywords**

Strategic alliances, behavioural negative factors, construction

## **Format**

Oral presentation, Poster

# Determining the Efficiency of Using Multiple High Pressure Nozzles in Removing Different Types of Scale Deposit from Production Tubing

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## **Abstract**

Scale deposit in petroleum production tubing remains the most challenging amongst all petroleum production associated problems. A key obstacle for achieving both flow assurance and energy security till date. Despite the invested money and time to tackling the menace, no solution has proven universal to all types of scale deposits or effective in terms of economic, rig time, simple, and safe for the rig completions, personnel, and environment. This study involved assessing the effectiveness of using high pressure multiple jet descaling techniques in removing different types of scale deposit (soft and hard scale samples) from production tubing. This assesses and ranked hand in hand the amount of scale removed in consideration of the volume of water utilised during the operation. Furthermore, covering both energy and cost requirements of the operation through the utilization of the descaling efficiency formula. This is attained by computing the efficiency of the descaling results obtained from the concluded novel experiment, which employed a simulated scale removal setup. The efficiency results demonstrated a trend that is proportional to the amount of scale removed, which increases with increase in injection pressure and reduction of numbers of nozzles, while the stand-off distance depend on the scale deposit in question. Still the results were found to be inversely proportional to the volume of water utilise (the less the amount of water utilise the better the efficiency value).

## **Keywords**

Scale deposit, Production tubing, high pressure multiple nozzles, descaling and scale removal

## **Format**

Oral presentation

## **Sound to Pound**

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### **Abstract**

A lot of research is currently taking place worldwide on cheaper, cleaner and more environmentally safe methods of oil recovery. Ultrasound is gaining global interest. Ultrasound are sound waves that are inaudible (cannot be heard by the human ear) and have frequencies greater than 20KHz. Ultrasound can send vibrations like the vibrations felt on room wall when sound or music is played loudly. It is this vibration that was used to produce more oil from sandstone core samples.

During the initial stage, when only waterflooding was used the overall oil produced from the sandstone core samples was approximately 36.5%. However, when ultrasound of 25kHz was applied with waterflooding the recovery increased by 32.5% to give a total of 69%. The entire experiments were conducted at reservoir pressure- pressures between 2,000 to 3000psi. The increase in oil was attributed to the ability of ultrasound to increase the flow of oil by reducing the oil viscosity, creating air bubbles in the sandstone core sample and changing some of the physical properties of the sandstone core sample all in favour of oil production. The more oil recovered, the more money that can be made and the better for the industry. Hence, more sound more pounds.

### **Keywords**

Ultrasound, oil, recovery, sandstone, vibration, core sample

### **Format**

Oral presentation

# Turks, Mistrust, and a little dose of Lust

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## **Abstract**

Is it possible to be a successful leader and, at the same time, lustful? Very few seventeenth-century English writers thought so, especially when writing about Turkish characters. The Turks' lust often parallels with their political corruption in most early modern drama. It seems that Turks are misunderstood and mistrusted by seventeenth-century English audiences because of this racial preconception. Thomas Goffe's plays *The Raging Turk* (1618) and *The Courageous Turk* (1619) however, unlike those of his contemporaries, are concerned with Turks who depart from this representation. Goffe's emperors are violent and lustful; however, they are also resilient politicians who establish a politically stable environment. They put the interest of the state above their personal interests, even if this may lead to death. Goffe, therefore, breaches English expectations of how the Turk should be characterised as a villain. His new portrayal of Turks reaches the general public through the most popular form of entertainment and source of information: theatre. In presenting his Turks more positively than his contemporaries do, Goffe blurs the divide between representations of the 'I' and the 'Other'. But why? And how, when access to information on English-Turkish political relations was limited, did Goffe justify his decisions? Examples of Turks, mistrust, and a little dose of lust in Goffe's plays will be discussed in answer to these questions. The way theatre not only mirrored society but was, in addition, used to construct a specific sense of reality will also be explored.

## **Keywords**

Turks, lust, politics, leadership, anti-crusading

## **Format**

Oral presentation

# Resettlement Challenges due to Oil and Gas Extraction in Nigeria

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## **Abstract**

It is estimated that each year around the world approximately 10 million people are displaced or resettled due to either disasters, developments or by oil and gas extractions. Consequently, projects need very large areas of land which can result in the physical dislocation of the people living there.

The Nigerian Liquefied Natural Gas (LNG) project which is designed to utilize the abundant gas resources of the nation, is currently being wasted through gas flaring. The activities of oil and gas exploitation characterized by large scale gas flaring which have continued for decades, have been the source of major concern by environmentalists, due to its notable potentials for large scale pollution, climate change and difficult health implications on host communities. Hence, the relocation of original host communities to pave way for the extraction of petroleum products and the vastly flared natural gas.

Thus, the necessity of examining the impact of displacement and assessing the measures of reinstatement, contribution to support standards for best practice in treatment of people displaced by development projects is the focus of this study.

This study seeks to provide a framework whereby resettlement and relocation would be treated as an opportunity for development. It will look into a benefit-sharing scheme and restoration policies that is designed for continuous improvement for relocations. As studies have shown, that the existing ideas of compensation and moderation come nowhere close to satisfying the beginning of fairness, it argues that it is rarely enough in restoring the environmental and social impacts of these activities on host communities.

## **Keywords**

Resettlement, Displacement, Oil & Gas, Environment, Compensation, Nigeria

## **Format**

Oral presentation

# Overcoming drug resistance: Designing combination treatments to sensitize brain cancer to chemotherapy

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## **Abstract**

Medulloblastoma is a paediatric malignant brain tumour that originates from the back of the brain and can be transferred to other parts of the brain and spinal cord through the cerebrospinal fluid. Treatment for medulloblastoma includes surgery, radiation therapy and chemotherapy, however 30-40 % of treated medulloblastoma patients relapse, this is fatal and accounts for over 10% of paediatric cancer deaths.

Vincristine is a drug used in the treatment of medulloblastoma. Although chemotherapy has been very effective in the treatment of cancer, its success has been marred by drug resistance. Most drugs used in chemotherapy act by trapping the cell during cell division, thus resulting in cell death, but a family of proteins called the Bcl 2 proteins can help these cancer cells escape without dividing or dying, thus leading to even more dangerous cancer cells called polyploid cancer cells.

Based on this information, we decided to reduce the amount of Bcl-xl (a member of the Bcl 2 family) present in the cell during treatment with vincristine and the number of cells that escaped mitosis reduced from 90% to 5% when compared to cells just treated with vincristine. This shows that if the Bcl-2 family proteins are not present during treatment, the cells will die. My research is focused on preventing cells escaping during programmed cell death. We aim to achieve this by creating combination treatment using vincristine and inhibitors of the Bcl2 family, with a view to develop these into personalized medicine options for medulloblastoma patients.

## **Keywords**

Chemotherapy, childhood cancer, programmed cell death, drug resistance, Bcl-2 family

## **Format**

Poster

# Frankincense extracts can help cure cancer

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## **Abstract**

Frankincense is the dried sap from *Boswellia* trees and is commonly used within the cosmetic and aromatherapy industries due to its pleasant smell. Historically frankincense has been used as a traditional therapy for the treatment of a variety of conditions including pain relief, bacterial infections and inflammatory conditions like arthritis. Recent evidence suggests that frankincense exhibits anti-cancer properties, though how it kills cancer cells is not clear. Furthermore, the anti-cancer effects of a specific species of *Boswellia*; *Boswellia carterii*, is currently unknown so may be a new source of anticancer drugs. Our aim is to determine if *Boswellia carterii* can kill cancer cells and how it does so.

Our study shows *Boswellia carterii* frankincense extracts kill many different cancer types. It appears it does this by causing the cancer cells to kill themselves. This is important due to the *Boswellia carterii* extracts potentially only targeting cancer cells. Ultimately, this may result in patients having less severe side effects during anti-cancer treatment.

Frankincense from *Boswellia Carterii* does possess anti-cancer activity against numerous cancer types although we need to do further tests to understand which chemicals within frankincense kill cancer and exactly how they do this.

## **Keywords**

Cancer, Frankincense, Chemotherapy, Plants, Anti-cancer

## **Format**

Oral presentation, Poster



# Information Needs of Women Diagnosed with Breast or Cervix Cancer

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## **Abstract**

Across the world, breast and cervix cancers are the leading cause of death amongst women. Information provided to women about cancer may help them to be diagnosed earlier or provide them with better experiences during their cancer journey thus reducing mortality. In Kenya, there are delays in diagnosis and treatment, which contributes to a high mortality rate. Literacy rates are also low which affects the way women may find out about symptoms and potential treatment. This study uses qualitative methods to explore how women attending private and public hospitals obtain and use information in relation to breast and cervix cancer. The results highlight problems in both getting information to patients as well as getting the right information to patients. The results will be used to improve resources to ensure that women in Kenya receive better information about cancer and cancer care.

## **Keywords**

Breast, cervix, cancer, information needs

## **Format**

Oral presentation

# Ageing Comedians – Older but none the Wiser?

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## **Abstract**

Like photos of post-war Glasgow, seventy-six-year-old Scottish comedian Billy Connolly jokingly says his memories are black and white. A close reading of Connolly's memoir *Made in Scotland* (2018) uncovers the correlation between memory, age, and comedy. Throughout decades of on-stage performances, Connolly never loses his wit, not even when he gets the diagnosis of Parkinson's disease, leading to his retirement in 2018. I uncover how age affects memory and the performance of comedy, but not the comedian's ability to create humour. Humour can improve memory, but memory also affects the way that comedy is generated over the course of a comedian's life. Connolly, therefore, as well as being funny, offers an effective demonstration of the effects of ageing on comedians.

## **Keywords**

Ageing, Comedy, Memory, Billy Connolly, Life-writing

## **Format**

Oral presentation

# A New Way of Harvesting Solar Energy using Metallic Nanofluids

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## **Abstract**

Energy from the sun is considered as a clean renewable source which is available anywhere in the world and this is very useful for humanity. However, the technology used for harvesting the solar energy with fluid media (e.g. direct absorber solar collectors) still needs improvement to achieve higher efficiencies and greater sustainability. Nanotechnology has emerged as a significant area in recent years and features the use of sophisticated nano-materials embedded in conventional engineering materials. One sub-set of nanomaterials is nanofluids which are colloidal suspensions of base fluids doped with metallic nano-particles (silver, copper, gold, zinc, titanium etc) elevates the overall thermal conductivity of the working fluid. This enhances thermal efficiency.

This study therefore aims to improve the thermal solar collector heat transfer performance by utilizing different metallic nanofluids (with base fluid being water) in different solar collector geometries (annulus, prismatic enclosures etc). Nanofluids considered include copper-water, Titanium dioxide-water, Aluminium oxide-water, Silver–water.

The research is conducted via experimental and computational fluid dynamic simulation. A comprehensive circuit is being designed in laboratory for scaled testing of an annular nanofluid solar absorber system and numerical analysis is being conducted with ANSYS FLUENT finite volume software. Simulation have also assisted in re-finishing the circuit design and a variety of different effects will be studied including forced convection, aspect ratio (geometric), silver, titanium and copper nano-particles. Work has been presented in Turkey (2018) and will be presented at Oxford University's IAPE 19 Conference in mid-March 2019.

## **Keywords**

Solar Collectors, Heat transfer, Nanofluids, Fluid Mechanics and Computational Fluid Dynamics

## **Format**

Poster

# Wood-feeding Insects Could Facilitate Achieving a Safer and Sustainable Planet

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## **Abstract**

Global concerns in relation to the safety and sustainability of using fossils to produce transportation fuels and other important chemicals and products are high. The exploration and utilization of fossil-based products is linked to pollution of soil, air and water from oil spills, non-degradable plastics, greenhouse gas emissions and ultimately affecting quality of life. Also, fossil sources are non-renewable, hence cannot sustainably cater for the increasing population's needs.

Alternatively, plant materials, especially wood and agricultural waste, also called plant biomass are abundant, renewable and can be converted into a myriad of useful products such as biofuels, bioplastics, food additives, skin care products, which are currently produced from fossils. These bio-based products constitute less harm to the environment and have a more sustainable source.

The challenge however, is that plant biomass must be separated into its different components (cellulose, hemicellulose and lignin) before they can be converted to the final products. Current methods for separation utilise harsh chemicals and treatments again polluting the environment after disposal.

Our research seeks to take advantage of the natural ability of wood-feeding insects by searching within them for those substances, "enzymes", that help them to breakdown their woody meal. These enzymes act as scissors that can separate the biomass into workable components which can be used to make bio-based products.

The outcome of our research therefore, will help in the breakdown of plant biomass for its efficient utilization in the production of bio-based products which are more sustainable and recyclable, as alternatives to fossil-based products.

## **Keywords**

Fossil-fuels, biomass, environment, enzymes, lignin

## **Format**

Oral presentation, Poster

# The Need for Speed in Smart Factories: Is faster better?

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## **Abstract**

The trend of the computerization of manufacturing technologies which forms what is known as “smart factories” creates the demand for faster delivery of software applications to drive it. To achieve the goals of this trend, the software developed has to be well-planned, reliable and efficient. Modern technology path of automation from development to operations aims to improve quality and the overall performance of software development process speedily. This seems to be the fitting approach to driving IT in these “smart factories”. However, the challenge is that the sensors and hardware on which the software would run would not be physically available to the developer to test the software as often as there are changes.

This study therefore aims to investigate the impact of end-to-end automation on the software development process of “smart factories”. Practitioners will be interviewed and observed. Conclusions will be drawn from the analysis of data gathered.

## **Keywords**

Software automation, smart factories, automated testing, software delivery, manufacturing technologies

## **Format**

Oral presentation, Poster

# **A Methodology for Understanding Building Information Model Adoption Process within Small and Medium Firms**

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## **Abstract**

Building Information Modelling (BIM) is a process that gives the professionals within the construction industry a tool and an insight efficiently and effectively design, construct and manage building projects and infrastructure using a computer generated design. There is a lot of benefit to using computer generated design (i.e. BIM) to manage and deliver projects documented in previous research. Despite the benefits documented, there are still challenges within the small and medium enterprise (SME) in emerging markets with regards to adopting BIM. This is mostly as a result of the unique culture and business processes of the small and medium firms. As a result, this aims to develop a methodology of explaining the process in which the SME's adopt BIM. This was achieved by reviewing previous literature and identifying the key factors that influence the process of adopting BIM within SMEs. The factors identified were consolidated to develop a methodology to explain the process of BIM adoption that will help in understanding how SME adopt BIM.

## **Keywords**

Building Information Modelling (BIM), Conceptual Model, Construction industry, Small and Medium Enterprise (SME), Innovation adoption

## **Format**

Oral presentation, Poster

# Music for Meditation: Exploring Contemplative Elements in Electroacoustic Music

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## **Abstract**

The handpan, a new type of steel drum, caught the attention of musicians after its invention in 2001. Due to its relatively brief existence, little music has been formally written for handpan. The research for this presentation includes composing electronic music based on digital samples recorded from a live handpan session. Notably, this ground-breaking research studies the meditative qualities present in music for handpan, while demonstrating how composers may successfully implement these traits in electroacoustic composition.

This research project explores various methods for integrating established trends in electronic composition with an emerging instrument like the handpan. The expanding number of performers who are interested in handpan demonstrates that a need exists for sharing music notation and adding electronic components to improvisation. This research meets the demand through the development and organisation of notation and the creation of a collection of compositions that integrate both live and digital elements.

The presentation is highly interactive demonstration-based, encouraging participation from attendees. Characteristics of meditative music will be highlighted, as well as techniques for employing them in composition. Conference attendees will then be guided through a meditative listening experience, learning how to think about the electronic music composed by Mr. Mattix.

Fitting with the *Industry 4.0* conference theme, the research incorporates technology in a new way, useful to the next generation of percussionists and composers. Likewise, the enterprise of combining handpan and electronic music is ground-breaking in the disciplines of percussion and electroacoustic composition, corresponding with the theme of *Resilience and Leadership*.

## **Keywords**

Music, Electroacoustic Composition, Percussion, Meditation

## **Format**

Oral presentation

# Care Farming and Community Gardening: Improving the health of older people through green infrastructure

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## **Abstract**

The world's population continues to increase at rapid rates, with an estimated 9.8million predicted by 2050. Research in this field has illustrated a connection between population increases and urbanisation, resulting in environmental, social and economic consequences. As populations continue to grow there are increasing threats placed upon providing adequate resources for everyone, this has been shown by the increased struggle across healthcare services. In the United Kingdom (UK), the National Health Service (NHS) provides free medical services when individuals require, however this has now become stretched beyond limits, ultimately pushing politicians, medical staff and researchers to discuss other options to ease some of the pressure.

One choice that has been suggested is the construction of natural green environments, using projects such as community gardens and care farms, particularly in the poorer urban areas across the UK. This re-establishes a sense of community connection to the natural environment and can be achieved through social prescriptions – where medical professionals can suggest alternatives such as these projects, instead of traditional medication. This option therefore allows people to access help through non-traditional opportunities, therefore allowing people to be treated in alternative ways, and away from hospitals and GP surgeries.

This research looks to critically explore the current evidence base whilst comparing to primary data collected in the Greater Manchester context. This is possible by examining two case studies; Care Farms and community gardening projects. Collecting both quantitative and qualitative data provides an opportunity to triangulate results, therefore improving understanding of the environmental impact on health.

## **Keywords**

Care Farming, Community gardening, Public health, Social Prescription

## **Format**

Oral presentation



# Enhanced Gas Recovery by Nitrogen Injection: Performance Evaluation of Gas-Gas Displacement

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## **Abstract**

Enhanced Gas Recovery (EGR) by Carbon dioxide (CO<sub>2</sub>) injection and sequestration (storage) is receiving attention within the research community due to its combined Natural gas (CH<sub>4</sub>) recovery and CO<sub>2</sub> sequestration advantage. Both Nitrogen (N<sub>2</sub>) and CO<sub>2</sub> can be used to increase CH<sub>4</sub> yield from natural gas field. However, the later major drawbacks are excessive mixing and high compression ratio, thereby hindering market value and eventually render the process non-economically viable. In contrast, N<sub>2</sub> can be recovered virtually from the atmospheric air-through air separation units. It requires less compression ratio than CO<sub>2</sub>, which is why a lower amount of it was needed to create high pressure in the CH<sub>4</sub> reservoir. This research focuses on N<sub>2</sub> injection during CH<sub>4</sub> displacement. An experimental core flooding system with online Gas Chromatography (GC) measurement was carried out at supercritical condition of N<sub>2</sub> with higher injection rate using artificial reservoir. It was observed that N<sub>2</sub> injection exhibit less mixing scenario. This was due to high density and viscosity difference between N<sub>2</sub>-CH<sub>4</sub> interaction as compare to that of CO<sub>2</sub>-CH<sub>4</sub> at testing condition. This signified the advantage of N<sub>2</sub> injection over CO<sub>2</sub> since up to 20% CH<sub>4</sub> contamination with N<sub>2</sub> is consider economical as oppose to that of 3% with CO<sub>2</sub>.

## **Keywords**

Enhanced gas recovery, displacement, supercritical, compression, mixing

## **Format**

Oral presentation

# Autism in the Courtroom: Judge and Jury Perceptions of Defendants on the Autistic Spectrum

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## **Abstract**

Individuals with autism display impairments in social behaviour, including understanding and misreading body language, facial expressions and verbal cues, impaired social interaction and are vulnerable to impulsive behaviours. Most autistic people are law abiding and are actually more likely to be a victim of crime rather than the perpetrator. However, there are of course cases where autistic people, like anyone else, can commit a crime and find themselves facing trial in a courtroom. It is therefore crucial that there is knowledge and understanding of how some defendants with autism may present during court proceedings. Many defendants with autism may display odd, bizarre or inappropriate behaviour during the court proceedings which may impact on the juries' perception of their 'guilt' and ultimately the Judge's perception and sentencing decisions. For instance, awkward or inappropriate facial expressions or behaviours can be displayed by a defendant with autism. Specifically, a defendant with autism may laugh when they are talking about their victim during the court proceedings. However, this may not be reflective of what they are feeling inside.

To date, there has been relatively little research exploring how judges and jurors perceive a defendant with autism, or how external factors such as psychiatric reports and expert testimony can influence decision making in defendants with autism. In order to address this gap in the literature, my PhD research aims to identify the perceptions of judges and jurors when faced with autism in the courtroom and explore whether those perceptions are influenced by external factors.

## **Keywords**

Autism Spectrum Disorder, criminal justice system, criminal court, judiciary, perceptions

## **Format**

Oral presentation, Poster

# New Therapeutic Tools for Aggressive Medulloblastomas

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## **Abstract**

Medulloblastoma is one of the most common paediatric brain tumours, accounting for approximately 20% of all brain malignancies, with more than 70% occurring in children under the age of 10 years old. The current treatment strategy for medulloblastoma includes surgery followed by radiation and chemotherapy and the toxicity of these treatments result in long-term side effects such as neurocognitive deficit and intellectual loss.

Recent advances in molecular oncology have shown that medulloblastomas can be divided in different clinical groups which can allow for the development of new specific group-related treatments and reduce the neurotoxicity and therefore improving patient outcome.

A well-known molecular alteration of medulloblastoma patients is the uncontrolled activation of the c-MET tyrosine kinase/HGF (Hepatocyte growth factor) cellular pathway that results in poor prognosis. MET receptor controls proliferation and migration of medulloblastoma cells and it does that in part by regulating the expression of “microRNAs”, small RNA (ribonucleic acid) molecules that control the expression of hundred genes and medulloblastoma aggressiveness.

In this collaborative project, founded by Kidscan, we will unravel how “miRNAs” intersect genetic networks downstream of MET/HGF pathway in medulloblastoma and develop new strategies to break this axis providing novel way for therapeutic intervention.

## **Keywords**

Medulloblastoma, miRNAs, molecular oncology

## **Format**

Oral presentation

# Exploring awareness, health promoting lifestyle behaviours and prevention of high blood pressure in rural and semi-urban communities of Uganda

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## **Abstract**

It is estimated that more than 10 million preventable deaths from high blood pressure occur every year and the majority of the people affected are in developing countries. Africa has the highest occurrence of high blood pressure (hypertension) compared to other continents. Central Uganda had the highest occurrence in 2014. People who are most likely to suffer from high blood pressure are those whose relatives suffered from the same, those that are obese, and those that smoke. In Uganda the people who are aware that they are suffering from high blood pressure are mostly found in rural communities. In Eastern Uganda, people who lived in rural areas are at a higher risk of suffering from high blood pressure as compared to those in urban communities. There are no studies known about prevention of high blood pressure. The purpose of this study is to explore knowledge, occurrence of high blood pressure, lifestyle behaviours, and existing effective interventions for prevention of high blood pressure and experiences of rural and semi-urban communities in the prevention of hypertension. The study will be conducted in two communities in Central Uganda- rural and semi-urban. In addition, the study will be conducted in two phases. The first phase will be to find information about the level of knowledge rural and semi-urban communities have, how many people have high blood pressure, and the most effective interventions for prevention of high blood pressure. The second phase will be to study people's experiences about prevention of high blood pressure. Information will be collected using questionnaires, individual and focus group discussions. Ethics approval will be obtained and participants will be requested to voluntarily sign a consent form to participate in the study. Results from this study will help to inform people about prevention of hypertension.

## **Keywords**

Hypertension, high blood pressure, prevention, prevalence, occurrence, knowledge, experience, lifestyle behaviours

## **Format**

Oral presentation

# **A Pilot Study Exploring the Feasibility of Implementing a Child Development Counselling Program for Caregivers of Children with Sickle Cell Disease (SCD) Aged 0–3 Years in Uganda**

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## **Abstract**

Poor child development is a large problem in Uganda. One group who are affected are children with sickle cell disease, as their health issues mean they do not get an opportunity to develop properly through activities such as play. This group of children and carers attend out-patients regularly for health checks. WHO/UNICEF have developed a programme called Care for Child development for Caregivers (CCD) where health professionals train carers to develop skills and knowledge that can improve their child's health through activities such as play. This study will implement this training programme with health professionals and carers at an outpatient sickle cell disease clinic in Uganda. Questionnaires focus groups and interviews will be used to determine if it is feasible to deliver the programme and to understand whether the program improves the knowledge and skills of the carers in the anticipation of improving child development of children aged 0-3 years with sickle cell disease.

## **Keywords**

Child development, caregivers, Sickle cell disease, training program, intervention

## **Format**

Oral presentation

# Political Connections and Share Repurchases

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## **Abstract**

This article examines the impact of political connections on share repurchases. The research findings suggest that political connections are positively associated with the probability of a company repurchasing shares. Politically connected firms generated higher operating and stock returns in the long-term following share repurchase announcement than their non-connected counterparts. The results are robust to the removal of outliers, controls for firm characteristics, using two-stage regression, and matching estimation. The effect of political connections on repurchasing firms long-term operating and stock returns is stronger in big firms, firms with high leverage, and firms with large tangible assets.

This article classified a firm as politically connected if at least one board member holds or formerly held any of the following positions: President, presidential (Vice-Presidential) candidate, member of the House of Representatives, Senator, Cabinet secretary/deputy secretary/undersecretary or assistant secretary, Governor, United Nations representative, Ambassador, Mayor, staff member to the White House, presidential campaign or political party, appointed member of a presidential committee or council and Director/Deputy Director/Commissioner to a federal department or agency including: Central Intelligence Agency (CIA), Federal Emergency Management Agency (FEMA), Office of Management and Budget (OMB), Internal Revenue Service (IRS), Nuclear Regulatory Commission (NRC), Social Security Administration (SSA), Civil Rights Centre (CRC), Food and Drug Administration (FDA), and Securities and Exchange Commission (SEC) etc.

For example, Albert A. Gore Jr. was the 45th vice president of the United States of America from 1993 to 2001. He is a member of Apple Inc board of directors. Therefore, this study classifies Apple Inc as a politically connected firm.

## **Keywords**

Share Repurchases, Political Connections, Repurchase probability, Stock performance, Operating Performance

## **Format**

Oral presentation

# Cellular Senescence: Tackling a root cause of age-related disease

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## **Abstract**

Many people suffer from age-related diseases such as diabetes, arthritis, cardiovascular disease or cancer. These diseases have many causes, some of which can be common to more than one of these conditions. A notable example in this category is Cellular Senescence, a type of behaviour characterised by cells no longer dividing and causing localised, chronic inflammation. This senescence spreads through the body as we age and the increasingly harmful inflammation it causes contributes to the presence of a variety of age-related diseases. In our work we produced a model of these senescent cells. We then tested a variety of antibiotics against this model, searching for examples that could remove senescent cells while leaving healthy cells untouched. We found that two related antibiotics, Azithromycin and Roxithromycin produced the desired effect. Azithromycin in particular was very effective, clearing 97% of senescent cells and leaving the healthy control cells unaffected. We are continuing to screen other compounds against this model and to test our successful candidates against other models, as well as to work out exactly how and why these treatments work as effectively as they do. It is hoped that this work can form a basis for a clinical treatment of cellular senescence and contribute to an eventual end of the age-related diseases that impact the wellbeing of tens of millions of individual sufferers.

## **Keywords**

Ageing, Medicine, Senescence, Antibiotics, Azithromycin

## **Format**

Oral presentation

# Relevance of Religious faith and Spirituality in recovering from Mental Health problems – Young Adults’ Subjective experiences

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## **Abstract**

Even in an era when general management of patients with mental illness is widely being advocated by scholars and health policy makers, some important factors of wellness are still being omitted. Yet, quality of an individual’s health is known to be a product of interactions of certain factors including biological, psychological, social and spiritual factors. Unfortunately, Spiritual and religious aspects have remained an under researched area in mental health care, hence its relevance is usually undermined when making plans for people with mental illness. This study aimed to explore the lived experiences of young adults with mental illness and to ascertain what factors enhance their mental wellbeing shocks

This study utilized one to one semi-structured interviews with a purposive sample of sixteen young adults receiving treatment for their mental health problems in a Nigerian hospital. The essential theme of relevance of religious faith and spirituality in recovering from mental health problems has two important subthemes; praying to God promotes and reading and professing the words from their religious books were identified as a promoter of wellbeing. These participants’ expressions of their spiritual and religious beliefs showed there is a hidden power in their prayers, religious books and slangs which re-energised them, instilling hope and promoting their wellbeing. This was a particularly strong theme, as every participant openly and freely shared how they found solace and support by praying, reading their bibles, singing praises to God, professing their connectivity with the supreme God. Reading of the bible and professing the biblical words provided calmness and served as a source of hope for them. Some of the participants stated they needed both their medication and prayers to feel better, while others were only concerned about what God can do for them in their illness. However, some participants appeared to no longer believe in the power of prayer.

While spirituality and religious faith were noted as a source of hope and emotional support, it needs to be incorporated into the everyday practices of health professionals if their mental health needs are to be appropriately and holistically addressed.

## **Keywords**

Phenomenology, young adults, lived experience, mental health problems, holistic care

## **Format**

Oral presentation



# Privacy Leakage Mitigation in Anonymous Networks

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## **Abstract**

All Internet communications (public and private) begin with a Domain Name System (DNS) Lookup which maps the domain names (www.example.com) to an Internet Protocol (IP) addresses (192.168.3.4). Tor, one of the anonymous networks uses a private domain (.onion) to route its data. Tor provides privacy for the two ends of a communication by making the sender and the receiver of a message difficult to trace. The “.onion” domain is not assigned to the global DNS and its requests can only be resolved within the Tor network. However, clients might query the global DNS for “.onion” domain using browsers that are not configured to use Tor (for example Google Chrome). In this case, they will receive an error known as “Non Existent Domain”. This error is a privacy threat because it leaks client’s sensitive information, such as his IP address.

The existing DNS security measures only mitigate the threat partially by ensuring authentication and integrity. An adversary might still be able to impersonate another device/user even when these security measures are implemented. This is mainly because of the structure of the Internet addressing scheme. To address this vulnerability, we use a protocol known as Identifier Locator Network Protocol (ILNP) which splits the address into a topologically significant part (locator) and a non-topologically significant part (identifier). We believe our implementation preserves privacy of the users because of this address division. We show that our implementation is more efficient and secure compared to the existing secure version of the Internet Protocol.

## **Keywords**

Tor, Domain Name System, Internet Protocol, Identifier Locator Network Protocol

## **Format**

Oral presentation, Poster

# Standardised Positioning and Compression Protocol to Reduce Pain and Discomfort in Mammography

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## **Abstract**

Background: Breast cancer is the most common cancer in women and early detection of the disease increases the chance of survival. Mammography is the standard tool for screening, but the positioning and compression applied on the breast often makes the procedure painful and this deters some women from attending. This study will establish a method to reduce the pain/discomfort associated with the procedure and help improve attendance.

Methodology: To acquire the correct angle for the side view mammographic projection, the angle of the sternum for each participant. This will be measured with a bespoke test tool to establish the true angle at which the mammography equipment is parallel to the sternum. Xsensor Pressure mapping equipment will be used to record and compare pressure distribution from the true angle and the standard angle of 450.

Results: Selection of the correct angle of the equipment for the MLO projection plays a crucial role in the pain experience doing the mammography. It is anticipated that, personalised selection of this angle using the sternum of the individual will result in an even distribution of pressure throughout the breast thus reducing pain.

Conclusion: Theoretically, literature suggests that there is uniform distribution of pressure on the MLO projection if the equipment is parallel to the sternum. With reference to this, the projected outcome will be that, this provides a more comfortable examination.

## **Keywords**

Mammography, pain, compression, positioning

## **Format**

Oral presentation

# **Audit of Viewing Conditions and Monitor Specifications at Local Breast Cancer Screening Units**

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## **Abstract**

**Objective:** Mammography is an x-ray examination of the breast and it is used to see whether cancer is present. Unfortunately, sometimes images are blurred in some areas which makes it difficult to see cancer. When the viewing conditions are not the optimal (environment and monitor characteristics) the identification of blur may become difficult. For that reason, visits to local hospitals was conducted to explore the variation in viewing conditions in mammography departments.

**Methods:** 5 breast screening departments were visited (15 mammography x-ray rooms and 17 rooms used for looking at the images). During each visit a careful record of the type and position of computer monitors and the overall environment were recorded including the room layout, the number and the location of doors and windows, the position of the light bulbs. Moreover, evaluation of a test image and illumination measurements were performed at the centre of each room and at two different distances in front of monitors. Finally, the data were compared with guidelines from organisations responsible for the x-ray procedures.

**Results:** The majority of reporting rooms showed compliance with the guidelines and similar illumination levels and monitor characteristics. The x-ray rooms showed no compliance with the guidelines and great variation on illumination levels and monitor characteristics.

**Conclusion:** This research indicates variation in image quality in computer monitors within the x-ray room due to the variation in viewing conditions. Sub-optimal viewing conditions in x-ray rooms could be obscuring the detection of blur and as a result the detection of cancer.

## **Keywords**

Mammography, Blur, Monitors, Viewing conditions

## **Format**

Oral presentation, Poster

# **Shark Survival and Human Wellbeing**

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## **Abstract**

Long-term health and wellbeing for human populations is achieved through sustainable management of the planet's resources, which also entails a responsible approach to fishing operations. Indonesia lies in a highly biodiverse region and is also the third most populous country in the world. One of the country's most notable marine living resources are the sharks and rays, which hold a key role for the stability of marine food webs, but also represent a considerable source of income (through export to countries that demand these products) and food (for local communities). This project aims to investigate the fate of landed sharks and rays, through internal (food consumption) and external (legal and illegal trade) pathways. By understanding how shark and ray fisheries are regulated and utilised, I hope to contribute to improved management, greater protection for shark and ray populations, without negatively impacting the livelihoods of human communities that depend on these resources.

## **Keywords**

Shark, affordable protein, prospective market, long-term benefit

## **Format**

Oral presentation, Poster

# Implementing of Low Carbon Energy Systems in Developing countries: Community-Based Energy System

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## **Abstract**

The study is designed to address the challenges of community-based low carbon systems in developing countries. The purpose of this paper is to investigate social-technical factors of community-based low carbon systems.

Growing energy demand, especially using fossil fuels, contributes in to continued growth of global CO<sub>2</sub> emissions that rose by 1.7 per cent in 2018 compared to 1.2 per cent in 1999, and it is expected to grow at 27 percent in 2030. This issue can be impacted by adopting to low carbon technologies. Community-based low carbon is an energy system has been identified the potential to resolve a range of energy problems for sustainable energy use in developed countries.

The study employs qualitative case study to better understand the complex factors of community energy system in Nigeria to gather data on issues as diverse as stakeholders' views, commercial arrangements and technical performance of the systems to give a complete picture of sociotechnical performance

The following challenges were identified in the case study

- Lack of structural programmes to support demonstrators or early adopters
- Lack of tax and incentive structures to support communities
- Lack of technical Knowledge, which limited the amount the community could fully engage.
- Issues of technical options such as batteries, which might have improved the performance of the system not fully explore.

The study identifies a lot of potential for the application of these types of energy systems, there are significant barriers around supporting the installations at a policy level and ensuring that the systems community focused in the longer term. The analysis of the wider cases should form the basis of recommendation to improve both the level of take up and ways of improving stakeholder benefits.

## **Keywords**

Nigeria, low carbon, community

## **Format**

Oral presentation, Poster

# Identifying a New Approach to Improve Treatment of Medulloblastoma

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## **Abstract**

Brain and spinal cord tumours are the second most common cancers in children. Among children brain tumours the most common are Medulloblastoma (MB). These tumours usually develop in the lower part of the brain (cerebellum) and may spread to other parts of the brain or into the spinal cord. Currently, the most effective therapy for MB is conventional therapy consisting of surgery, radiotherapy and chemotherapy which result in severe and long-term side effects in patients. Although these treatments will help patients to survive, more than 50% of those who survive are left with life altering disability. To improve the efficacy of treatment, developing new strategies that lead to less toxic and more effective treatments based on different types of the tumour, is essential. This research identifies a new strategy to treat cancer cells by inhibiting transcriptional cyclin-dependent-kinases (tCDKs). tCDKs are a family of proteins present in cell that regulate various activity of cell such as cell growth. By inhibiting these proteins, we will be able to kill cancer cells and stop them from growing. This research aims to evaluate the effectiveness of newly developed CDK inhibitors on a set of MB cell types and the possibility to use them as new drugs for treatment of MB. Findings of this research will help to define a better understanding of medulloblastoma and guide to develop better treatments with more efficacy and less toxicity and side effects.

## **Keywords**

Medulloblastoma, transcriptional cyclin-dependent-kinases (tCDKs)

## **Format**

Oral presentation, Poster

# Perceptions of Offsite Manufacturing in Iraqi Construction Industry

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## **Abstract**

Offsite manufacturing (OSM) has been recognised to help improve construction industry performance, meet new market demands through the provision of sustainable buildings. Offsite manufacturing usage in the construction sector differ over time and vary from country to country. While OSM is receiving significant attention in the construction industry in developed countries, this seems to be less true for the construction industry in developing countries like Iraq.

To adopt this technology in Iraq, this study aims to conduct the motivations and limitations of OSM through investigating the perception of academic consultants and construction industry developers towards this type of construction through survey methodology. The findings show that factors like, reduction in time, low costs, increased productivity, improving environmental issues, revision-legislation, labour reduction are agreed by participants from both groups as motivations for using OSM in Iraq. However, there are some limitations towards the adoption of OSM in Iraq including logistics and site operation, like site location, skills shortage, market culture as people are less interested to use this type of construction. Hence, the study introduces a strategy to enhance the use of OSM in Iraq and highlight the importance of shared understanding between industry and academia with respect to motivations and obstacles of using offsite manufacturing and preferred means for collaboration, to achieve the desired outcomes and improve industry performance.

## **Keywords**

Offsite manufacturing, Iraq, motivations, limitations

## **Format**

Oral presentation

# Exploring the Role of Renal Social Workers in the UK

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## **Abstract**

The number of kidney patients is increasing as people live longer. Patients with kidney disease often have a need for support with practical or emotional problems, provided by social workers. However, the number of social workers specifically hired to support kidney patients reduced with almost twenty per cent in the last 15 years. A possible reason for this is that social workers have not been able to show what they do and what the results are of their work. This study aims to explain the role of the renal social worker.

In order to collect data for this study, 15 social workers were asked to keep a diary of all their activities for four months and provide information about their active cases. A group interview took place to discuss the social worker role and individual telephone interviews were used to clarify some of the findings.

Initial findings show that not all social workers do the same things; the role seems to differ across different hospitals. This could be due to differences in funding, or patient numbers, or whether the social worker is part of a team with other members of staff such as a welfare advisor or psychologist. Some social workers felt that they did activities that they should not have to do.

The renal social worker role is not the same in each hospital. This is mainly depending on what other services are available around the social worker.

## **Keywords**

CKD, MDT, social work, psychosocial

## **Format**

Poster



# Equity on Demand: Women Writing for Television in the Netflix Age

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## **Abstract**

Over 9 million people in the UK subscribe to Netflix. We have become used to watching a whole season of a new Netflix series in one day or weekend. So who writes these TV shows? This presentation explains how many Netflix, Amazon and Hulu original series have been made across the past 5 years and shows how many of those writers for these TV series are women. The numbers show that women still make up less than 30% of the writers on these shows in the U.K. and the USA, and that this has not improved a lot since 2013, even though more shows are being made. We also hear some examples of sexism that women writers have experienced in their workplaces, which might account for the lower number of women writing these shows when compared with men.

## **Keywords**

Gender, SVoD, Netflix, screenwriting, television

## **Format**

Oral presentation

# Reducing Energy Consumption through Residential Occupants' Attitude Modification: A better way to an improved Environment

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## **Abstract**

Buildings have been identified to be one of the major consumers of energy worldwide. Increase in energy demand, lack of efficient energy consumption and poor policy implementation are some of the key challenges militating against the achievement of Sustainable Development Goal (SDG) of clean energy for all in tropical counties like Nigeria. Energy efficiency was also recognized by researchers and policy makers as strategy for the mitigation of this problem, more especially in buildings. Although these initiatives are vital, they are based on technological solutions and innovations that does not consider occupants of the building. Nevertheless, it has been revealed that a change in occupant behavior can result in significant energy saving. A review of recent literatures has pointed to the role of improving building occupant behavior/ attitude as strategy to reduce energy consumption. This research examines the role of residential occupants in the reduction of energy consumption by investigating the relationship between attitude of occupants to energy consumption behavior in residential buildings. It will adopt the models of social-psychology using the prevailing identified factors (in this research) to develop a model that will provide a better understanding of household energy consumption behavior and to inform policy.

## **Keywords**

Energy Efficiency, domestic buildings, occupants' attitude and behaviour

## **Format**

Poster

# Exploring the Influence of fat cells released molecules on Neuronal Function in Alzheimer's disease

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## **Abstract**

850,000 people in the U.K. are affected with dementia and Alzheimer's disease (AD) is the major cause of dementia. AD is a progressive brain cell death. Elderly people above age 65 are at high risk of developing AD. Abnormal fat distribution in the body (obesity) is the major risk factor for AD. In normal state, fat cells release useful molecules that can help the brain cells to improve their function. It has been identified in the recent research that the molecules released from the fat cells can actually protect the brain cells from dying and hence lowering the risk to develop AD. However, this idea needs experimental evidence. Our research focus is to find out what are these useful molecules released from the fat cells that are helping the brain cells to recover from the damage. Also, to find out the impact of these molecules on the brain cell recovery and how they do it. The fat cells and the brain cells were grown in the very regulated condition in laboratory for few weeks and then they will be tested to find out how the molecules from the fat cells can protect the brain cells.

## **Keywords**

Alzheimer's disease, fat cells, fat cells released molecule, brain cells

## **Format**

Oral presentation

# Roles of glutaredoxin (GLRX) in Cancer

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## **Abstract**

In our study, we investigated the effect of an enzyme named glutaredoxin (GLRX) on cellular processes in breast cancer cells. We found that increased amount of GLRX enzyme can enhance the activity and growth of cancer cells and can also contribute to the spread of tumour initiating cancer stem cells. In our experiments we produced cancer cells containing more GLRX, than they normally would, and we examined their behaviour. Under normal circumstances the role of the GLRX is to regulate the level of reactive oxygen species (ROS; unstable free radicals) inside the cells. It functions through the antioxidant defence system, that consist of molecules neutralising the effect of ROS (free-radical scavengers). High level of ROS (for example induced by chemotherapy) can cause cell death, however increased level of ROS promotes cancer cell growth. It is also known that tumour initiating cancer stem cells have reduced level of ROS. Therefore, exploring the regulation of antioxidant system can help to better understand the cellular processes in cancer cells and to improve cancer therapy. According to recent studies, increased amount of GLRX is related to rapid cancer growth, enhanced cell migration and increased therapy resistance. Furthermore, increased GLRX was also found in a highly aggressive, hyper-metabolic group of cancer stem cells. As our initial findings correlate with previous observations, further experiments are planned to investigate the effect of GLRX in cancer.

## **Keywords**

Cancer, Cells, ROS, Antioxidant, Glutaredoxin

## **Format**

Poster

# Peeling Away the Layers of News - Evaluating Financial Uncertainty

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## **Abstract**

Understanding the true meanings of documents or news and how they affect the way people react are the central questions for not only people who invest in stock markets but also other professions. There are many studies have been investigated the effect of positive and negative sentiments within text data on the performance of financial markets, however, it is often that the uncertainty and risk aspects are neglected. The aim of this study is to rank the level of uncertainty sentiment within the climate change – related news extracted from trustworthy sources, such as Financial Times, The Times, The Daily Mirror and The Guardian. We also document a complex relationship between bad and good uncertainty to reveal how well these sentiments predict firms' performances within the context of climate change and global warming. The research seeks to bridge the gap in two ways. Firstly, it wishes to examine news articles in the U.K market with different levels of uncertainty sentiment and secondly, looking at the conjunction relationship between uncertainty and negative/positive sentiments. By ranking uncertainty elements, investors will be able to add on valuable aspect to their decision-making process and for firms to predict their stocks' performances. Textual analysis aims at central aspect of social interaction and how human making sense of the world thus, this study also contributes to a variety of areas, such as cultural studies or businesses. It will help companies to detect risks, compliances or threats, enhance customer engagement and produce better business decisions.

## **Keywords**

News, stock markets, finance

## **Format**

Oral presentation, Poster

# Evaluating Barriers and Facilitators to Participation in Creative Activities and Workshops for Individuals who Identify as Neurodivergent

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## **Abstract**

Conditions such as Autism, Attention Deficit Hyperactivity Disorder (ADHD) and Dyslexia have traditionally been talked about and described in terms of deficit, that is what people who have these conditions can't do. However, in 1999 Judy Singer used the term 'Neurodiversity' to propose that these conditions are a natural part of human society and that, rather than being something that needs 'fixing', there are traits within each of these conditions which should be embraced and celebrated. Since then, many researchers have embraced this idea and are looking more at the 'upsides' of neurodivergent conditions and how to best use these upsides within different areas of society. One area looking at upsides in neurodivergent conditions is the creative sector. This sector includes jobs that use creative methods to come up with new and alternative ideas, including the innovation of new technology or production of new media content. Research has shown that certain neurodivergent conditions have specific skills relating to particular creative activities. One possibility is that people who have ADHD may be better at generating lots of new ideas whereas people with autism may be skilled at fine tuning those ideas already generated. However, there is currently a limited understanding of how to help people who are neurodivergent to maximise their creative potential. This research, in collaboration with the BBC, is looking at the different methods used in creative workplaces and whether there are particular things that help or hinder creative thinking for people who are neurodivergent. The research aims to help the creative industries to minimise factors which may hinder creative input (such as a noisy work environment or too much social pressure), and how to maximise the creative potential of those with neurodiverse conditions.

## **Keywords**

Neurodiversity, Creative Methods, Barriers, Facilitators

## **Format**

Poster

# Bioacoustics: Birds in the Chernobyl Soundscapes

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## **Abstract**

In 1986, the world's worst nuclear accident happened at the Chernobyl Nuclear Power Plant in Ukraine. After the accident, 116,000 residents were evacuated and as a result the Chernobyl Exclusion Zone was created. Since the accident, researchers have been studying the effects of radiation on birds, insects, plants and mammals. Bioacoustics is a branch of acoustics that focuses on the sounds produced by living organisms and is a new technology that allows the recording of an area without a person being present. This study aims to bring together bioacoustics and the recordings from Chernobyl Exclusion Zone and find out if there is a difference in bird vocal activity depending on the level of radiation.

Bioacoustic recorders were placed in areas of high, medium and low radiation and six days from July 2015 were analysed by annotating bird vocal activity in each recording. The results showed that there was a difference in bird vocal activity across the three areas with the low radiation area showing the most bird vocal activity.

Further studies are planned to include habitat, seasonality and time of the day to see if these factors influence bird vocal activity as well as the level of radiation. The findings of this research study will be useful in contributing to how radiation does affect birds within the Chernobyl Exclusion Zone as there is limited research that looks at bird vocalisations.

## **Keywords**

Bioacoustics, radiation, vocal activity, birds, acoustics

## **Format**

Poster

# Graduate Recruitment into Charities, Social Enterprises and Co-operatives

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## **Abstract**

This research explores graduate employment into values driven businesses such as Charities, Social Enterprises and Co-operatives (Third Sector). There is evidence from a number of industry reports indicating that students want to work for ethically motivated businesses. The research is important as academic data suggests that this good intention does not manifest itself into actual graduate employment within Third Sector organisations.

It researches students who have initially indicated a willingness to work in the Third Sector. The difference between the initial intent and final action can be classified as a “Values-action gap”. This model does not appear to have been previously applied to explore graduate recruitment into the Third Sector. The research consists of interviewing students firstly before graduation, and for a second time after they are in their first destination of employment. This enables a comparison of the data gathered to explore the extent of the Values-action gap.

The research will help identify barriers to graduate employment into the Third Sector. This can then be used to help create a framework to help Universities to narrow the Values-action gap in the future, resulting in an increase of graduate recruitment into Third Sector organisations.

## **Keywords**

Social Enterprise, Third Sector, employment, graduate recruitment

## **Format**

Poster



# **Cross-cultural differences - Exploring critical issues faced by Chinese entrepreneurs in the U.K.**

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## **Abstract**

International migration has been rising sharply from countries such as China. However, current research on expatriates, who have organisational support, does not fully cover challenges and barriers that are faced by self-initiated immigrating individuals especially when they become entrepreneurs owning small and medium enterprises (SMEs). Do these individuals face challenges because of different government regulations, social/cultural traditions and financial challenges in the unfamiliar environment of the host country? And how are they able to overcome the barriers? Can these experiences be used by 'next generation' new immigrant entrepreneurs to 'overcome' common challenges and make better provisions that improve their chances for success? Earlier research says cross-cultural skills, which include abilities such as cross-cultural intelligence, adaptation, adjustment and communication, may assist in easing the barriers. This research will assess if these competencies assist in managing the barriers. Role of ethnic social relationships and ethnic districts in 'overcoming' barriers will also be assessed.

Informal interviews are conducted with Chinese entrepreneurs who own SMEs in the U.K to answer these research questions. The interviewees are encouraged to share, in detail, their experiences and problems, elaborate on the challenges that they have faced or are continuing to face and to reveal how they use innovative solutions to 'overcome' such barriers. The resulting findings of this study are expected to discover the common challenges faced according to actual experiences of current Chinese immigrant entrepreneurs in the U.K. This study will also identify their best-practices and solutions for 'overcoming' barriers for 'next generation' new immigrant entrepreneurs.

## **Keywords**

Immigrant entrepreneurs, cross-cultural challenges, competences, adjustment, communication capabilities, ethnic enclaves/networks

## **Format**

Oral presentation

# Multi-level Influencers on Social Media in Personalised Political Communication

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## **Abstract**

Social media compliments politics and it creates impact through its army of influencers. Social media influencers are third-party endorsers who create, form or influence opinions through blogs, vlogs, tweets, posts etc. Influencers work at different social media platforms and at various levels targeting the diverse demography. They create a narrative and disseminate information creating influence among the voters. Influencers are most prominent and recognizable on platforms like YouTube, Twitter, Instagram etc. All these platforms have their own characteristics e.g. live streaming on YouTube has a sense of immediacy and validity as its happening in real time, Twitter, Facebook, Instagram help in creating a narrative by repetitions, retweets and influencer's network of influence. WhatsApp works because it is super widespread, most intrusive and difficult to miss. This research looks at the various types of influencers on different social media platforms and the way they target different demographics. The results of this study will increase the understanding of the effect of social media in political campaigning and help in understanding the strategies that can be used by individuals and organisations to reach their target audience.

## **Keywords**

Social media, politics, campaign, personalization, influencers

## **Format**

Oral presentation

# The Counterinsurgency Warfare of the Nigerian Military against Boko-Harm Insurgency 1999-2017

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## **Abstract**

Nigeria in recent years has experienced the increasing waves of conflicts, violence, and religious intolerance which threatens public order and human security. Alongside, is the widespread rise in religious extremism, of particular interest is the Boko Haram (a violent Islamic group) Insurgency in the North-Eastern states leading to the loss of lives and properties and the displacement of communities. The government has over the years adopted a militarised counterinsurgency approach in dealing with the violent activities of Boko-Haram however, the group has continued to grow deadly and sophisticated. This paper examines the role of the military in its counterinsurgency efforts against the Boko Haram Insurgency in North-East Nigeria between 1999-2017. This paper utilises key in-depth interviews to examine the successes and challenges of the Nigerian military in its counter insurgency operations. Findings indicates that the military has been able to degrade the activities of the Boko haram sect and recapture lost territories. Findings also reveals that the military were ill prepared for non-conventional warfare, lacked basic modern weaponry, inefficient fighting force and lack of motivation. It will open new avenues for further research in the area of study. The paper further suggests the need for proper training of the military for an effective counter insurgency operation. This will curb loss of lives and property in the area.

## **Keywords**

Nigeria, Boko Haram, counter insurgency, military

## **Format**

Poster

# Swim Training Impact on Shoulder Musculoskeletal Physical Qualities and its Relationship to Injury Predisposition

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## **Abstract**

Shoulder pain is very common among competitive swimmers. Around 90% of swimmers have experienced shoulder pain during their careers. This is explained by the propulsive forces generated by the upper extremities during swimming in combination with the high amount of training volume. As a result of this, shoulder pain affects training and competition performance, leading in some cases to retirement from the sport.

Unfortunately, the causes of shoulder pain are not well understood. This lack of knowledge reduces the ability to perform effective preventive interventions in this population. This research is focused on understanding the causes of shoulder pain in competitive swimmers. We aim to achieve this by studying how swim training affects shoulder physical qualities which have been reported to predispose to shoulder pain. Also, by identifying swimmers at risk of shoulder injury during a training season.

By understanding this, we intend to develop exercise programs to prevent future injuries. This research aims to generate a positive health impact by decreasing the number of shoulder injuries in competitive swimmers. The decrease in injuries can be also reflected in an increase in swimmers' performance. The results of this project will benefit swimmers and may also contribute to understanding the causes of shoulder pain.

## **Keywords**

Swimming, shoulder pain, performance, musculoskeletal risk factors, injury prevention

## **Format**

Oral presentation

# Fake News and Home Truths its Effects on the Contemporary Political Narratives: An Appraisal of India and Nigeria

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## **Abstract**

The on-going discussion on fake-news is mostly focused on American and British societies in the political and social atmosphere of 'alternative facts which is basically non-truth. However, the issues about the impact of fake news on journalism are not restrained to British and American contexts only. This paper attempts to examine the alternative facts in Indian and Nigerian societies as well as the Journalism practices in this contemporary media savvy phase. Unlike the issues projected in the western debate on the need to reengage and empathize with the audience and the rise of a non-facts checking culture, the apprehensions appear to be slightly different in India and Nigeria. Findings in these two countries reveal that there is a higher rate of fake news being pedalled around social media platforms. According to a study conducted in India and Nigeria by the BBC in 2018, it found out that the lack of faith in mainstream news made people spread unreliable information from varying sources. The study summarises digital platforms like Facebook, Twitter and WhatsApp's fuels people to share, comment and retweet information without fact-checking. Unfortunately, this has caused lots of violence and lack of trust in politicians and their poetical narratives in both countries.

## **Keywords**

India, Nigeria, fake-news, social media, fact-checking

## **Format**

Collaborative

# Social value what is it and how does it impact my local community?

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## **Abstract**

Triplebottomopoly is a specially designed board game that explores the “triple bottom line” (social, environmental and financial impact), and can be used to learn about social value.

Getting value for money has always been a priority when it comes to public bodies spending money. The Public Services (Social Value) Act was brought in in 2012. It is designed to ensure that public bodies (government departments, local councils, NHS trusts, emergency services and housing associations) think about how any services they purchase impact on the economic, social and environment of the local area. The act allows the public body the freedom to look at what social or environmental value they can add and how it would best help their community.

Triplebottomopoly focuses on making the players carefully consider and account for their purchasing decisions and how it can add social value as they move around the board. The considerations differ from installing electric vehicle charging points or the implications of a “trade off”, such as whether to spend more money on a confidential paper shredding contract because it is run by a local social enterprise that helps long term unemployed get back into work or a less expensive commercial contract.

The session will ensure players go away thinking about how the purchasing decisions they make can add social value.

## **Keywords**

Board game, public services, social value

## **Format**

Collaborative

# The Anti-cancer and Anti-bacterial Effects of Frankincense Extracts

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## **Abstract**

Natural sources such as plants remain a vastly untapped source of potential anti-cancer and anti-bacterial drugs. Furthermore, drugs derived from natural sources tend possess fewer harmful side effects. One example is frankincense; a resinous sap from *Boswellia* trees. Recent evidence suggests that frankincense may be of use in modern medicine for the treatment of bacterial infections and cancers. However, more research is needed to identify how these frankincense extracts affect bacterial and cancer cells. This was the aim of our work.

In the lab, we grew cancer and bacterial cells before exposing them to preparations of frankincense resin. We then used laboratory tests designed to tell us whether these preparations were able to kill these cells. If they did, we used a variety of tests to find out how.

Our findings suggest that frankincense can kill a many cancer cell types. It does this by triggering a biological process that causes cells to die in a controlled manner. Our research has also shown that frankincense preparations are capable of slowing down the growth of and killing bacteria.

In conclusion, our data demonstrates that frankincense extracts are capable of killing cancer cells and bacteria so may be a new source of anti-cancer and anti-bacterial drugs. In cancer, the fact they induce controlled cell death suggests they would cause fewer side effects. Further work is required to find out exactly how frankincense extracts kill cancer and bacteria before useful drugs can be developed.

## **Keywords**

Frankincense, Plant-based pharmaceuticals, Cancer, *Boswellia carterii*, Resin

## **Format**

Collaborative

**Talkin' 'bout a (sound) revolution:  
manipulations of object-based audio for improved speech intelligibility**

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**Abstract**

The intelligibility of spoken dialogue concerns not just how audible it is, but how much can be understood by the listener. For those who struggle with the intelligibility of foreground speech in broadcast or webcast sound content, the only control that they currently have as the end-user is to turn the overall volume up or down, which is not particularly useful. Asking content producers to turn down or omit all non-speech sounds entirely is not the optimal solution though, as elements such as the background music are often narratively important, providing context and meaning to a programme.

Could a technological revolution in sound engineering known as an object-based audio (OBA) approach improve the intelligibility of foreground dialogue whilst still retaining narratively-important background sounds?

Instead of transmitting ready-made sound mixes, the OBA approach is to transmit a sound scene as its individual constituent sound stems. The accompanying metadata provides information to the rendering software in the smart device at the receiving end to create tailor-made sound mixes based on the available listening devices and listener needs. The flexibility of this approach could provide greater accessibility, personalisation, immersiveness, and interaction with audio content. The above-named researcher has been conducting a series of psycho-acoustic listening experiments to investigate how different manipulations of OBA affect speech intelligibility, including: varying the instrumental arrangement of background music; applying downward dynamic range expansion; spatially separating sound elements for headphone listening, and likewise for listening via additional smart devices. Results presented will shape recommendations for industry guidelines.

**Keywords**

Intelligibility, object-based audio, sound, accessibility



# A Bio-inspired Theoretical Framework for Building Envelopes

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## **Abstract**

Biomimicry is a discipline which uses analogies to natural systems to develop solutions for human problems has gained significance in recent years. Biomimicry design approach inspires to achieve environmentally conscious development which often results in creative innovation. There are tendencies however to relate to morphological analysis with natural systems rather than in depth investigations of ecological principles that guide natural systems. Advances in construction technology and material development offers new insights to achieve the aim for maximising comfort, maximising efficiency and increasing sustainability.

The aim of this research is to explore possible adoption of ecological principles in the design of building facades and present a framework that could guide design and assessment of efficient and sustainable facade design with intends to apply ecological principles, senses the natural variables in its context, adapts to the natural and man-made variables, and learns from previous data logs. Intention includes comparison of façade functions in maintaining comfortable environment within building to those of membranes and skins in natural systems. Sensation addresses sensory requirements in both facades and natural systems. Adaptation points out to strategies in nature and adaptive systems in traditional and contemporary façade. Learning relates to evolution in nature and learning ability in buildings' façades. The framework and its developed criteria are examined through a number of contemporary case studies in the United Kingdom that claim sustainable envelope design. The degree of success in those buildings is assessed according to the developed criteria with cross reference to the buildings empirical data.

## **Keywords**

Biomimicry, ecological principles, building design

# **Black Sand and Pond: The Loss of Home and Identity**

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## **Abstract**

The phenomenon of “the Black sand and pond” is a challenge bedevilling the once serene environment of the Jos Plateau. Tin mining and its consequences have led to the loss of not only the natural environment but also to a loss of a place to call home. Areas once considered sacred have become desecrated; the soil has become toxic and unfit for cultivation as farmlands turn into mining fields. What was called home has now been deserted, and the environment has become uninhabitable.

Tin mining has left the Plateau environment on the verge of extinction with over 46% of its land filled with gullies and ponds due to tin mining. Regardless of these devastations, there is the dearth of literary writings on this devastation and its effect on the inhabitants of the region.

This research aims to reveal, through the collection of autobiographical short stories and poems, the story of a people who once had an identity and a place to call home but have lost it because of tin mining. It also addresses the issue of the degradation that has continued to plague the land and draws awareness to the situation of the Plateau environment through lived experiences. This will create a better understanding of the challenges facing the people as well as an awareness that will result in some form of reclamation for the environment and its inhabitants.

## **Keywords**

Tin mining, environment, Jos Plateau, autobiography

# Development and Psychometric Testing of a Daily Activity Questionnaire for Stroke Survivors and the Online StrokeSurvivorsHub.com

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## **Abstract**

Around 84% of the Stroke Survivors (SS) need help with daily activities; such as eating and walking. To help SS to gain their independence back, they need to have a detailed assessment. Patient-Reported Outcome Measures (PROMs) are necessary to understand the limitations from a patient's perspective. However, a recent systematic review showed that the existing PROMs for SS to assess daily activities have limitations.

My PhD aims to address this problem. A PROM, which overcomes these limitations exists for rheumatic and musculoskeletal conditions; the Evaluation of the Daily Activity Questionnaire (EDAQ). The aim of this PhD project is to develop and test the EDAQ for SS (EDAQ-SS). Additionally; an online platform developed for SS ([www.strokesurvivorshub.com](http://www.strokesurvivorshub.com)), to include the digitised version of the EDAQ-SS.

Initially, the EDAQ was reviewed by an expert panel and cognitive debriefing interviews conducted with SS to identify whether the EDAQ-SS is understandable and relevant for SS. The validity and reliability of the EDAQ-SS will be tested by asking SS to complete an online questionnaire two-three weeks apart.

Development of the EDAQ-SS will help SS to have an active involvement in their functional assessment and set personalised goals. The use of a valid and reliable PROM will help healthcare professionals to deliver patient-centred care. The EDAQ-SS will also be available online at the [www.strokesurvivorshub.com](http://www.strokesurvivorshub.com), as a self-assessment tool. This will make it easy to complete an electronic assessment to help both SS and the healthcare professionals to have improved access to assessment tools.

## **Keywords**

Daily activities, patient-reported outcome measure, stroke

# Personalized Customer Experience Journey in Digital Space

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## **Abstract**

Recent surveys and studies covering the banking sector tell us that bank branch traffic has dropped by more than 60% over the last several years and that the contingent of consumers requiring a physical location continues to go down. (Financial Brand, News Letter, March 2019)

We are on the cusp of a second inflection point in modern banking. The first wave was marked by fintech disruption, in the form of customer-centric experiences for a narrow set of financial services. The second inflection point comes as the financial needs of a generation of digital natives mature. Those same fintech disruptors are now forced to add depth and breadth to their offering, focus on customer retention, and manage an expanded product line. (Forbes Analysis Report, 2019)

With the emergence of digital banking, some studies have already examined the service quality related to the specific tech-based delivery channels like internet banking, mobile banking, ATM banking and phone banking. Kaura, 2015 and Monferrer-Tirado, 2016 note that internet banking derives from unique service and functional qualities. Similarly, Lee and Chung, 2009 indicate that good user interface quality affects trust in and satisfaction with mobile banking. These perspectives are investigated further through customers' opinions. However, these studies relate more to digital banking acceptance than experience and may not fulfil the current marketing needs in this era of digital self-service.

Hence, there is a need for a more comprehensive study of the landscape of customer experience journey in digital space connected to personalized customer experience, customer loyalty and retention. This approach supports more robust theory development than was possible in previous studies.

## **Keywords**

Banking, customer experience, financial services

# Resettlement Challenges due to Oil and Gas Extraction in Nigeria

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## **Abstract**

It is estimated that each year around the world approximately 10 million people are displaced by development projects. Literature reviewed so far has indicated that there is a growing problem of environmental, social, and economic consequences due to oil and gas activities.

Thus, the Nigeria Liquefied Natural Gas (NLNG) project, which is aimed at both the diversification of the petroleum industry and utilization of the vastly flared natural gas have been known to generate both positive and negative impacts. This has led to the general disturbances of all aspects of the people in the oil producing communities and the nation at large.

The consensus is that involuntary resettlement is an ordeal and that long after the painful event, the outcomes for resettled people are grave. Resettlement should be closely combined with national macro policies, be conducted according to these policies, and keep pace with the times to improve resettlement conditions.

Studies have shown, that the existing ideas of compensation and moderation come nowhere close to satisfying the beginning of fairness, it argues that it is rarely enough in restoring the environmental and social impacts of these activities on host communities. Scholars are now discussing the long-term livelihood problems of resettlement from the perspective of sustainable development and effect, proposing a series of solutions for the resettled livelihood issues, such as capacity building and long-term community empowerment.

## **Keywords**

Resettlement, Displacement, Oil & Gas, Environment, Compensation, Nigeria

# **An Investigation into Cellular Senescence as an aspect of Ageing and the Identification of potential 'Senolytic' Agents**

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## **Abstract**

There are many kinds of age-related disease. These range from cataracts to cancer, but they all become increasingly common as we grow older. There are numerous reasons why this is the case and several of them are common to more than one disease. The focus of this talk, Cellular Senescence, is one of these.

Cellular Senescence is a type of behaviour exhibited by a relatively small number of cells throughout the body. These cells stop dividing, grow larger and begin to cause inflammation in the area around them. In later life they collect in the body and their persistent inflammation drives other nearby cells to senescence, spreading their behaviour. Their aggregated inflammatory behaviour then contributes strongly to the diseases of old age.

To study these cells, we produced a model of them. We then exposed this model to many different compounds that had the potential to remove these senescent cells while leaving healthy cells untouched. We found that two related antibiotics, Azithromycin and Roxithromycin produced the desired effect. In particular, Azithromycin cleared 97% of the Senescent cells without harming the healthy cells at all.

We have many more compounds to test against our model and intend to test our successful candidates against other models of senescence to ensure they behave as we expect. We will study our successful candidates thoroughly but are hopeful that one day they could form the basis of treatments that could help tens of millions of people suffering from a broad range of life altering diseases.

## **Keywords**

Cellular Senescence, antibiotics, Azithromycin, Roxithromycin

# Exploring Attitudes Toward Feet to Inform Foot Health Policy and Practice Utilising Digital Tools

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## **Abstract**

According to the World Health Association the global burden of disease is no longer defined by what is killing us but by what is making us sick. Systemic, chronic conditions such as diabetes and heart pathology are increasing in prevalence, and many of these conditions can have a direct and substantial effect on foot health if not proactively managed. The demographic and economic backdrop to these changing healthcare needs is typified by an ageing population and ever finite resources. Therefore, Government policy such as the Topol Review and NHS Long Term Plan has identified the need to change healthcare provision by shifting the focus towards empowering people to become active agents in their own healthcare journeys.

Existing literature focuses on the lived experience of foot ill health once pathology is present. Therefore, a consideration of attitudes and beliefs within a wider social, religious and political context has not been explored in any depth. Yet understanding these perspectives is essential to establishing what motivates or prevents people from engaging with proactive foot health behaviours. This research aims to explore the views of people from a wide range of demographic, socio-economic and cultural backgrounds. Digital mechanisms will be utilised to data mine popular Social Media platforms and establish what topics about feet are currently trending. This data will then be utilised to inform the topic guide for one-to-one interviews, before analysis and dissemination through the digital public health repository 'Why Feet Matter' for sharing the lived experience in a public health campaign.

## **Keywords**

Feet, foot health, digital health

# Transferring Knowledge for Innovation Through Partnership Between University & Technology-Based Small Firms (TBSFs): A Social Capital Perspective

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## **Abstract**

Building upon forty-three semi-structured interviews with universities partnership with technology-based small firms (TBSFs) for knowledge transfer in the United Kingdom, this study explores how social capital influences knowledge transfer in fostering innovation in TBSFs. Accordingly, the study advances the knowledge-based view of innovation by using the social capital theory to explore the implications and complexities associated with knowledge transfer within the context of university-TBSFs partnerships. Our findings indicate that structural, relational and cognitive elements of social capital significantly influence the knowledge transfer between university and TBSFs and set up the platform for innovation. We found that strong ties, friendship-based relationship, reciprocal, norms and trusted relationship are crucial in facilitating knowledge transfer to achieve innovation outcome. Result also indicates that the cognitive aspects create meaningful communication and support knowledge transfer within the partnership.

## **Keywords**

University-industry collaboration, university-industry partnership, knowledge transfer, social capital, innovation, technology-based small firm